



How cellphone technology can mobilise microfinance

Susie Lonie : 11th November 2005

What is Vodafone?

Vodafone is the largest mobile network operator in the world

- British company listed on the LSE with world HQ in England
- Formed in 1984 as a subsidiary of Racal
- Market capitalisation of £94 billion [May 05]
- Operating in Europe, USA, and the Far East
- Strategic network partners in many other locations



Some facts about Cell Phones

Mobiles are used and owned differently in developing countries from the developed world – Vodafone SIM research Feb 2005

The value of mobile phones to the individual is greater because other forms of communication are often poor.

Mobiles enable users to participate in the economic system.

Many people who cannot afford to own a mobile themselves can access mobile services through informal sharing with family and friends or through community phone shops.

M-PESA Project Overview

Objective: to improve the efficiency of Microfinance by using mobile technology to make transactions faster, cheaper, and more secure.

Kenya Project: creation of a mobile enabled version of an existing microfinance system, Partnering with Kenyan business :

- Vodafone Group Services Ltd – providing the technology
- Safaricom – Vodafone affiliate providing local infrastructure
- Faulu Kenya – local MFI
- CBA – local bank

Funding for a pilot was granted by the DFID & matched by Vodafone

Transaction types M-PESA can support

There are four basic mobile money transfer functions

- transferring money between individuals P2P
- transferring money between individuals and businesses B2C
- cash withdrawal and deposit at registered retail outlets
- disbursement and repayment of loans

Plus account information eg balance, group payments etc

A web interface is used to administer the system, create reports etc

Expected Benefits

Consumer convenience

- financial services without needing to access banks – or cash

Security

- Smaller amounts of cash being moved shorter distances

Real time view of cash flow

- MFIs can see the status of their business on line

MFI Cost reduction

- Loans disbursed on line
- Major reduction in administration both in field and back office
- Can respond faster to change



End-User experience

Withdrawing cash at a local shop / M-PESA Agent



1. Select "Withdraw cash"



2. Enter the phone number you want to withdraw cash from



3. Enter the amount you want to withdraw



4. Enter your secret PIN



5. Check the details are correct then press OK to send an SMS to M-PESA

Confirmation that the cash can be withdrawn



7. M-PESA sends you an SMS confirming that you can withdraw the cash



8. M-PESA sends an SMS to tell the shopkeeper to give you the cash



web administration screens

Administration can be done & activity monitored in “real time”

Disbursing loans

Organisation: **Not Faulu** [Activity Log](#)
[Manage](#)

Not Faulu | **MFI as MMF Customer**

[Account Summary](#) | [Payments](#) | [Edit Account](#) | [Operators](#) | [Activity Log](#)

MFI as MMF Customer - Statement For MMF Account

[Print Statement](#)

Select Start Date:

Select End Date:

Select transaction type: Completed Pending Failed
 All

Select Page Size:

Account Number	48-1
Account Status	Active
Current Balance	694054.00/-
Uncleared Funds	1500.00/-
Reserved Funds	15000.00/-
Available Funds	679054.00/-

[Show Account Rules](#)

Receipt	Date	Details	Transaction Status	Withdrawn	Paid In	Confirm	Cancel
AA950	16-08-05 10:22	MFI Authorisation of Loan to Lilian Kasanga (254724099070)	Authorised	-15000.00		<input type="checkbox"/>	<input type="checkbox"/>
AA949	16-08-05 09:54	Payment received from Barry Boot (254724099034)	Authorised		1500.00	<input type="checkbox"/>	<input type="checkbox"/>
AA946	16-08-05 09:40	Payment received	Completed		1500.00		

Reviewing transactions

Mobile Micro Finance Administration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://194.216.39.73/m-pesa/account-statement.aspx?AccountID=82> Go Links

Home Create Account Make Payments Reports

Customer: Barry Boot (254724099034) [Activity Log](#) [Manage](#)

Not M-PESA Customer Faulu Client Account Waiyaki Way Group Account Safaricom Client Account

