

Financial Inclusion in Nigeria: The Case for A Collateralized Digital Asset

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Executive Summary

Since 1977, the challenge of financial inclusion in Nigeria has triggered the introduction of various financial products and policies for the unbanked.¹ There is little progress to show for these efforts as the financial well-being of at least 60 million unbanked Nigerians negatively affects their daily lives. Financial inclusion is included as a target in eight of seventeen UN developmental goals (including eradicating poverty, achieving gender equality, and ending hunger).² We must, therefore, continue searching for innovative ways to meet the unique needs of the unbanked Nigerian.

Mobile money is the most recent innovation that has so far failed to reach critical mass with the intended customers. Insufficient funds, cost, and lack of adequate documentation are cited as the major reasons for low account ownership. In this paper, I will introduce Cowry, a collateralized blockchain token that allows Nigerians to make low-value digital transactions from their mobile phones for free. Cowry aims to improve financial inclusion by targeting the Nigerian customer's unique pain-points and delivering innovative solutions to unleash their financial potential.

Problem

Unbanked Population

According to the World Bank, only 40% of Nigerians have a bank or mobile money account.³ Despite the Central Bank of Nigeria's goal of reducing the percentage of unbanked Nigerians to 20% by 2020, the World Bank data represents a 4% drop in bank account ownership between 2014 and 2017.⁴ To further highlight the issue, only 27.3% of Nigerian women have a bank account, down by 7% from 2014.⁵

Financial inclusion, in the form of access to basic services like digital payments and savings, empowers people. Transactions can be performed more efficiently and safely than with cash, savings can enable individuals and families to plan out for expenses like school fees and farming supplies, and women who save are more likely to invest in their families and communities than men.⁶ When a huge proportion of the population are not part of the financial system, it promotes a cycle of poverty and inequality.

¹ "Scaling DFS With Regulatory Sandboxes - Sustainable and Inclusive" 19 Jun. 2017, http://sustainabledfs.lbs.edu.ng/FI-Resources/Scaling_DFS_With_Regulatory_Sandboxes.pdf

² "Financial Inclusion and the SDGs - UN Capital Development ... - UNCDF." <http://www.uncdf.org/financial-inclusion-and-the-sdgs>

³ "Global Findex - World Bank Group." <https://globalfindex.worldbank.org/>

⁴ "Reaching out to unbanked Nigerians - The Sun Nigeria." 6 Apr. 2018, <http://sunnewsonline.com/reaching-out-to-unbanked-nigerians/>

⁵ "Global Findex - World Bank Group." <https://globalfindex.worldbank.org/>

⁶ "Why Development Begins with Women | Impatient Optimists." 12 Oct. 2014, <http://www.impatientoptimists.org/Posts/2014/10/Why-Development-Begins-with-Women>

Table 1: Top 5 Reasons Cited by Nigerians For Lack of Bank Account

Reason for not having an account	Unbanked that cited reason (%)
Insufficient funds	64%
Financial Institutions are too far away	19%
Lack of necessary documentation	18%
Someone in the family has an account	15%
Financial services are too expensive	13%

Note: surveyed individuals were allowed to pick more than one reason
Source: World Bank Global Findex Database

Mobile Money in Nigeria

Mobile money is highly regarded as the most promising solution to the financial inclusion puzzle for many developing nations. In Kenya, researchers found that mobile money users did not reduce household spending when hit with an unexpected drop in income, while nonusers reduced their purchases of food and other items by 7 - 10 percent. Mobile money has also helped reduce extreme poverty among women-headed households by 22 percent. 82% of Kenyans now either own a bank account or use mobile money.⁷

Mobile phone penetration in Nigeria is at about 84%.⁸ However, only 1% of Nigerians use the various available mobile money schemes.⁹ This is caused by high operating and transaction costs for mobile money operators, low banking-agent penetration in rural areas to drive access, and inconsistent/ineffective regulation. 72% of digital financial services stakeholders believe that mobile money policies, regulation, or legislation are counterproductive.¹⁰ As a result, mobile money awareness among the unbanked population was only 5.3% in 2017.¹¹

⁷ "Global Findex - World Bank Group." <https://globalfindex.worldbank.org/>.

⁸ "Nigeria's mobile phone penetration hits 84 per cent — Business" 16 Mar. 2018, <https://guardian.ng/business-services/nigerias-mobile-phone-penetration-hits-84-per-cent/>

⁹ "Nigeria's mobile money scheme crawls at 1% penetration" 18 Apr. 2018, <https://guardian.ng/technology/nigerias-mobile-money-scheme-crawls-at-1-penetration/>.

¹⁰ "Digital Financial Services in Nigeria: State of the Market Report 2018" http://sustainabledfs.lbs.edu.ng/FI-Resources/SoMR_Full_Report_2017.pdf.

