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FEATURE
Africa's 'cyber' currency
Malcolm Ray
Fri, 02 Mar 2007

Try to imagine, if you will, a cashless economy where there's no paper, no plastic, no coins — just mobile banking.

Far-fetched?

Now stretch your imagination a little. Imagine a virtual currency where pre-paid airtime is traded across national borders to exchange goods and services, cancelling conventional currency exchange and the associated costs from the equation as a prerequisite; where at the touch of a button, value can be transferred from your bank, stored as airtime in your cellphone and used to purchase, say, a can of Coke from your local street vendor.

The very thought of those innovations in technology promises to reshape the trading system that underpins 21st century capitalism, multiplying its revolutionary impact on the lives of the poor, giving them facilities once available to the rich only.

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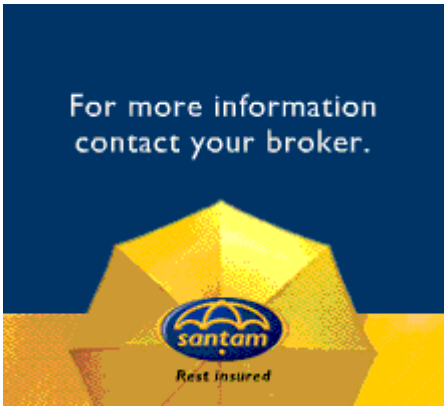

'Cyber' currency

Pie in the sky? It's not the only currency in town, but mobile banking has already spawned a pseudo 'cyber' currency in several African countries and emerging economies around the world.

Granted, as a trading system on a global scale, the phenomenon is in embryo, peculiar to less developed economies where banking services like Automated Teller Machines and electronic banking are either remote or transferring money through banks is a slow, painstaking and expensive process.

But it's growing at a breathless pace, says Gustav Vermaas. A few years

ago Vermaas, whose payment processing company, Ventury, acts as an intermediary service provider between GSM networks, banks and end-consumers in Nigeria, Uganda and Tanzania by providing technological applications for airtime transactions, observed something unusual, purely by chance. More and more people were purchasing large amounts of airtime in Nigeria where Ventury has a contract with mobile phone operator Celtel to transact top-ups on prepaid phones .

Top-up transactions

At first, the transactions seemed fairly straightforward. “Instead of purchasing a voucher or scratchcard, people would purchase airtime using their phones. They would also, we discovered, trade airtime amongst themselves where, for example, someone with airtime worth 500 Naira sells airtime worth 200 Naira on to the next person in exchange for hard currency. The seller’s balance of airtime would be reduced by 200 Naira.”

This is not uncommon in Nigeria where MTN offers a similar service to consumers called DT.

Then Vermaas noted unusually large top-up transactions in Nigeria where, instead of averages running at 200 Naira, individuals were purchasing top-ups worth 3000 to 5000 Naira.

Very quickly the number of large prepaid top-ups were in bloom, which meant something was not quite normal.

“It turns out that individuals were buying and selling airtime as a business. So you would go to Celtel and buy airtime worth 10 000 Naira then stand somewhere in a rural area where the logistics of getting hard cards is a nightmare and sell on the airtime.”

Heavy investing

That was the reason MTN Nigeria announced its prepaid top-up cards in Nigeria and the UK, allowing Nigerians living in the UK to buy airtime for members of family back home, as a convenient alternative to sending small amounts of money home.

Other big network operators and cellphone companies, including Vodaphone and Safaricom in Kenya, are investing heavily in the new market.

The evolution of the system necessarily started out as a simple transaction to purchase airtime, strictly to make calls. Very soon, people in rural areas in just about every sub-Saharan African country were purchasing prepaid airtime from local vendors in cities and selling it on to merchants in rural locales, who in turn either rented the use of mobile phones to rural dwellers or sold the airtime on to them at a profit.

