



MOBILE FOR DEVELOPMENT IMPACT

NOMANINI - ENABLING RAPID, RELIABLE, PRE-PAY RETAIL IN INFORMAL MARKETS

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Mobile for Development Impact

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Case study: Nomanini

Enabling rapid, reliable pre-pay retail in informal markets

Product Summary

Nomanini is a South African-based company which has created a mobile point-of-sale terminal to print pre-pay voucher codes, as well as an online platform through which distributors can better manage their stock and agent networks. Nomanini's customers are pre-pay voucher distributors, e.g. mobile airtime distributors, who use the simple, online, cloud-based platform to manage voucher distribution to their networks of retailers and who lease the point-of-sale terminals to those retailers. This fundamentally changes the nature of the supply chain, from a physical distribution of scratch cards to a virtual distribution through terminals – saving time, money, and reducing retailers' overall risk.

Nomanini charges a monthly platform access fee that is charged to the distributor, based on how many active terminals they manage. The distributor manages their network of retailers who then resell the airtime to consumers through the terminals. This enables distributors to deliver stock instantaneously to retailers in the large but fragmented informal sector. The terminals are designed to provide reliable service even over unreliable gsm connections; are built sturdy for harsh conditions, and have a long battery life to account for locations where electricity for charging is not readily available. This enables retailers to respond immediately to consumer demand, and reduces the time and cost associated with restocking scratch cards, helping them create a more sustainable income. Having started with distributors of mobile airtime, the service is increasingly being adapted to serve other prepaid sectors, including electricity and transport.

Year Launched: 2012

Business Model: Business

Targeted Device: N/A

Primary Delivery Technology: Web, embedded terminal and paper

Products & Services: Credit & voucher management platform connecting to rugged point-of-sale terminals

Markets Deployed In: Ghana, Kenya, Mozambique, Namibia, South Africa and Zambia

Estimated Total Number of Users: One million consumer top ups per month

Number of Active Terminals: 750

Average number of transactions per terminal: Ranges by country from 800 to 2000 per month

Background & Opportunity:

Less than 25% of people in Africa have bank accounts, and even fewer have credit cards.¹ Informal retail and cash purchases are the norm in the region, but they bring associated risk and cost. Retailers in emerging markets, whether formal or informal, require tools that aid quick, safe and reliable transactions. Despite its size, the vibrant and underserved informal sector tends to be an afterthought in the development of new payment devices and solutions.

This context presented a unique opportunity to create new technologies to serve the specific needs of informal trade in emerging markets. This opportunity was highlighted to Nomanini's founders in 2010 by the situation that faced South Africa's approx. 250,000 minibus taxi drivers: fares were regulated but petrol prices were rising, meaning their incomes were squeezed and drivers needed to diversify their revenue streams. Nomanini realised that being able to sell mobile airtime to passengers would be an ideal solution. However, it could not find a terminal that would work quickly and reliably enough for drivers to operate efficiently. Waiting too long for a network connection, for example, would divert them from their main business of driving. It became clear there was a gap in the market for a quick, simple-to-use airtime distribution system that worked over unreliable network connections.

The predominant method for distributing pre-paid airtime is through scratch cards transported physically by road or foot to retailers for onward sale to customers. With the proliferation of prepaid service providers and increasing demand for small denominations of airtime (meaning more scratch cards need to be sold to generate the same amount of revenue), the management of an ever-growing inventory of stock was becoming increasingly problematic and profit margins of scratch cards were decreasing for retailers as a result.

Objective

Nomanini aimed to create a new payments solution, which shifted a physical supply chain to a virtual one, and is purpose-built for the specific conditions of trade in emerging markets.

Results:

Estimated Total Number of Users: One million consumer top ups per month

Number of Active Terminals: 750

Average number of transactions per terminal: Ranges by country from 800 to 2000 per month

Presently, Nomanini has six clients using its vending solution with 750 terminals transacting. They operate across Africa, in Ghana, Kenya, Mozambique, Namibia, South Africa and Zambia. The company is actively expanding geographically and also broadening its solutions portfolio to serve new payment needs, including prepaid electricity, transport ticketing and financial services. It has recently passed its millionth transaction and is already close to a million transactions per month.

¹ World Bank. 'Financial Inclusion in Africa: An overview.' By Asli Demirgüç-Kunt and Leora Klapper. <http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-6088> [Accessed 29 September 2014]

Lessons Learnt:

Always design for your end-user. Involving them throughout the design and iteration of your product is key.

Do not underestimate local capabilities. The people best positioned to create value in a market are already there. They know much more than you do, so listen to them and empower them with tools so that they can succeed in building their business.

