

# Financial Inclusion and Digital Payments in Nigeria

## *Introduction*

In 2015, Robotic Systems Limited set out to build a world-class standard digital payment system to rival Paypal in Nigeria by taking advantage of mobile phones. Initially, we thought this was going to be a mobile app technology but two years later, it turns out that it is really a USSD technology. The MPesa in Kenya runs on SMS and USSD and it is no accident. This is the infrastructure that Africa is currently ready for. Fast-forward to 2018, we have built USSD technology that is the first of its kind in Nigeria. In this paper, we will talk about the current major problems in digital, mobile and USSD payments/technology and how Secapay addresses each of them.

- **Poor Availability/Distribution of ATMs Nationwide**

To date, there are only about 17,000 ATMs nationwide in Nigeria for a population of about 45 million people who have ATM cards. Secapay USSDPOS enables merchants to function as ATMs to their customers and make profit. The customers use the merchant's unique USSD code to pay the merchant and the merchants gives them a cash equivalent.

- **Cashless Transactions**

The USSDPOS functions as a regular P.O.S. in that it functions like a digital replacement of the traditional/hardware POS devices. We take in ATM card information via Web/encrypted SMS and safely verify and store customer card information. Merchants are then assigned a unique USSD Code which their customers can dial to send one-time payments or recurring payments to the merchant through their Visa or MasterCard debit cards.

- **USSD Session Recovery**

In the USSD world, the bottleneck of the technology is that the Telco usually has to set a reasonable timeout for USSD sessions to reduce server load usually ending up in a time between 90 to 120s. This timeout however is sometimes usually not enough for customer to complete their transactions. Our USSDPOS solution solves this problem by enabling the customer to continue from where they stopped. This enables a user who could not finish a transaction within the standard 60 seconds to continue from where they stopped when they dial the default USSD code.

- **Customizable USSD Front**

USSD may seem like an archaic technology, but more functionality and use can be packed in by enabling users to customize their USSD menu/interface. Merchants who acquire our USSDPOS codes can create a unique experience for customers by customizing their USSD menu. This enables them to add/sell products through custom assigned USSD codes, for example a restaurant can add popular dishes on USSD menu to enable customers easily order from their office and pay in a couple of seconds.

- **Know Your Customer**

One disadvantage of current/hardware POS devices is that they usually do not provide a means to capture or store the customer information, thereby presenting a significant opportunity loss to the merchant. The USSDPOS however enables the merchants to gain insight to the top/loyal customers along with the transaction information. In this way, they can see who bought from them and what amount a customer has spent in their shop. They can send SMS to top customers, reward most loyal customers, and reach out to all their customers via SMS during emergencies; for instance when they want to restock and sell out goods before they expire.

- **Voucher Payments/Naira number**

Financial inclusion cannot be complete in Nigeria currently without the inclusion of vouchers. There are still a lot of unbanked users who do not have an ATM card and may from time to time need to make digital payments through other means. This is where vouchers come in handy. Such users may purchase a voucher/Naira number from any nearby agent and use the code to load money into their Secapay account which they can use to pay anyone.

- **Behavioral heuristics/ SIM swap protection**

A rising notorious problem in Nigeria is the abuse of the SIM SWAP process or stolen phones to take advantage of USSD Banking/siphon funds from victims. With the USSDPOS, we have designed advanced behavioural heuristics that reads and encodes the behavior of each user. In this way, the system can recognize when it is not the user that is performing a transaction and interrupt with additional checks/security questions to check for possible fraudulent activity. In such cases, the user may also call use any available phone to lockdown their account through our USSD Menu.

- **Pricing**

We charge a competitive price of 1.5% for all POS payments. For ATM transactions however, the user is charged ₦30 for withdrawals below ₦1000 and ₦50 for withdrawals above ₦1000. We currently issue the USSD POS and marketing materials for ₦1,000 to ₦150,000 depending on the number of unique digits. The unique 3-digit codes are targeted for big enterprises or corporations who operate nationwide. The 4 digit codes are targeted for medium enterprises. The 5 digit code are targeted for supermarkets and SMEs. And the 6-7 digit codes are targeted for regular merchants. Each USSD package however still provide mostly the same benefits to the users.

## Conclusion

All-inclusive digital payments in Nigeria has to factor in security, accessibility and infrastructure as core success factors. Currently USSD infrastructure is the most promising strategy and Secapay presents a top industry standard to the USSD approach that solves the major challenges in USSD technology -- security and usability-wise. The SIM-SWAP security/protection through unique customer behavioral profiles plus session recovery and customizable USSD fronts are all but a few highlights of what can be achieved on USSD. There is still a lot more to be done however, for example USSD prompts could be used as a security pin confirmation during the last leg of payments via USSD, web-level competitive analytics can be developed for USSD, etc. By leveraging her partner, AfricasTalking USSD technology -- which provides sandboxing and advanced USSD session logging; Robotic Systems was able to start with an advantaged position in USSD Development. We need more companies like AfricasTalking in Africa and Robotic Systems will continue to work hard to maintain a leading pace on USSD payment technology.