That seems pretty normal on a continent where informal trading is everyone’s business. But the technological innovation did not stop there. The rate of airtime exchanging hands based on a relatively few large top-ups seemed an anomaly. “If so many people were topping up, why was this not reflecting on the system?” asks Vermaas.

Airtime as a currency

When he investigated the reasons for this, he found something quite phenomenal. People were using airtime as a sort of virtual currency. “So instead of buying airtime off me, I would say I want to buy a can of Coke. You would say that costs 200 Naira. I would say would you take airtime, so instead of giving you 200 Naira in cash I would pay you with airtime.”

In other words, airtime had become another means of exchange for goods and services, a ‘wallet in your phone’ (or second currency) based on the stored value of prepaid vouchers.

Mobile banking had emerged on the scene. Suddenly banks, traditionally accustomed to the rarefied trade of the high-end formal market, woke up to the massive opportunity this presented to deploy mobile-banking applications which extend the formal financial service system to the poor — the unbanked — without customers having to incur the onerous administrative fees of ATM machines and point of service cash transactions.

Fast growing mobile market

The critical mass to roll something like this out throughout the African continent was certainly a seduction. The reason for the excitement is the increase in the number of cellphone users in Africa. According to a survey by the Consultative Group to Assist the Poor (CGAP) late last year on the incidence of cellphone banking in Africa, more than 800 million mobile phones were sold in developing countries in the last three years. With over three billion mobile phone subscribers in the world, Africa is now the world’s fastest growing mobile phone market and, according to latest research by telecommunications analyst firm Informa Telecoms & Media, there are now more than 100 million mobile phones in use on the continent — one for every nine Africans.

These are the unbanked who generally can’t afford the cost of formal banking services and infrastructure.

This startling number in itself showed the potential to bank people outside the realm of traditional financial services. Not only is the mobile phone a pervasive device which has fewer barriers to entry than most technologies, it has penetrated some of the poorest economies due to the overwhelming demand for any form of telecommunications.

Mobile banking

Using the mobile banking model, Standard Bank, which trades on the continent, marched into a partnership with MTN. First National Bank started Celpay, a mobile phone facilitator operating in Zambia and the Democratic Republic of Congo. In essence, the service offers mobile phone-based virtual bank accounts with advanced features which compare with many normal bank accounts. Celpay, for instance, has also developed m-banking business services like cash-on-delivery payment functionality and companies like BP, MultiChoice and various cafes, supermarkets, pharmacies, hair salons and even O’ Hagans in Zambia use the system.

“You have to consider that Africa is a cash-based society,” says Vermaas. “So unlike your more developed economies where people transact using credit cards and the internet, African companies are proving that mobile banking can be used as a tool to facilitate virtually any form of payment, directly from your mobile phone.”

To demonstrate this point, he purchases airtime on his cellphone at the push of a few buttons in a direct transaction with his bank. His phone is loaded with airtime credits proportionate to the value of money deducted from his bank account. All this in less than 30 seconds.

Digital divide

The possibilities for leapfrogging the digital divide in trade by breaking down geographical barriers are enormous.

Predictably, banks argue that the benefits of scale help: Today, most banks operating in Africa offer products for mobile banking in low-income markets, meaning, in theory, that they can offer bankable services to the poor by leapfrogging the prior developmental stage of installing ATMs and charging for the use of the facilities. The knock-on benefits of this are seen by the users, mobile operators, banks and retailers, who face a panoply of new opportunities for increased traffic, customer retention and improved service offerings. Banks see it as allowing for immediate transactions (meaning the unbanked become banking customers), an alternative to carrying cash, which in turn means better cash retention, increased security and payment efficiencies, and reduced dependency on ATMs and branch infrastructures.

Challenges ahead

Says Barclays Africa CE, Dominic Bruynseels, “It’s banking made easy, it’s something we are developing our own thoughts on because mobile phones have been way beyond the expectations of companies in Africa. And it’s an attractive way to increase our reach. On the payment side it’s been great. And from a banking perspective it’s fine as a money transfer. It’s not new, of course. The transfer of value across the world has been done by tokens. Barter is one. This is an extension of that.”

