



MERCY CORPS VENTURES

Improving Access to Savings for Low-Income Individuals through Blockchain Technology

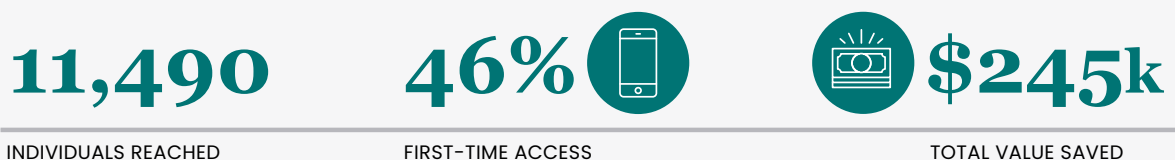
INSIGHTS FROM PILOT OFFERING TOKENIZED, FRACTIONALIZED BONDS AS A SAVINGS PLAN FOR LOW-INCOME INDIVIDUALS IN CAMEROON

Executive Summary

Fractionalized government bonds via blockchain for low-income savers in Cameroon.

Across Africa, there are limited savings and investment opportunities that low-income individuals can access or afford. This is especially true in Francophone Africa where usage of financial services is still among the lowest in Sub-Saharan Africa. For instance, [data](#) from the World Bank shows that adults in Kenya are two times more likely to store money using a financial institution or mobile money account than those in Cameroon.

This, coupled with a [significant lack of trust in financial institutions](#) and prohibitive minimum investment requirements for high-yielding, low-risk investments such as government bonds, means that few individuals have access to opportunities to grow their savings with a cushion against market volatility and inflation.



“Ejara offers us the opportunity to access certain markets that were once closed to the middle class. Now, we are increasingly realizing that achieving a certain financial independence is not a myth.”

TECH-SAVVY USER
AGE 25-34

Mobile money providers have attempted to address this gap with the launch of mobile-based savings products such as Orange Money and MTN MoMo, however they offer very low interest rates (~2.5%), far below the [inflation rate](#) (6.25% in Cameroon in 2022).



In August 2022, we launched a pilot with Ejara, a Cameroon-headquartered crypto investment platform, to test a unique offer: tokenized, fractionalized government bonds accessible within the Ejara app as a savings plan for low-income individuals in Cameroon.

The pilot offered users the opportunity to invest as little as \$1.53 (1,000 CFA) and earn up to 5% interest per annum. This novel capability was enabled by the use of smart contracts which make it possible to infinitely split up an asset into small fractions with instant settlement and full transparency. Moreover, it should be noted that Ejara's product is compliant with the relevant regulations, having received all requisite licenses and the consent of the central bank.

The pilot aimed to explore how blockchain technology can address issues of affordability, efficiency, and transparency, while understanding how best to gain trust and increase adoption of the low-income user segment.

This report is the last of a two-part series. The [first blog](#) outlined the pilot launch, our learning questions, and the hypotheses we set out to prove. This final report provides an in-depth study of the market need, the impact of the solution, and the key insights and learnings from the pilot

PILOT INSIGHTS IN BRIEF | TOKENIZED AND FRACTIONALIZED BONDS

- **The pilot enabled access to a high-yield, low-risk savings product for many who did not have prior access** | Nearly half (46%) of registered users surveyed said that this was their first-time accessing such a savings product
- **The pilot significantly improved the financial discipline, planning, and overall savings experience for repeat savers** | Two-thirds of users (66%) who saved more than once reported improvements in their savings experience (better financial discipline and planning)
- **For informal entrepreneurs (merchants), having funds available for emergencies was the primary motivation for saving** | 64% of early withdrawals among merchants were because of emergency situations and 40% of those who did not withdraw early cited "emergency" as the reason for continued saving
- **For tech-savvy users, rate of return and profits matter the most** | Almost 40% of tech-Savvy users said better interest rates and more profits would encourage them to hold the bonds to maturity. Additionally, 51% highlighted "the opportunity to invest" and "desire for an alternative financial strategy" as their key reasons for signing up.
- **On-ground agents were much more effective than online ads for user acquisition and activation** | The activation rate for users acquired offline was 50%+, compared to just 17% for online ads. Additionally, customers activated offline were 7.5x more likely to save daily than those activated online