Ensure that your business model is aligned with that of your partners.

Be patient and prepared to change in order to grow with your partners.

Impact:

For distributors, the online management platform provides an easy-to-operate, direct channel to many points of sale. They are able to manage a larger agent network at a lower cost. For busy informal trade retailers, the terminal provides an easy opportunity to earn additional profit and increase footfall. For consumers, the solution provides better access to essential services such as mobile services, electricity, and financial products.

Approach:

To solve the pain points faced by the informal traders, Nomanini developed an electronic vending solution, which would enable retailers to sell many products, without the travel and time costs of restocking the hard copy scratch cards and that worked quickly and effectively over unreliable network connections. This solution involved inventing and developing the rugged, point-of-sale terminal that receives and prints pre-pay vouchers on demand. This was coupled with a back-end management system through an online platform for the distributors.

It was important to keep the transactions as simple, fast and reliable as a scratch card feels to the purchaser. Keeping this in mind, Nomanini refined the use case and quality standards required by taxi drivers. Field trials revealed that fast, easy and reliable vending tools also served the needs of informal retailers in a large variety of other situations, such as airtime sellers on commuter trains moving between network areas, street hawkers, corner shop proprietors, hairdressers and more. Nomanini also realised that this solution would increase efficiencies and reduce restocking costs in the wider, existing mobile distribution channel by enabling instantaneous, virtual inventory management.

An important aspect of the solution was creating a way to enable retailers to sell airtime via the network, even if signal was intermittent. Online vending requires continuous network connection during the 10-60 seconds between a merchant's request for a voucher, through to its validation and delivery. If there is no connection, it will not work and the retailer cannot complete the transaction. To overcome this challenge, Nomanini pre-cashed a certain amount of vouchers on each terminal and offered credit, so that retailers could continue to vend airtime offline. The terminal synchronises with the online system when it re-enters network coverage. This makes for a more complex back-end, but the complexity is hidden by a straight forward user interface. Distributors manage the terminals through this interface on the Nomanini platform, which is accessed using any basic web browser.

Fig 1 User dashboard on the Nomanini online platform

nomanini
Nomanini user 1 Manage account
ClientID Nomanini Manage organisation
Device: 869644

- Dashboard
- Stock
- Money
- Merchants & Devices
- All reports

Device: 869644 "Footbal spaza" Merchant: Franco Smith

[Summary](#) | [Transaction history](#) | [Battery history](#) | [Connectivity history](#) | [Signal history](#) | [Out of paper history](#) | [Technical details](#) | [Events & commands](#)

Device sales [Product sales history >](#)

Total sales this week:

R2500

Up from R2020 last week

Report for Device 123456: Sales

Cashup

Date	Opening	Closing
23-10-2014	R2000	R1800
22-10-2014	R3000	R2000
21-10-2014	R1000	R3000

[View transaction history >](#)

Credit/debit [Full history >](#)

Amount

R 0.00

Debit device Credit device

History

12-10-2014 17:00	R200 Float	Done
12-10-2014 17:00	R200 Float	Done

Device security

Security status: **Unblocked** [Block this device](#)

PIN: [Edit](#)

Diagnostic summary

✔ **Credit balance: R342** Last updated: 2 mins ago

12 sales today

[Transaction history >](#)

✘ **Battery: Low** Last updated: 2 mins ago

14% Last charge: 08:00 today

[Battery history >](#)

✔ **Connected to server** Last updated: 2 mins ago

[Connectivity history >](#)

✔ **Signal strength: 70%** Last updated: 2 mins ago

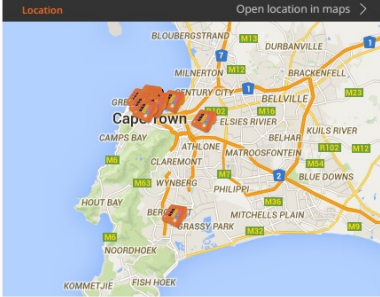
[Signal strength history >](#)

✔ **Paper: Stocked** Last updated: 2 mins ago

[Out of paper history >](#)

Report for Device 123456: Ready to sell

Location [Open location in maps >](#)



Merchant [Merchant page >](#)


Merchant details

Merchant name: **Franco Smith** [Edit](#)


Contact number: **872567567** [Edit](#)

Registered: **02 Feb 2014** [Deregister](#)


Franco owns 3 other devices



Device number: 869641
Budget Spaza
[View device >](#)



Device number: 869648
[View device >](#)



Device number: 869642
[View device >](#)

Operator details

Operator name	Notes	Contact number	
Jackson Pole	Works Mon-Fri	0725556678	Edit Remove
Amanda Pole	Works Sat-Sun	0725556678	Edit Remove

[+ Add new operator](#)

The point-of-sale terminal (to which distributors send airtime codes) is a sturdy box designed to be used as intuitively as possible, to reduce the need for training. Airtime or electricity vouchers are simply printed using a maximum of three strokes of a button. The device is charged like a common mobile phone and the battery lasts for five days, so that it can be used in off-grid areas or those with unreliable access to electricity. It is drop-proof, splash-proof and UV resistant.