Account Summary Payments Edit Account Activity Log

Not M-PESA Customer - Statement For MMF Account [Print Statement](#)

Select Start Date: 10 July 2005

Select End Date: 10 August 2005

Select transaction type: Completed Pending Failed

All

Select Page Size: 10 [Go](#)

Current Balance 11025.00/- **Account Number** 190-1

Uncleared Funds 0.00/- **Account Status** Active

Reserved Funds 0.00/-

Available Funds 11025.00/-

[Show Account Rules](#)

Receipt	Date	Details	Transaction Status	Withdrawn	Paid In
AA604	10-08-05 10:44	Transfer of funds to unregistered user (254724923001)	Completed	-800.00	
AA604	10-08-05 10:44	Send Money Charge	Completed	-40.00	
AA596	09-08-05 16:18	Funds received from Clarence Client (254724099055)	Completed		2740.00
AA587	09-08-05 11:30	Transfer of funds to unregistered user (447913567873)	Completed	-745.00	
AA587	09-08-05 11:30	Send Money Charge	Completed	-40.00	
AA578	09-08-05 10:04	Transfer of funds to unregistered user (254722540879)	Completed	-999.00	
AA578	09-08-05 10:04	Send Money Charge	Completed	-40.00	
AA544	08-08-05 15:39	Transfer of funds to Clive Client (254724099054)	Completed	-520.00	
AA544	08-08-05 15:39	Transfer Charge	Completed	-20.00	
AA534	08-08-05 10:54	Deposit through Agent Angie Agent (254724099038)	Completed		666.00

1 2 3 4 5 6 7 8 9 10 ...

Home Create Account Reports Sign Out

Internet



Project status

M-PESA business trial started on 11th October



Three areas being trialled

- CBD - central Nairobi
- Mathari – Nairobi slum
- Thika – market town an hour from Nairobi

8 Agent shops recruited from Safaricom Dealerships

Status on 4th Nov [day 23]

- 251 active users have moved \$50k in 3,500 transactions
- Average cash deposit \$19.60
- Average P2P transfer \$4.50
- Average cash withdrawal \$3.80

The Challenges



The technology works & can be fine-tuned

The big challenge is Business Processes

Managing Agent & their floats

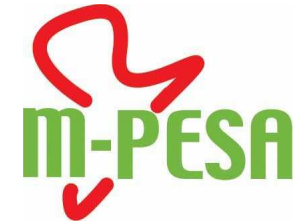
- Now - larger retailers with access to banking
- Next – small remote outlets without banking services
- Balancing cash deposits & withdrawals

Training the Consumers

- Speed of learning dependant upon familiarity with cell phones

And the Regulator...

The Future



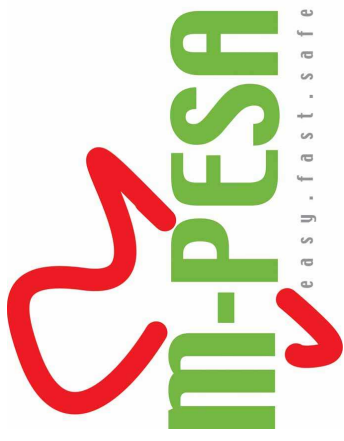
Prove concept and launch in Kenya

- For microfinance
- For inland P2P money transfers
- For B2B cashless transactions
- For B2C bill payments

A number of other “Vodafone countries” are very interested

- South Africa, Tanzania, Egypt, Albania, Fiji...

Low cost international remittances



M-PESA trial tariff

<u>End-user cost</u>	<u>USD\$</u>
• Cash Withdrawals	0.50
• Cash Deposits	M-PESA pays
• Loan Repayments	MFI pays
• Treasurer functions	MFI pays
• P2P transfers - registered no.	0.25
- other	0.50
• Show balance	0.01
• Order statement *	0.65
• Field Officer functions	MFI pays

** MFI charges for printing & distribution*

M-PESA is designed to support multiple languages



1. Chagua 'Lugha'



2. Chagua ishara ya
aitha "Kiingereza" au
"Kiswahili"