Contents

Context	<u>5</u>
Introduction	<u>5</u>
What is Tokenization?	<u>6</u>
Fractionalization and Use of Smart Contracts	<u>7</u>
The Pilot	<u>8</u>
Pilot Overview	<u>8</u>
Product Overview	<u>9</u>
Customer Profiles	<u>9</u>
Innovation and Additionality	<u>10</u>
The Impact	<u>11</u>
Improved Savings Experience and Sense of Control Over Finances	<u>12</u>
Improved Ability to Achieve Financial Goals	<u>12</u>
Pilot Learnings	<u>12</u>
Customer Acquisition and Activation	<u>12</u>
Sticky Demographics	<u>13</u>
User Motivations	<u>14</u>
User Testimonials	<u>15</u>
Scaling Considerations	<u>16</u>
Whitespace Opportunities	<u>16</u>
Barriers to Adoption	<u>16</u>
Conclusion	<u>17</u>

Written by [Njeri Muhia](#), Pilot Manager, and [Timothy Asiimwe](#), Innovation Project Manager.

Context

Introduction

Sub-Saharan Africa has one of the [lowest](#) domestic savings rates in the world. This is driven by a variety of factors including low incomes, low levels of formal employment, and low levels of financial literacy.

GROSS DOMESTIC SAVINGS BY REGION (USD MILLIONS)

Most recent values as of 2022 based on World Bank national accounts data, and OECD National Accounts data files

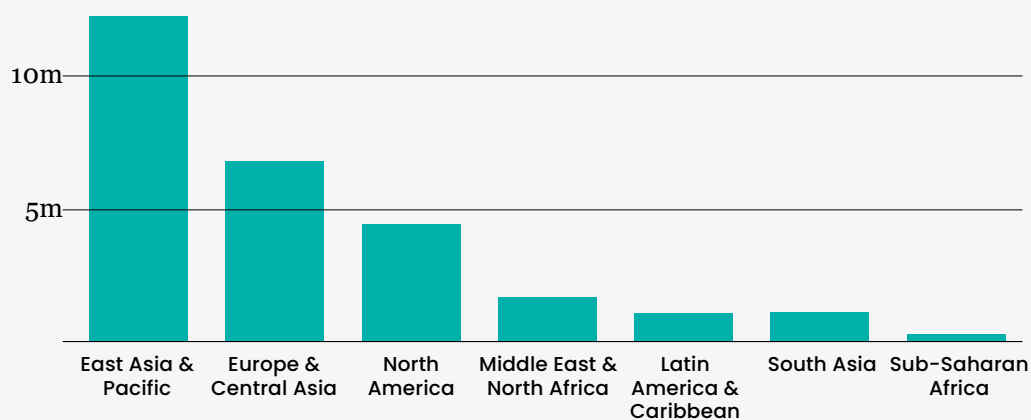


Figure 1: Gross Domestic Savings by Region (Source: [World Bank](#))

In some countries, [cultural and political factors](#) contribute to the low savings rate. For instance, some households view conventional bank accounts as unsafe and prefer to keep their savings as cash.

What's more, inflation is a common fixture in many African markets, leading to erosion of the value of cash savings. Take Cameroon, for instance, where the average inflation rate from 1969 to 2021 was 5.7%, meaning that those who kept their savings in cash were losing 5%+ of their wealth every year.

As such, there is a growing need to promote a better savings culture to increase the financial security and resilience of individuals — and contribute toward poverty reduction in the longer-term. However, for this to be done successfully, formal



savings mechanisms need to be made more accessible and affordable. As Ejara CEO Nelly Chatue-Diop puts it: “Nobody is targeting the woman selling in the markets or the man driving a motorbike for a living. And because we structure the product the way we do, we have many people come to our platform because they can save up to 1,000 CFA franc daily (~\$1.53).”

This pilot set out to launch an inclusive savings product offering fractionalized bonds sold as low-risk, high-yielding investment assets tokenized on-chain for seamless settlement and full transparency.