Or, as Vermaas puts it, “It creates a whole new ecosystem for trade.” He gives the hypothetical example of someone operating a shebeen on the Nigerian border with Ghana. “That entrepreneur can purchase liquor from a wholesaler across the border in Ghana using airtime, without exchanging currency, or a Nigerian working in, say, Ghana can remit cash using airtime to his family in Nigeria which in turn can be used to buy goods and services or swopped for cash at an airtime kiosk, bank or ordinary retail store.”

But there are questions that pose challenges for the new system. While money is a currency commodity, might its currency value be lost in a barter system where airtime is traded for goods?

Tradable commodity

Bruynseels is not worried in the least. “Money,” he says, “like anything

else, is a tradable commodity. People buy and sell money and as long as you can establish a value for something you can trade for airtime, you can trade commodities. You don't necessarily have to have money to trade."

The problem, says Vermaas, is not the system of trade but the technology to support it. "Our system was written for you to give me cash in return for me giving you airtime. The intention was never for you to give me airtime and me to give you a can of Coke." He says the system functionality and profitability analyses are sound. "It's a volume that's constant. The system at Celtel is currently doing three times the volume of transactions after 18 months that took us 8 years to build in SA. Now how much of that is commodity trading, I have no idea."

In Africa, the most significant development underpinning this growth has been the degree of regulatory reform in all but a few countries on the continent, reflecting governments' support for developing the sector. This is borne out of the realisation that an efficient telecoms structure has a positive impact on growth and potential for generating revenue; and a desire to close the 'digital divide'. Reform has been achieved through liberalising markets, creating a separate telecommunications regulator, opening the spectrum for new wireless technologies and licensing private operators.

Texting suppliers

As a result, GSM has spread rapidly: by the end of 2003 mobile lines exceeded the number of fixed lines by two to one, and in sub-Saharan Africa the ratio was three to one.

For cellphone operators, more top-ups mean more business. It's like a mini-computer with infinite possibilities. All that's needed is a cell tower and phone. And that's in addition to the normal leapfrogging due to cellphones which a BBC article describes: "Shopkeepers are text-messaging their suppliers. Hours of travel and the sending of letters or messages are replaced by a phone call. Farmers are getting accurate information about the market price of their crops as they harvest them."

So where might this technological system take us? What are the possibilities for changing the lives of the poor? And can the new cyber currency be regulated?

For starters, mobile phones are the most immediate and practical point of contact to the unbanked: in South Africa and Botswana, one-third of people who do not have a bank account — many of them poor — do own a mobile phone or have access to one, a FinMark study in 2005 revealed.

The 2006 survey by CGAP and the United Nations which focused on a sample of people in South Africa shows convincingly that customers can use mobile banking to make person-to-person payments, transfer money, purchase prepaid electricity, and buy airtime for prepaid mobile phone subscriptions at one-third the cost of conventional banking services.

Secure banking

"It's a bank in your pocket without the costs of banking tagged to it," says Vermaas. "And it's secure, contrary to fears by the South African

government. Where governments don't know where 90 percent of transactions are happening, this new system allows you to start drilling down into transactions using cellphone numbers. You can monitor financial transactions which correspond to money you have in the bank."

At the level of simple trade, the profit from the purchase of goods and services depends on the price variability of goods.

"The profit sits at the dealer level. But still at the merchant level the profitability does not sit at the conversion of cash products, it sits at the level of bartering products, not the embedded or stored value of airtime. That's where you're going to make money," says Vermaas.

Ultimately, the opportunity is the gap provided by underdevelopment. "Mobile phones not only break down communications barriers but offer a tradable commodity that is needed by the unbanked. The technology is there — meaning half the battle is already won," says Vermaas. *-Business in Africa Magazine*

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