Fig 2 Nomanini point of sale terminal

In order to iterate efficiently and be accountable for the whole solution from end to end, Nomanini develops and manages all hardware, firmware and software in-house.

Nomanini's business model focuses on a monthly platform access fee that is charged per terminal to the distributor. The terminals are sold at cost. Over time, as volume grows, Nomanini aims to reduce this cost further, as the cost of terminal is currently the main barrier to scale.

Distributors are able to choose how to charge retailers for the terminal. This varies by market. For example, if the distributor has strong operational control, it can subsidise retailers in return for a greater margin on airtime sold. Where distributors have less control or access to retailers, they cannot take that risk, so they may charge retailers by the month instead.

Nomanini's business model is developing in two interesting ways. The first is that in some markets, e.g. Kenya, Zambia and Namibia, distributors have shifted from being just customers to becoming resale partners. They start using Nomanini services with their own network of retailers, but receive interest in those services from other distributors. They then become Nomanini "value added resellers," offering the use of their call centres, cash collection services etc. to other distributors.

The second business model development is that in various markets, users of the system have seen other applications of the pre-pay delivery channel beyond mobile airtime. These include selling pre-pay electricity (South Africa and Namibia) and bus tickets (Mozambique). This supports both Nomanini's value proposition and that of the distributors and retailers who are looking to diversify the range of products they offer.

User Centric Attitudes:

Nomanini designed and developed its device and platform around its primary stakeholders, informal retailers, working closely with them throughout inception, design, testing and development. As its developers are in-house, any problems can be addressed as they arise through a process of continuous deployment. This means that updates can be made remotely at scale, with no need to swap out devices in the field, leading to a platform that is constantly evolving to better suit the needs of customers.

Nomanini's focus on user-centricity extends to the physical design of the terminal. For example, one unexpected problem was that the petroleum-based hand cream used by many retailers handling the terminal was destructive to the lettering on the keypad, therefore an alternative type of ink was used. Another challenge was that ordinary batteries did not last long enough to cope with unreliable access to power. They were replaced with batteries that contain more lithium, and so held their charge for longer. This made the device more expensive but it was a necessary expense.

These issues highlight the fact that designing for informal markets doesn't automatically mean taking the cheap option. Designing for harsh environments often requires tougher, higher quality materials.

When it came to determining device size, Nomanini assumed that smaller, pocket-sized terminals would be better. However, field testing showed that retailers wanted bigger, bulkier devices that were less easy to steal. Testing and iteration throughout is key, as designers' assumptions often do not reflect realities in the field.



Fig 3 Kiosk owner Brenda using Nomanini terminal to sell airtime in Nyanga Township in Cape Town, South Africa



Fig 4 Taxi driver Sam vending airtime from his car in Khayelitsha Township, Cape Town, South Africa

Use and value of data:

When it comes to collecting and analysing data, Nomanini looks at two key things: the number of terminals active and the rate of transactions per terminal. There are derivatives from these two key metrics that give the company indications about the sustainability of terminals for the merchant and the local partner serving them. This data is used to detect where intervention is required either by the distributor's contact centre to help individual retailers or for Nomanini's account managers to help their distributor partners.

Scalability:

Nomanini works with scalable technology solutions. It has appointed a contract manufacturer to build its devices and the platform runs on Google's cloud-based infrastructure. Through partnerships with local enterprises it has created a scalable go-to market-model.

