APRIL 2019

Digital Financial Services in Mali and Madagascar

Helping more people use mobile banking with behaviorally informed text messages

Across the developing world, digital financial services delivered through mobile phones offer accessible, reliable, and affordable banking options for millions of people who don't have access to traditional financial products. We collaborated with The Aga Khan Agency for Microfinance (AKAM)[1] and two of their partner financial institutions, The Première Agence de Microfinance (PAMF), a microfinance institution, and Orange Money, a mobile money provider, to increase adoption and use of newly released mobile savings and micro-loan products in Mali and Madagascar.

Highlights

- Digital financial services are a promising channel to increase financial inclusion and stability across developing countries
- Behavioral text messages can help people adopt and use digital financial services

Summary

In Mali and Madagascar, over half of the population lives below the poverty line and 90% do not have access to formal financial services.[2] These conditions make achieving financial health—already a challenge in less trying circumstances—even more difficult for low-income people in these countries. Digital financial services are a promising channel to increase financial inclusion in developing countries by leapfrogging traditional banking channels. For example, the percentage of adults with a financial account more than doubled between 2014 and 2017 in several sub-Saharan African countries—in large part due to the growth of digital financial services.

Mali

Though mobile penetration—the percentage of the population subscribing to a mobile phone service—is only 65% in Mali, mobile money is relatively highly utilized, with an amount estimated to be the equivalent of 20% of the GDP flowing through the provider Orange Money alone as of late 2014. To help even more people access financial solutions, The Première Agence de Microfinance (PAMF) Mali, a microfinance institution serving 17,000 clients with a mandate to increase financial inclusion and access, and Orange Money Mali, a mobile money service with over 3 million clients, teamed up to create the first digital savings and micro-loan product on the market in West Africa, *Singa Ni Mara*.[3] The product is accessed via USSD menu on the mobile Orange Money platform at no cost to the client and does not require an internet connection.[4] Loans are digitally disbursed within minutes at transparent and reasonable rates, and because Singa Ni Mara savings are housed at PAMF, account holders earn interest paid out monthly. The goal of our collaboration was to encourage take-up of and savings on this product.

[1] AKAM's mission is to effect demonstrable, measurable, and lasting improvement in the quality of life of its clients by delivering appropriate financial services to diminish their vulnerability and enable financial, economic, and social inclusion

[2] https://www.undp.org/content/undp/en/home/librarypage/hdr/2016-human-development-report.html, http://www.worldbank.org/en/news/press-release/2017/03/21/poverty-in-madagascar-recent-findings, https://globalfindex.worldbank.org/

[3] Singa Ni Mara roughly translates to "savings and loan" in Bambara

[4] Unstructured Supplementary Service Data (USSD) menus are an interactive platform on which mobile phone users can communicate with their mobile network operators by dialing short codes

Madagascar

Though mobile penetration is relatively low in Madagascar (21% in rural areas, 63% in urban areas), 17% of all adults are already using mobile money services. PAMF Madagascar saw the opportunity to expand digital financial services and use behavioral science to ensure people can easily sign up for and use these services. Mobile banking could be particularly impactful in Madagascar because over 70% of Malagasy people live in rural areas where the nearest bank branch is 70 minutes away, on average. To help more people access and use financial accounts, PAMF Madagascar, a microfinance institution serving over 130,000 clients, and Orange Money Madagascar, a mobile money service with 2.8 million clients, teamed up to create M-Kajy, a digital savings and micro-loan product similar to Singa Ni Mara.[5] The goal of our collaboration was to encourage take-up of and savings on M-Kajy.

Designing text messages

We began by developing hypotheses about potential barriers to the take-up and use of digital financial services in Mali and Madagascar through a thorough review of the research literature. We then deepened our understanding of the financial services context in both countries by conducting focus groups and individual interviews with Orange Money clients that focused on client beliefs, attitudes, and behaviors relating to digital financial services.[6] Combining our hypotheses about behavioral barriers to product take-up with our understanding of the local context, we designed behaviorally informed text message campaigns for each country.