What is Tokenization?

The world of assets and ownership is largely centralized and controlled by intermediaries, and transactions often require the involvement of third parties, such as banks or brokers, which costs time and money.

In Cameroon, the traditional financial system presents many challenges. The fact that it's paper-based makes it administratively burdensome for users who have to travel to a bank or an asset manager to create an account. In addition, users must pay management fees (in the case of banks) or fulfill steep minimum investment requirements (between \$10,000 and \$50,000 at asset managers) to gain access to high-yielding savings products. This is evidently inaccessible for the majority of people in Cameroon, where the [average informal worker earns \\$138 per month](#).

With the growth and proliferation of web3, we are seeing new technologies that can address these systematic challenges and increase financial inclusion of underserved populations. One such technology is tokenization. *Tokenization is the process of converting real-world or digital assets into digital tokens that can be stored, traded, and managed on a blockchain network.* These tokens can represent a wide range of assets, such as physical goods, financial instruments, intellectual property, or even access rights.



Photo: Mercy Corps, Ezra Millstein / Nigeria / 2018

Tokenization offers several benefits, including:

- **Fractional ownership:** Tokens can be divided into smaller units, allowing for fractional ownership of assets that were previously only available to a



select few. [This can democratize access to investment opportunities and make it easier for people to diversify their portfolios.](#)

- **Improved security:** Tokens are stored on a blockchain, which is a secure and tamper-proof ledger. This can help to protect assets from fraud and theft.
- **Reduced friction:** Tokens can be used to automate transactions and reduce the need for intermediaries. This can save time and money and make it easier for people to do business with each other.

Tokenization has the potential to address these challenges and create a more efficient, secure, and transparent system for managing assets and ownership. By representing assets as digital tokens on a blockchain, tokenization can streamline transactions, reduce the need for intermediaries, and improve security. We are now seeing [several real world applications of tokenization](#) in global markets — the most intuitive of which being fractionalized real estate opportunities.

Fractionalization and Use of Smart Contracts

Fractionalization typically decreases the administrative burden of managing asset ownership, payouts, and settlement. Through smart contracts this process becomes automated, allowing for infinitely-small fractions and lowering barriers to entry for users by a thousand times — splitting a government-issued bond into 1,000 CFA (~\$1.53) tranches, in the case of this pilot.

Smart contracts are self-executing contracts that have the terms of the agreement between the buyer and seller written directly into lines of code. Tokenization can enable smart contracts in financial transactions, eliminating the need for intermediaries like lawyers and financial institutions, which can help reduce the cost of financial transactions.

