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Bringing Mobile Banking Within Reach

Increasing engagement with a mobile banking platform in Tanzania

A third of adults globally do not have access to any financial services[1], and 38% are underbanked due to a myriad of reasons, including lack of trust in financial institutions, long distances to financial services institutions, and high transaction costs.[2] Digital Financial Services (DFS) have been shown to improve access to formal financial services[3] such as savings and credit, allowing people to better manage financial risks and shocks[4] and enjoy benefits like improvement in income[5] and consumption.[6] However, when a commercial bank in Tanzania introduced a mobile banking platform with the goal of helping low-income clients manage their finances, save, and invest securely, engagement with the platform was very low. ideas42 partnered with the bank to send clients behaviorally informed text messages to boost usage of the platform with the aim of helping people save more for their futures.

Summary

In Tanzania, access to formal financial services such as savings accounts has grown substantially in recent years. Between 2013 and 2017, the number of adults with access to formal financial services increased by 12%.[7] The majority of the adults who use these formal financial products and services (55%) access them digitally, through mobile money accounts.[8] The use and engagement with informal financial services like saving at home in a savings box or through informal savings groups, which tend to be riskier and costlier, decreased by 56% (from 16% to 7% of the population using those services) during the same period. Due to this digitally led growth in financial inclusion, Tanzania was reported as the leading country in sub-Saharan Africa (and ranked ninth out of fifty-five countries) for having an enabling environment for financial inclusion.[9]

Highlights

- Digital financial services can support financial health, access doesn't guarantee engagement.
- Nudging bank customers with text messages provides a simple, cost-effective way to try to boost engagement.
- Behaviorally framed text messages were found to be as effective at driving engagement as a more costly incentive program.

Yet access to digital financial products and services alone does not automatically lead to better financial health. Even when there is access to formal financial services, engagement rates are often low—meaning

[1] Datta & Desai. 2018. Transforming Financial Inclusion Using Behavioral Science. From Financial Access to Financial Health.

[2] Forgelli & Rubino. 2016. Does mobile banking improve Financial Inclusion?

[3] ibid

[4] Jack, Ray, & Suri. 2013. Transaction Networks: Evidence from Mobile Money in Kenya

[5] Bruhn. 2014. The Real Impact of Improved Access to Finance: Evidence from Mexico

[6] Jack & Suri. 2014. Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution

[7] https://allafrica.com/stories/201611070895.html

[8] Financial Inclusion Insights by Kantar. http://finclusion.org/country/africa/tanzania.html

[9] https://allafrica.com/stories/201611070895.html

many people do not get the benefits to their financial health from merely having banking or digital financial services. This is so in Tanzania—despite the achievements of inclusion, not everyone adopts and uses the services available to them. The types of digital transactions people tend to engage in are largely limited to transfers, rather than savings and credit services which are critical for facilitating productive investments. Access and use of financial services is also unequal among various demographic groups, with lower rates among women, low-income groups, and people in rural areas.[10]

In an effort to bridge some of these gaps, a medium-sized bank in Tanzania introduced mobile access to its banking accounts in 2012. This mobile banking platform enabled customers to complete actions they would otherwise have had to visit a branch to do. They could check their account balance, pay bills, make airtime purchases for phone credits, and perform money transfers, all from their mobile phones via a USSD menu (meaning they don't need a smartphone to use it). By October 2016, approximately 70,000 customers were registered for mobile access.

Yet actual mobile usage was low ***(only 17% used the mobile services more than once a month in that year).*** ideas42 partnered with the bank to leverage behavioral insights to develop and test various interventions with the aim of improving engagement with the platform—and in turn help more people save money and build resiliency.

When access isn't enough

To understand the context in which the bank and its clients live and operate, ideas42 conducted focus group and individual interviews with 32 customers (mostly women) to understand the decisions and influences that affect their financial management behavior. Most of the customers who were interviewed were members of VICOBAs (savings groups) and shared their experiences with transacting both informally (through savings groups), and formally (through the bank).

We identified several potential behavioral barriers preventing people from taking advantage of the mobile platform, including:

- ***Customers were anchored to one or two primary functions (mostly transfers, and sometimes utility payments) on the mobile platform,*** either not considering any other option or failing to recognize their availability altogether, and therefore their engagement was limited to those functions that they were anchored to.
- ***Customers were deterred by the fear of transaction costs.*** The bank had previously charged a small fee for mobile transactions. Though fees had since been waived, customers may not have been aware of the waived fees and may have felt that they would lose money for transacting.
- ***Customers did not view the bank as a resource for managing daily transactions, and extended this perception to how they used the mobile banking platform.*** Many customers view banks, and by extension mobile banking platforms, as secure depositories intended to

[10] Financial Inclusion Insights by Kantar. http://finclusion.org/country/africa/tanzania.html

keep money safe and used only occasionally for large transactions, whereas they viewed mobile wallets—products that allow people to make purchases using payment information on their phones—as used for daily expense flows. This mental model may make people hesitate to transact frequently on the bank's mobile platform.

- ***Mobile wallets are popular and seen as the default option for digital financial transactions,*** making the mobile banking platform seem redundant. The bank platform, however, is different from mobile wallets due to its affiliation with a bank. For example, it gives customers access to savings and loan products which are important for helping them invest productively in their families and communities. Mobile wallets did not typically provide these services. People also may have preferred accessing the bank through a branch as they have done in the past.

Bridging the gap

To address these bottlenecks, we designed and tested behaviorally informed text messages to help people follow through on their intention to use the bank's mobile platform. We tested four different message frames, as well as the frequency of messages and the impact of incentives on mobile banking activity.