¹¹ Ibid

Solution

Cowry wants to change how Nigerians make low-value transactions between merchants, family, and friends. It is a collateralized digital asset that allows users to make micropayments for free. Cowry aims to solve issues of accessibility and cost by reducing the barriers between financial service providers and consumers. Cowry is a token on the Stellar blockchain network that can be bought, sold, or transferred to other users with a mobile phone. Users may buy and sell Cowry using either their bank accounts or for cash using a smart-contract system called NairaShare.

The Cowry Token

The Cowry token can be transferred in less than 5 seconds to anyone using their phone number. Its low cost and speed enable micropayments for users, while providing the efficiency and security of modern payment systems.

Each token will be fully collateralized by the Naira, ensuring that the value of 1 Cowry will always be equal to 1 Naira. A system will be created to validate that all Cowry tokens in circulation are backed by corresponding fiat in a financial institution. This price stability is important to prevent price swings that will negatively impact the functionality of the Cowry. In addition, collateralization eliminates any liquidity risks.

Cowry will be available for purchase, sale, and transfer only on designated mobile channels like USSD, WhatsApp, or a mobile app in order to take advantage of the high mobile phone penetration. Users will sign-up using just their names and phone numbers; however, comprehensive KYC rules will be implemented for users transacting above specified transaction and daily limits. Every Cowry transaction will be verified and stored on the Stellar Network.

Stellar.org and the Stellar Network

Stellar.org aims to promote global financial access, literacy, and inclusion by expanding worldwide access to low-cost financial services.¹² The Stellar Network, developed and maintained by Stellar.org, is a group of decentralized servers in different locations that power a distributed ledger. The servers communicate with each other every 2-5 seconds to verify and store transactions on a blockchain using the Stellar Consensus Protocol (SCP). SCP was developed by Dr. David Mazières, a professor of computer science at Stanford University. SCP ensures the scalability (>1000 transactions per second) and speed (2-5 seconds) of the network, while optimizing for the highest level of security.¹³

¹² "Stellar." <https://www.stellar.org/>.

¹³ "The Most Comprehensive Stellar Blockchain Guide (Blockgeeks)." 4 May. 2018, <https://blockgeeks.com/guides/stellar-platform/>.

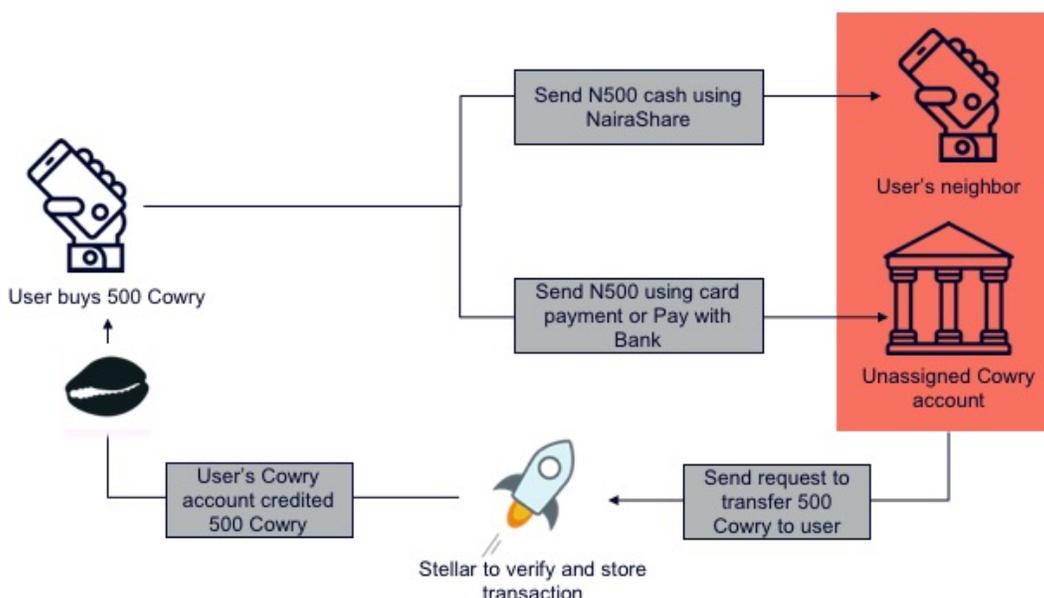
Since its inception, the Stellar network has hosted over 3500 assets (including USD, EUR and BTC) and has been used for payments more than 41 million times.¹⁴

NairaShare and Bank Transactions

NairaShare is a smart-contract based cash-sharing system intended to increase the liquidity of the Cowry token. It allows users to sell or buy Cowry from predetermined trusted parties using cash. For example, if a user receives a Cowry transfer, they can initiate a smart contract with their neighbor to exchange the cash for Cowry. This allows users to tap into their pre-existing social networks to potentially solve the problem of liquidity for users who may live far away from banking institutions or ATMs.