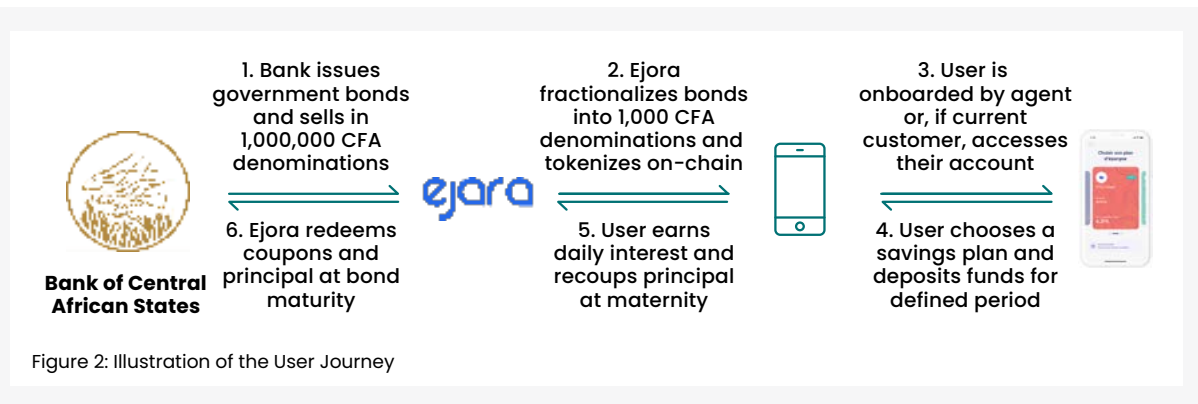


Photo: Mercy Corps, C. Doe / Liberia / 2020

The Pilot

Pilot Overview

In August 2022, we launched a pilot in partnership with Ejara, a Francophone African crypto investment platform, to offer fractionalized government bonds in the form of savings plans to their Cameroonian users. Having acquired an asset manager license which allowed them to buy and sell government bonds from the Bank of Central African States, Ejara tokenized these bonds so that retail investors (i.e. their users) could enter the market at low price points. The bond issuances were executed using smart contracts for ease and security, where the underlying smart contract code underwent a rigorous external audit to ensure that user funds were safe and protected from external bad actors.



Ejara's customers could either access the product directly through their app or be reached through in-person training led by local agents. These agents drove from city to city with community leaders in Cameroon to lead offline acquisition and manage pilot operations. Alongside this financial education component, the service offered in the app also removed a barrier to entry, as users didn't need to travel to a bank or pay account opening and maintenance fees, and could easily track their transactions and balances from their mobile devices.

Users also retained flexibility to withdraw their full principal investment at any time. If the withdrawal occurred before the bond's maturity date, the accrued interest would be reduced but would have no impact on the principal. This was implemented to incentivize better savings behavior and long-term financial planning.

This pilot sought to explore whether a digital high-yield savings offer of fractionalized government bonds could drive financially responsible behavior and lead to greater savings.

The key learning questions for this pilot were:

1. How do customers perceive a savings product?
2. How can such a savings product attain higher adoption and growth among lower-income customer segments?
3. What communication strategies are most effective in driving savings behavior?
4. What is the ideal length of time to keep funds in a savings product?
5. What incentives (e.g. interest rate, no cash-in/cash-out fees) need to be offered to encourage savings behavior and discourage early withdrawals?

Product Overview

The Ejara product is designed to be comparable to other mobile fintech products, providing users with a wallet they can transact from. Once in their Ejara account, a user can select a savings plan and contribute a certain amount from as low as 1,000 CFA (\$1.53) to a savings plan for a predefined period. After this, the user accrues daily interest and receives their full payout at maturity).

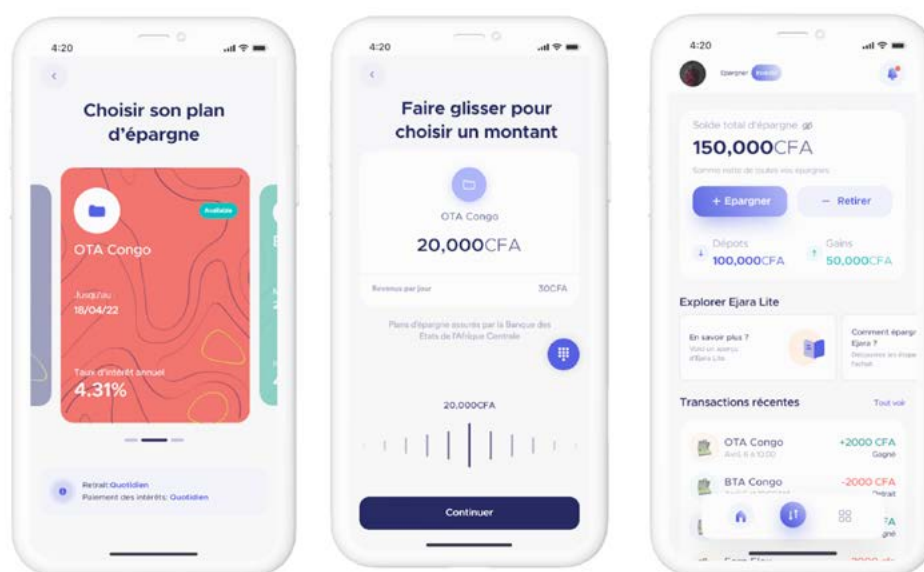


Figure 3: The savings plan is accessible from within the Ejara app

Customer Profiles

There were two key personas among the registered users:

1. **Tech-Savvy users:** Digital natives who regularly use mobile apps, typically between ages 18 and 35. Most (55%) hold a university diploma. For those that have prior experience with savings, it was via mobile money or traditional bank accounts.
2. **Merchants users:** Informal entrepreneurs who typically did not complete tertiary education, with a median age above 30. Most have prior savings experience through community savings groups (tontines and savings and credit cooperative organizations) and microfinance institutions.