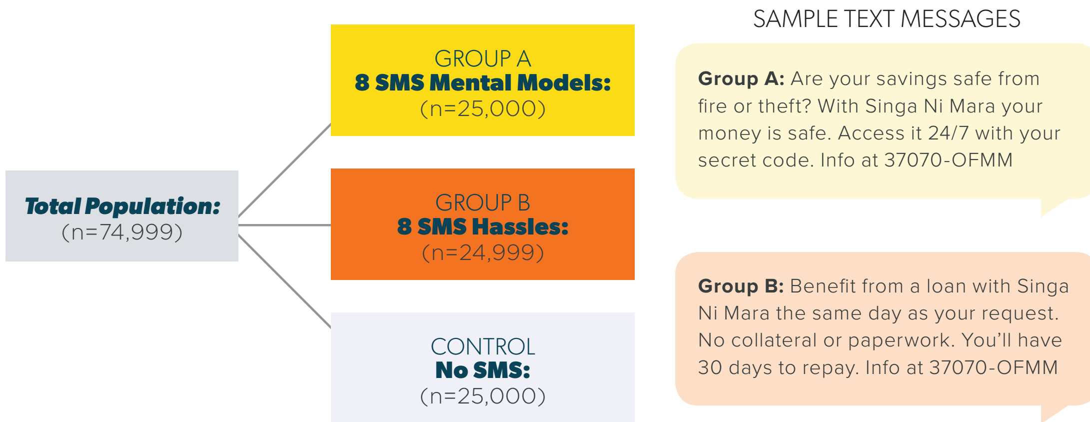
Mali

In Mali, we developed two versions of a series of eight behaviorally informed text messages in order to encourage Orange Money clients living in Bamako to sign up for the product.[7] Group A received text message Stream A, which focused on establishing an accurate mental model of the new Singa Ni Mara product. These messages aimed to address barriers such as: an expectation that the product would be unreliable, concerns that the terms would be unfavorable, or uncertainty about the benefits compared to those of other financial management tools. Group B received text message Stream B, which focused on reducing perceived and experienced hassles to sign up for or use the product. To have a comparison point for the impact of our messages, we also measured outcomes for a control group which did not receive any direct messaging about Singa Ni Mara at all.

[5] M-Kajy is derived from the Malagasy verb “Mikajy” meaning to take into account, calculate, protect or take care of

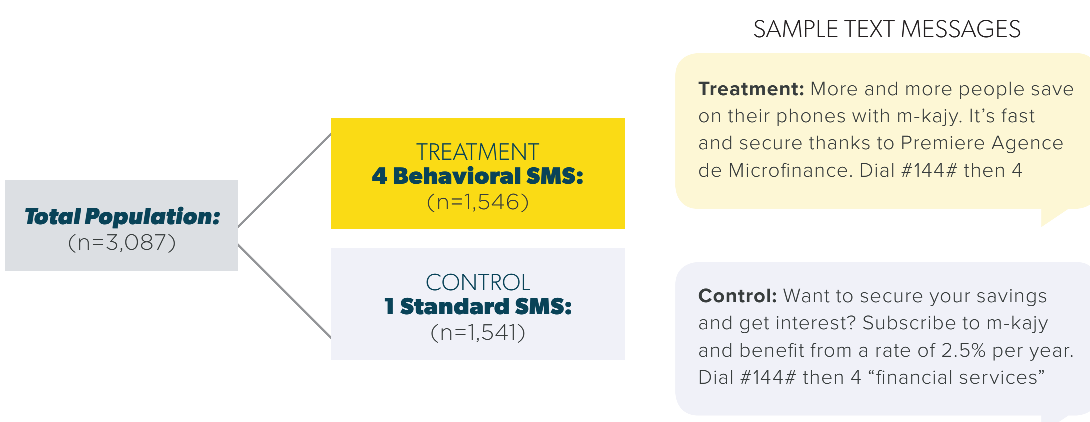
[6] We conducted two focus groups in Mali in March 2017 and two focus groups and six individual interviews in Madagascar in September 2017

[7] Text messages were developed in English and translated into French with the support of local partner teams.



Madagascar

In Madagascar, we designed a series of four behaviorally informed text messages in order to encourage Orange Money clients to sign up for and save on M-Kajy.[8] Due to partner priorities, the pilot targeted clients who had been identified by PAMF's algorithm as having a short or unreliable payment history or lower transaction amounts and frequencies with Orange Money. As these lower engagement clients would not qualify for a loan on M-Kajy, the messages focused on the savings functionality. The campaign highlighted the benefits of saving on M-Kajy, the risks of non-digital and/or informal saving practices, the growing social norm of saving digitally, and the fact that with compound interest, small amounts of savings can grow large over time. We chose these messages to address a variety of behavioral barriers. A better understanding of the benefits of a new product and the risks of alternative practices helps consumers make an informed choice about their financial practices and overcome the inertia of the status quo. Knowing that many other people are using a new product makes it more appealing and assuages fears of unreliability. And highlighting the compounding effect of interest over time can make even small deposits feel worthwhile. A control group received a single standard marketing message about M-Kajy.