Users may also buy Cowry using their debit cards or sell Cowry for bank transfers.

Image 1: Illustrative Transaction Flow of a Cowry Purchase



¹⁴ "Stellar's Explorer - Stellar Expert." <https://stellar.expert/explorer/public/asset/>.

Image 2: Illustrative Transaction Flow of a Cowry Sale

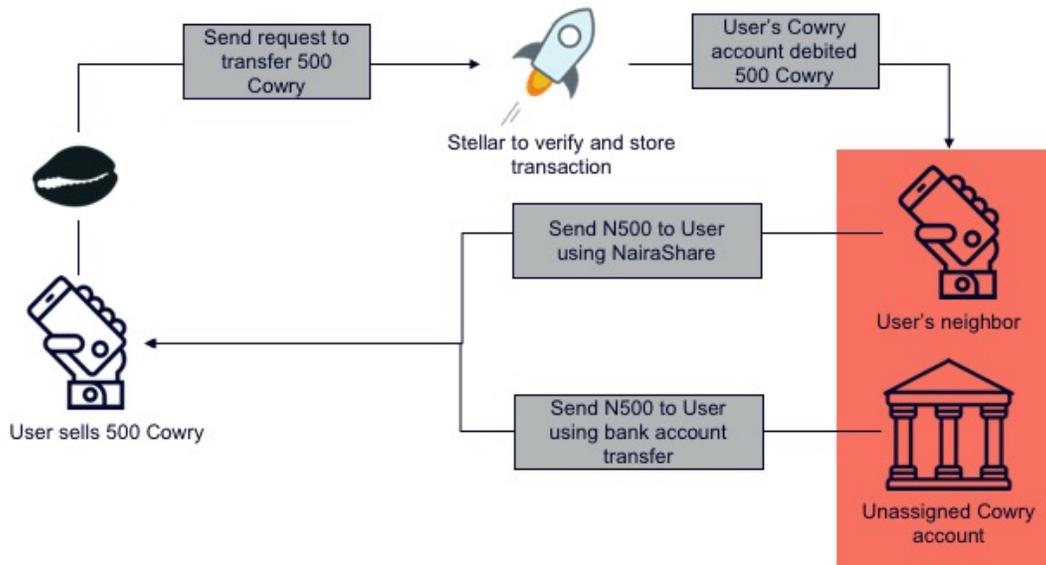
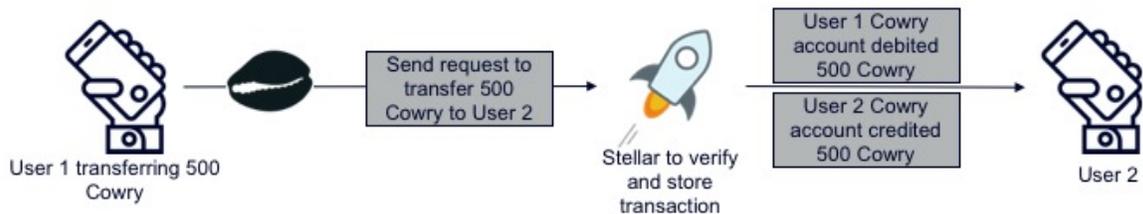


Image 3: Illustrative Transaction Flow of a Cowry Transfer



Zero Transfer Fees

Zero transfer fees are an integral feature of the system. 64% of unbanked Nigerians do not have enough funds to open an account with a financial institution while another 13% do not have an account because financial services are too expensive.¹⁵ For Cowry to make an impact on the lives of the unbanked, it will eliminate fees for users that are making microtransactions.

Naija Cowry

Naija Cowry is the glue that ties all the solution components together into a startup. The company will be ensuring the safety and effectiveness of the Cowry ecosystem by taking responsibility for the following:

- Designing, developing, maintaining, and updating the technology for Cowry to be bought, sold, and transferred.
- Creating, testing, and implementing the strategic path for Cowry adoption in Nigeria.
- Regulating the use of Cowry to ensure a safe and secure environment for all Cowry users and prevent the use of Cowry for illegal activities.
- Building a profitable business that improves financial inclusion in Nigeria while operating in an ethically, operationally, and economically sustainable way.

Naija Cowry will use a data-driven, lean startup approach to understand potential customers and adapt to their needs. To learn more, please visit www.najiacowry.com.

¹⁵ "Global Findex - World Bank Group." <https://globalfindex.worldbank.org/>.