



# The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

## Final Copy of Case Study

**LOCATION:**  
*Nairobi, Kenya*

**ORGANIZATION:**  
Airtel Africa

**YEAR:**  
*2011*

**ORGANIZATION URL:**  
<http://africa.airtel.com>

**STATUS:**  
*Laureate*

**PROJECT NAME:**  
Airtel Money

**CATEGORY:**  
*Economic Opportunity*

### PROJECT OVERVIEW

Mobile commerce has been a big success story in Africa. A market deprived of banking services coupled with wide reach of mobile phones – this is a hot bed for innovation in mobile commerce. Airtel is an active player in this arena with “Airtel Money” as its flagship product. Airtel Money addresses many different needs of the consumer. The biggest one is providing banking for the unbanked. It also allows people to cash in and cash out at their nearby authorized Airtel Money retailers. Once money is deposited in their Airtel Money account, it can be used for merchant payments e.g. utility companies, insurance premiums, school fees, tickets etc. In addition, subscribers can move money from Airtel Money wallet to Bank accounts and vice versa. Transferring money between two Airtel Money accounts is one of the most popular features. International transfers are an extension of the same feature which holds a lot of relevance in the African continent. Africa is home to over a billion plus people, most of whom have little or no access to basic banking or financial services. Banks are primarily available only in large cities. Commercial transactions in large parts of the hinterland are done entirely in cash. Money transfer between urban and rural regions was difficult. A 100% cash economy places huge overheads in terms of cost of moving the money, overall efficiency of the economy. In addition it leads to theft, pilferage and fraud. In addition the connectivity infrastructure is lacking in large parts of Africa – which hinders the growth of online digital money movement. The solution to this problem was to combine the ever widening reach of mobile phones, the deep distribution network of telecom operators, a simple user interface and a network of merchants who accept digital money payments. Airtel Money is a STK based application, available on the handset of all Airtel mobile subscribers. The STK application allows us to reach all kinds of handsets from very basic ones to smart phones. It uses encrypted SMS as a bearer. At the heart of the solution lies a robust transaction platform which is based on open standards, re-usable integration points and can handle large transaction volumes. It allows us to onboard multiple merchants, banking systems, payment gateways such as Master Card, with minimal new development. The entire transaction is processed through multiples systems,

with each leg handled in a secure manner. Some of the challenges we had to overcome were the stringent security requirements from banks for integration with the banking systems. The UI had to be simple yet extensible enough to cater to additional transactions in future. The primary users of Airtel Money are not highly educated. Hence, the STK menu had to be simple, familiar and intuitive so that anybody can pick up the phone and use it. We had to design the STK application keeping in mind the limited memory footprint available in the SIM. The biggest challenge however was user adoption – which had to be addressed through continuous communication.

## **SOCIETAL BENEFITS**

- Banking for unbanked
- Convenience of payments
- Digital money flow leading to better efficiency
- Secure and traceable money movement
- Liquidity in remote corners of the country
- Employment for the distribution network
- New payment channel opens up new business opportunities
- Improved collections efficiency

## **PROJECT BENEFIT EXAMPLE**

Catholic University of Eastern Africa – Earlier students used to face a lot of problems in paying their tuition fees in time. The only modes of payment were cheques or bank transfers. This was particularly troublesome for international students who didn't have local bank accounts. They used to have someone else pay on their behalf. For students whose parents were in rural areas, receiving cash was a time consuming and unreliable process. Similarly, payments to suppliers, refund to students could only happen through formal banking instruments. Now, all such transactions are possible through Airtel Money – which makes all kinds of payments hassle free and instantaneous.

Mumias Sugar Company, Western Kenya The sugar company is primarily located in rural areas. The sugarcane cutters are paid wages weekly. In absence of any banking instruments, they are paid in cash in sealed envelopes every week. This came with a host of problems such as frauds, thefts, disputes, high cash handling costs & insurance. The sugar company had to hire a cash management company to handle the payments which added to the overall cost of operations. Now, the weekly payments are made through Airtel Money. This brings in transparency in the whole disbursement process. There's a complete ecosystem of authorized Airtel Money retailers in the neighborhood, where workers cash out their wages or transfer some part of it to their family elsewhere.

DPL festive It's a bread manufacturer with an extensive distribution network across small shops in Nairobi. Each shop buys a few loafs of bread everyday from the bread company. This results in collection of lots of petty cash by the driver, who is often target of theft. Now, the payment is powered by Airtel Money wherein the shopkeepers directly transfer to the bread company, which gets rid of the cash collection problem to a large extent.

## **IS THIS PROJECT AN INNOVATION, BEST PRACTICE?** Yes

## **ADDITIONAL PROJECT INFORMATION**

Building acceptability and belief in the minds of the common man has been the biggest challenge. During the initial days of mobile commerce, people used to look for money inside the mobile phone. They had to be educated that the money is now digital, similar to airtime – something that you can't see or feel but can use in your daily life. The regulatory and market scenario around mobile commerce is constantly evolving. The challenge was to architect the system in such a manner that can be easily replicated across countries with minimal change. The system was designed keeping in mind



the stringent requirements of banking systems with real time transactions, reconciliations, fraud detection etc. This allows us to deploy it across markets without making significant changes. The security aspect of the solution was given the highest importance with encryption at various levels (h/w & s/w) – SIM, application, database, HSM etc. It gives us the flexibility to get past the initial concerns raised by most parties and focus on advanced features and functionalities such as NFC.