1. Different Frames to Overcome Bottlenecks

The text messages were framed according to the four potential barriers that we identified through the field interviews and literature reviews. The bank sent four treatment groups of 5000 users each two behaviorally framed text messages in one week (on October 4 and 6, 2016). Messages were translated into Swahili before being sent.

Messages Sent

Expanding Customers' Choice Sets

Access *bank* on your mobile! Dial *XXX*XX# to check your account balance, transfer money, pay bills, and buy airtime.

Access your *bank* mobile benefits by dialing *XXX*XX#. Check your balance, send money, pay bills, and add airtime.

Leveraging Customers' Aversion to Loss

Don't lose out on free services! *Bank* waives all fees for convenient, secure mobile banking. Dial *XXX*XX# to access your account.

Don't lose money on other mobile wallets! *Bank* has waived all fees for mobile banking. Dial *XXX*XX# to access your account.

Changing Mental Models about Mobile Banking Platforms

Bank is the safest and most convenient place for your savings. Deposit today and dial *XXX*XX# to access

Grow your savings by depositing in a secure savings account.
Bank Mobile lets you monitor your savings daily. Dial *XXX*XX# to use

Nudging Customers to Try New Functions

Bank lets you pay bills, transfer money, and buy airtime directly from your secure bank account.
Dial *150*10# for safe and easy transactions

Bank Mobile lets you do everything a mobile wallet can do for free and more securely.
Dial *150*10# to use

Results:

The behaviorally framed text messages ***increased the proportion of people who accessed and performed balance inquiries on the mobile platform at least once over the four-week duration by between 17-25%*** in the treatment groups compared to the control,[11] for all categories of behavioral messages (an increase of between 2.32 and 3.28 percentage points from a baseline rate of 13.32%). This was largely driven by people taking these actions around the time they received the messages. When we looked at the effects of the messages during the weeks after they received them, we saw no sustained effect. All of the messages led to increased engagement, with the largest increase in engagement occurring in response to messages which leveraged customers' aversion to loss. That said, no messages performed significantly differently than each other.

Recipients largely responded to the messages by checking their balances across various platforms. This finding resembles a phenomenon observed in Mexico where people checked balances for six months before beginning to make transactions, suggesting that repeated balance checks are a way people establish familiarity and trust with a banking platform and could eventually lead to other kinds of transactions, namely deposits and withdrawals. We did see an increase in transactions, but it was not significant. Future work might investigate whether these balance inquiries convert into significant increases in transactions.

2. Varying Frequencies for Optimizing Engagement

Though text messages have been proven in the past to work as reminders and prompts to get people to take actions, there is little known about whether the frequency or duration of messages matter. To learn more about how SMS frequency and duration affect customer behavior, we conducted a follow-up test in May 2017 to uncover the optimal frequency for sending text messages.

The campaign had three treatment groups of 5000 users, each of which were sent varying numbers of messages. The control group received no text message:

- Group 0 (control): No message
- Group 1: Two messages in week one (for one week)
- Group 2: One message per week (for four weeks)
- Group 3: Two messages per week (for four weeks)

Results:

Results indicate that the higher frequency text messages over longer periods of time were most effective at increasing engagement, but there were diminishing returns to that approach. In week one, all three treatment groups experienced a significant increase in customer engagement over the control group. However, for weeks two and three, only customers in group 3 (who had the highest saturation

[11] $p<0.01$

of messages) recorded a significant increase in engagement over the control group. After week three, no significant difference was observed in engagement behavior between all the treatment groups and the control group.

3. Testing Incentives for Boosting User Activity

Banks often offer costly incentives to get people to engage with their accounts. It is not clear whether these are necessary or whether better framed messages could have a similar effect. To find out, we compared verbal accolades (via text messages) to monetary incentives (airtime credit), and to a combination of both to determine which is most effective at encouraging customers to engage. The messages sent are described below:

Airtime Bonus Only	*Verbal Accolades Only*	*Airtime Bonus + Verbal Accolades*
Congrats! We have credited you 500TZS in airtime for being an *bank platform* customer. Dial *XXX*XX# to use *bank platform*	Thank you for being an *bank platform* customer! We value you and are glad to have you as a part of the *bank* family. Dial *XXX*XX# to use *bank platform*	Congrats! We credited you 500TZS in airtime – thanks for being an *bank platform* customer. We are glad to have you as part of the *bank* family. Dial *XXX*XX# to use *bank platform*

Results:

Remarkably, we found that behaviorally framed messages performed as well as financial incentives—although financial incentives in the form of airtime credit for mobile phones led to increased user activity over the control group, the increase was about the same as some of the results observed in the earlier behavioral text message campaigns, indicating that effectively crafted messages, which were more cost effective than the financial incentives, may be just as successful at boosting engagement. By identifying the effectiveness of financial incentives relative to behaviorally framed messages in a small pilot, our partner was able to save scarce financial resources without missing out on impact.

Another step toward financial inclusion

Behavioral science holds immense potential for boosting engagement and active use of digital financial products and services, leading to greater financial inclusion and better financial outcomes for the world's most vulnerable. Simple, cost-effective interventions, such as behaviorally framed SMS messages, can have outsized impacts on financial health, while saving firms scarce financial resources.

This work also highlights the impact of A/B Testing. Nimble yet robust tests can be used to compare multiple interventions such as various text frequencies and incentives, to determine the most impactful, cost-effective ways of improving the customer experience with digital financial products and services, while helping firms find cost-effective solutions for supporting financial health.