Innovation and Additionality

Compared to existing savings products in Cameroon today, Ejara's solution presents a better alternative for users across the the following dimensions:

- 1. Higher yields:** Traditional savings bank accounts offer lower interest rates at around 2.5% per annum, while Ejara users can earn up to 5% per annum paid out daily. Additionally, many merchants save with offline microfinance institutions which pay negative rates, as they charge customers to operate their savings accounts.
- 2. Flexibility & transparency:** Community-based savings groups do not offer sufficient transparency, flexibility, and security. Using blockchain, Ejara brings transparency and traceability to transactions. This reduces the risk of fraud that exists in the cash world in popular local savings systems such as [tontines](#). Moreover, savings groups require physical presence that is not always feasible, convenient, or even in the best interest of the group's financial situation. Furthermore, participating in rotational savings groups or "Tontines" typically requires one to wait their turn to receive a pay out and one has no control over when they get paid, while Ejara provides some flexibility to withdraw accumulated savings.
- 3. Customer-friendly:** Even though banks are increasingly tailoring products to retail clients, many still have long and arduous onboarding/ KYC processes that create significant friction for individuals. Moreover, traditional accounts [have additional costs in the way of fees and charges that make the product less accessible](#). There is also a deep mistrust with traditional financial institutions, arising from the issues listed above as well as the perceived lack of transparency and inclusivity

"Saved from my phone without going to microfinance institutions"

Tech-Savvy User | Aged 25 - 34

	Microfinance Institutions e.g Orange Money	Community-Based Savings Groups (i.e. "njangi" or "tontines")	Traditional Banks / Microfinance Institutions	Ejara Savings Product
Interest rates	3.5%	0%	2.5%	5%
Transparency	Medium	Low	Low	High
Flexibility	High	Medium	Medium	High
Customer-friendly	High	Medium	Low	High

Table 1: Cameroon Savings Product Comparison

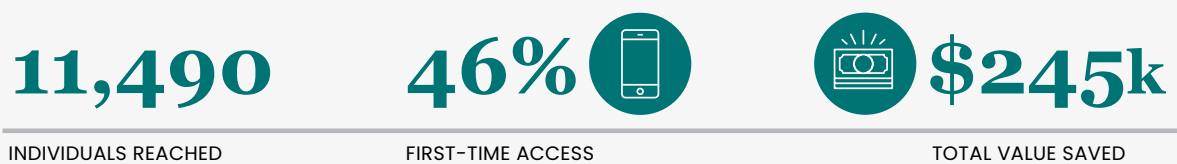


The Impact

A total of 11,490 individuals registered for the product and collectively saved close to \$250,000 worth of government bonds. Nearly 1 in 4 (24%) registered users were female.

Almost half (46%) of the registered users reported that this was their first time accessing a savings product, suggesting that fractionalization is an effective way to put high yield savings within reach for more people. This is unsurprising given that the minimum amount required to invest was reduced by a thousand times (from \$1,600 to \$1.53).

PILOT INSIGHTS | TOKENIZED AND FRACTIONALIZED BONDS



“Ejara offers us the opportunity to access certain markets that were once closed to the middle class. Now, we are increasingly realizing that achieving a certain financial independence is not a myth.”

TECH-SAVVY USER
AGE 25-34

“I am passionate about finance and investment myself, and I think Ejara is a serious player that offers a service that democratizes investment and makes it accessible to all.”

Tech-Savvy User | Aged 25 - 34



Improved Savings Experience and Sense of Control Over Finances

Two-thirds (66%) of repeat savers reported an improvement in their savings experience, such as better financial discipline and planning, as a result of using Ejara's product. Additionally, 52% of registered users reported having more control over their finances.