[8] Text messages were developed in English and translated into French and Malagasy with the support of local partner teams. Clients received messages in the language they had previously selected for interaction with the Orange Money platform.

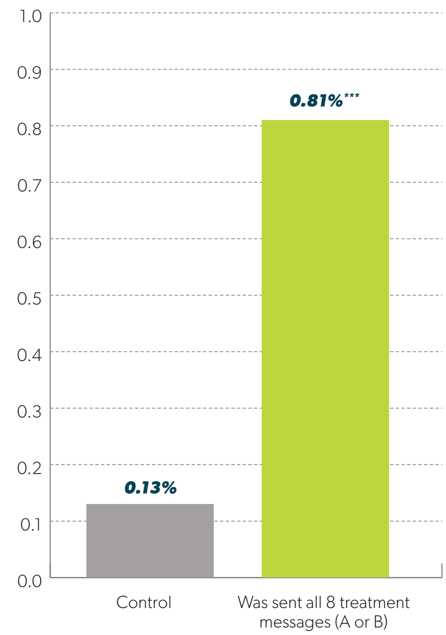
Results

Mali

The treatments ***significantly increased sign-up attempts*** from 0.13% in the control group to 0.81% in the treatment groups.[9] However, total successful sign-ups in all groups remained very low with only 204 people attempting to sign up during the pilot period (out of 74,999), of which 173 were accepted.[10]

The analysis was conducted over the time period from the first day that messages were sent out until two weeks after the last message was sent and excludes clients who signed up before the pilot. Implementation fidelity was fairly high with about 80% of treatment clients successfully receiving all messages for which we have data and 98% receiving at least one.[11] There was no significant difference in successful sign-ups between the two treatment groups. Among clients who signed up for Singa Ni Mara, the treatments did not significantly affect savings or loan behavior.

Attempted Sign-ups by Group

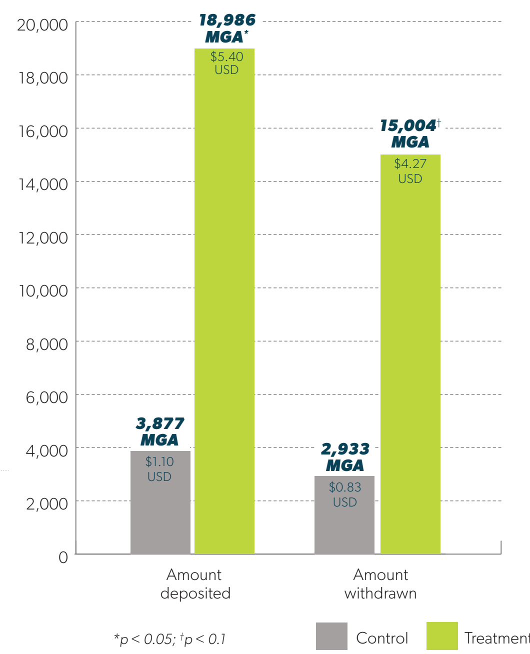


***p < 0.001

Madagascar

No client in either the treatment or control group signed up for M-Kajy. However, clients in the treatment group deposited significantly more money into their pre-existing Orange Money wallets (18,986 MGA or ~$5.40) than clients in the control group (3,877 MGA or ~$1.10), or ***nearly five times as much.***[12] Treatment clients also withdrew about five times as much money (15,004 MGA or ~$4.27) as clients in the control group (2,993 MGA or ~$0.83).[13] Overall, these results represent a considerable increase in account activity for the treated clients, but the effect on savings is less clear. Though we do see a larger positive net change in balance for treated clients

Amount of cash deposited and withdrawn during treatment period by group



*p < 0.05; †p < 0.1

[9] p < 0.001. Note—after the first message, due to operational concerns, we randomly selected ~8k clients from each treatment group to continue through the rest of the pilot; about 17k clients in each treatment group were sent only the first message in the series. The analysis presented here evaluates the effect of the treatment on those ~16k clients across both treatment groups who were sent all 8 messages.

[10] The primary reason clients were not approved was incomplete or mismatching identification documents.

[11] We have data for 3 of the 8 messages sent; unfortunately we have not been able to acquire data for the remaining 5 messages.

[12] MGA (Malagasy Ariary) is the Malagasy currency ($1 = 3516 MGA at time of analysis). p < 0.05

[13] p < 0.1

(3,982 MGA or ~$1.13) than for control clients (943 MGA or ~$0.27), the difference was not statistically significant.

The analysis was conducted from the first day that text messages were sent until two weeks after the final message. Implementation fidelity was fairly high with about 80% of clients in both groups successfully receiving all intended messages and 95% of clients in the treatment group receiving at least one message.

Takeaways

Though neither text campaign had the full desired effect, the pilot demonstrated both the potential value and limitations of text messages to shift financial behaviors. In Mali, the treatments significantly increased take-up of Singa Ni Mara, though total take-up of the product continued to be low. In Madagascar, the treatment significantly increased deposits to and withdrawals from Orange Money wallets, but the intervention did not affect sign up for M-Kajy. Because most of the benefits highlighted in the treatment text messages also apply to holding a balance on the Orange Money wallet, we believe both the content of the messages and the reminder-like quality of the series of four messages contributed to the increase in deposit and withdrawal behavior in the treatment group.

It is worth considering whether text messages are an ideal channel for grabbing client attention given that Orange Money clients and mobile phone users in developing countries already receive many promotional text messages. Low literacy in Mali and Madagascar (33% and 65%, respectively) presents an additional challenge to communication via text message. Though we limited our population to clients who were likely literate based on previous text message and Internet behavior, it is possible that some of these clients were not able to understand the messages.

Operational insights in Mali

Operational complications during the implementation likely constrained take-up. Sign-up for the product required an in-person visit to a qualified Orange kiosk, and only 30 Orange kiosks had the technology and training to sign clients up for the product (vs the planned 1,500 qualified agents). Additionally, the pilot launched during a tense election week when heightened security prevented free movement around the capital followed by a holiday during which many people travel to see family.

However, early data from Orange's call center indicated there was significant interest in the product that may not be captured by the sign-up figures—over 600 calls were made requesting more information about the product within the first two weeks of the pilot.

Short-term savings in Madagascar

The Madagascar pilot demonstrates that behavioral text messaging can meaningfully shift short-term digital savings behavior (even if those deposits did not go into the account we were targeting). Short-term savings are useful for clients with low and/or volatile incomes as a means of budgeting for expected expenses as well as a buffer for unexpected expenses. As such, increasing deposits (even in the short-term in a transactional account) and engagement with digital financial services are positive steps toward financial inclusion for clients without access to traditional financial services such as budgeting tools or a savings account. ***The ~Ar15,000 (~$4) increase in Orange Money deposits is economically meaningful as more than half of the country earns less than Ar100,000 per month.***

We suspect that the main reason that clients did not sign up for M-Kajy was the focus on low engagement clients. As these clients did not receive any messaging about the loan feature, the value proposition for M-Kajy may not have been as compelling. Low engagement clients may also have been less likely to have surplus cash to save, and might therefore have been less interested in M-Kajy than other clients. (For low engagement clients, the only M-Kajy feature that differs from their pre-existing Orange Money mobile wallets is the monthly interest.)

Recommendations for future interventions

We recommend that future communications-based interventions targeting the adoption of a new digital financial product ensure that the operational structure is in place and has been user-tested before launching to enable successful take-up of the product. We also suggest that initial testing is done with a target population for whom the value proposition of the product is high. Digital campaigns can be improved via ***iterative, rapid A/B testing*** of messages leveraging pilot test results as well as qualitative interviews with pilot or target clients in order to optimize messaging that speaks to their preferences, needs, and concerns. Future interventions in Mali, Madagascar, or other low-literacy populations may want to consider expanding into higher-touch, more inclusive channels such as automated voice calls or agent-based interventions in order to ensure the messages are heard and understood.

PAMF is currently iterating on M-Kajy and Singa Ni Mara in order to create products that suit the needs of different groups of people across geographies. A behavioral approach can help ensure that clients understand how they might benefit from new financial products and can facilitate follow-through on client intentions to take-up and use them to build their financial health. With technological advancements, the proliferation of mobile banking services, and an understanding of human behavior, digital financial products hold the promise of building financial health and stability for more people around the world.