"I cultivated the desire to save that I once didn't have."

Tech-Savvy User | Aged 25 - 34



Photo: Ejara 2024

Improved Ability to Achieve Financial Goals

Four in 10 registered users reported that Ejara's saving product improved their ability to achieve their financial goals. For tech-savvy users, the most popular financial goal was to increase their income; for merchant users, accumulating savings and gaining access to other credit sources were the most popular financial goals.

"Ejara offers us the opportunity to access certain markets that were once closed to the middle class. Now we are increasingly realizing that achieving certain financial independence is not a myth."

Tech-Savvy User | Aged 25 - 34

Pilot Learnings

Customer Acquisition and Activation

On-ground agents had a much higher activation rate than online ads. The vast majority (95%) of users acquired offline saved at least once, compared to only 44% of those activated online. This is unsurprising given that Ejara's agents focused not only on registration but also on guiding users through their first deposit. Additionally, Ejara found that hosting community events and engaging communities at the grassroots level was an effective way to onboard women, especially in hard-to-reach regions.



On-ground agents can help drive product adoption, not just activation.

Customers activated offline were 7.5x more likely to save daily than those activated online. That said, the higher savings rate among merchants (activated offline) could also be explained by the use of familiar user journeys. For instance, in Cameroon it is common practice for participants in rotational savings groups to make daily payments to a collection agent.



Photo: Mercy Corps, Ezra Millstein / Guatemala / 2019

On-ground agents are much more effective for user education than

online ads. Nearly half (46%) of tech-savvy users (acquired online) hesitated to save because they did not fully understand the product. In comparison, none of the merchants (acquired offline) reported not fully understanding the product. This is likely because on-ground agents are able to address any knowledge gaps in real-time.

Pairing online ads with offline campaigns is key in places where people are not tech literate. Given that on-ground agents are effective in educating users and filling any knowledge gaps, pairing them with a scalable online campaign is an



Photo: Mercy Corps, Ezra Millstein / Kenya / 2019

representation in the user base. One in three female users saved daily compared to just 4% of male users. Additionally, the repeat savings rate of female tech-savvy users was 1.3x that for male tech-savvy users.

effective way to target users who may not be tech literate or savvy.

Sticky Demographics

Individuals who had prior experience with other savings products engaged more with the product. The repeat savings rate for those with prior experience was 2x that of those accessing the product for the first time.

Female users engaged more than males despite lower overall



Older users were less prone to early withdrawals. Only 7% of older users (aged 35+) withdrew their savings early, compared to 26% of younger users (aged 18-34).

User Motivations

For merchant users, having funds available for emergencies was the primary motivator for saving. Emergency situations prompted 64% of early withdrawals among merchants. Moreover, 40% of those who did not withdraw early cited “emergency” as their primary reason for continued usage.



Photo: Mercy Corps, / Kenya / 2018

For tech-savvy users, rate of return and profits matter most.

Almost 40% of tech-savvy users reported that better interest rates and higher profits would encourage them to hold the bonds to maturity. Additionally, 51% of registered tech-savvy users reported that “the opportunity to invest” and the “desire for an alternative financial strategy” were their top reasons for signing up for the product.

User Testimonials

“I am passionate about finance and investment myself, and I think Ejara is a serious player that offers a service that democratizes investment and makes it accessible to all.”

Tech-Savvy User | Aged 34 - 25

“Saved from my phone without going to microfinance institutions”

Tech-Savvy User | Aged 34 - 25

“I cultivated the desire to save that I once didn’t have”

Tech-Savvy User | Aged 34 - 25

“The security of knowing that I have safe savings within reach. No need to go and stand in long lines at banks”

Tech-Savvy User | Aged +64 - 45

“Monitoring the growth of one’s savings which encourages investing much more”

Tech-Savvy User | Aged 34-25

“I don’t rush to withdraw money when I realize that the savings plan hasn’t matured yet”

Tech-Savvy User | Aged 34-25

“I understand budget management thanks to Ejara”

Tech-Savvy User | Aged 34 - 25

“The product presentation sparked a change in my mind, my vision to see further”

Tech-Savvy User | Aged 34-25

“I can now access my account 7/24”

Tech-Savvy User | Aged 34 - 25

“It is a simple and innovative solution, you just have to be patient”

Tech-Savvy User | Aged 34 - 25

“I can save at any time regardless of the hour, and I can block my funds thanks to that, protecting me from unnecessary expenses”

Tech-Savvy User | Aged 34 - 25

“Ejara offers us the opportunity to access certain markets that were once closed to the middle class. Now, we are increasingly realizing that achieving a certain financial independence is not a myth”

Tech-Savvy User | Aged 34 - 25



Scaling Considerations

White Space Opportunities

Bundling savings with credit. The most important financial goal for almost a third of merchants was to “gain access to other sources of credit.” This seems to suggest that not only is there an appetite for credit but also an expectation that savings are a gateway to credit, given that other savings products such as those offered by microfinance institutions and community savings groups commonly provide savers with access to credit.

Embed insurance for emergencies. Emergency situations prompted 52% of tech-savvy users and 64% of merchant early-withdrawals. Thus, bundling an insurance-like offering for emergencies has the potential to not only drive up the savings rate but to also create a new revenue stream.

Offering higher yielding plans with longer lock-ins. Over a third (37%) of tech-savvy users reported that they’d be encouraged to hold to maturity if rates and profits were better. Similarly, 28% of tech-savvy users reported that their hesitation to save was because the interest rate was ‘too low.’ Additionally, 17% of merchants reported that more profits or benefits would encourage them to hold to maturity. What’s more, almost one in four (23%) of the Net Promoter Score (NPS) detractors reported that they’d like to see “better financial returns and incentives.” Additionally it’s important to note that while the 5% savings rate offered during the pilot might have been attractive in 2021 during the zero interest-rate policy (ZIRP) era of 2021, users’ expectations on savings rates are much higher now.

Barriers to Adoption

User education. A little over half (52%) of users who did not activate their savings account reported that they “did not fully understand Ejara’s terms and conditions.” This was also the number one reason tech-savvy users (46%) hesitated to save. One third of tech-savvy users reported a lack of clarity about the product. Similarly, 31% of tech-savvy users reported that they experienced a “lack of educational resources or guidance.” What’s more, this lack of understanding was more pronounced (1.4x more) among users without a university diploma.

Technical issues. This was the most common challenge reported: 52% of tech-savvy users and 89% of merchant users reported experiencing technical issues.



Additionally, users who saved only once were 1.7x more likely to report having experienced challenges than those who saved more frequently, suggesting that technical issues hurt retention and repeat usage.

Customer support. Over half (54%) of users experienced some kind of challenge while using the Ejara savings product. Of these, 76% reported that their challenge had not yet been resolved. Additionally, 31% of tech-savvy users reported having issues with customer support, and 25% experienced transaction delays. What's more, users who experienced challenges were 1.4x more likely to become detractors, suggesting that providing excellent customer support is necessary for large-scale adoption.



Photo: Mercy Corps, C. Doe / Liberia / 2021

Conclusion

With this pilot, we showcased the promise of blockchain technology to democratize access to financial services, particularly savings and investment products for underserved individuals. While initial results show significant demand for blockchain-enabled, high yield savings products with low minimums, there is still a need to educate target users about the product, and to tailor the offering more toward their specific financial goals. For Ejara, the intention is to further refine the product and user journeys and thereafter roll-out to further Francophone African countries.



CONTACT

KENNETH KOU
Head of Venture Lab
Kkou@mercycorps.org

TIMOTHY ASIIMWE
Innovation Project Manager
tasiimwe@mercycorps.org

NJERI MUHIA
Pilot Manager
nmuhia@mercycorps.org

About Mercy Corps Ventures

Mercy Corps Ventures invests in and catalyzes venture-led solutions to increase the resilience of underserved individuals and communities. Through capital and support, piloting new approaches, action-oriented insights, and rigorously managing impact, we catalyze the ecosystem toward smarter, more impactful investments.



45 SW Ankeny Street
Portland, Oregon 97204
888.842.0842
mercycorps.org