Partnerships:

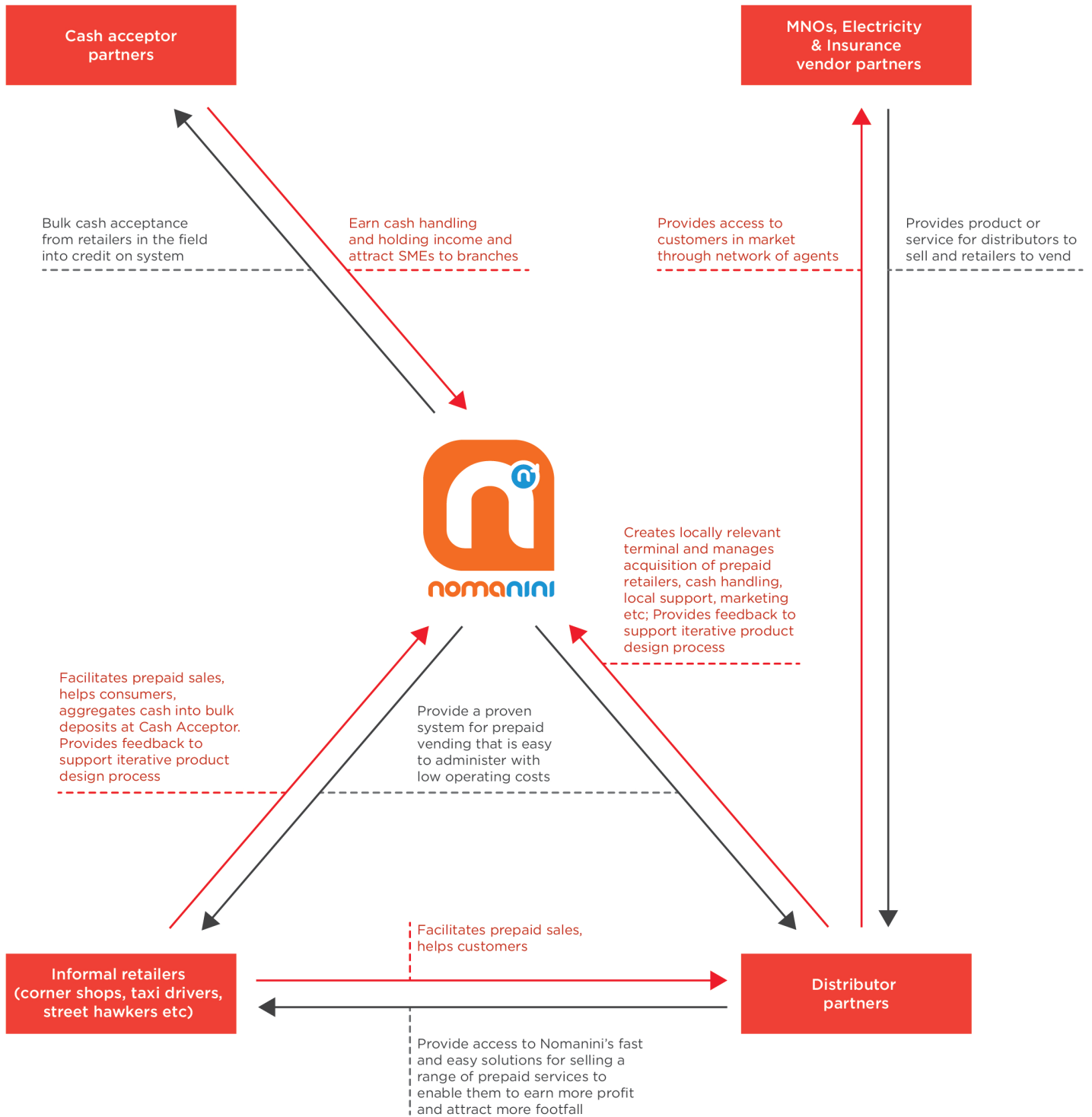
In each country Nomanini works with distributor partners who develop their own local variant on its platform, depending on what is most appropriate for their market. The terminal is customised to the customer's brand and product mix, and the backend system is configured to their commercial models. They manage support and administration via web-based portals (see diagram on the following page).

Nomanini considers these partnerships to be a fundamental part of its business. Without local distributor partners bringing the technology to life in their markets, Nomanini could not exist.

The company has three key recommendations for successful partnerships.

1. Do not underestimate local capabilities: the people best positioned to create value in a market are already there. They know much more than you do, so listen to them and empower them with tools so that they can succeed in building their business.
2. Ensure that your business model is aligned with theirs.
3. Be patient and prepared to grow with your partners.

Fig 5 Nomanini's network of partners



Arrows represent direction of value-add

Challenges:

Nomanini's view is that every challenge leads to a refinement of the business. It started out aiming to sell prepaid services in informal markets, but could not find a device that met the needs of this market, so it designed one.

As the team were testing it in South Africa, users complained that it was too slow and unreliable, so the company built an off-line vending system. It began selling these refined, fast-vending prepaid terminals in South Africa but after some international press coverage, soon found that it could not meet international demand on its own, so it adjusted its model to enable local partners to customise the terminal for their markets and to manage it themselves. Each challenge has led to a refinement that has allowed the business to grow.

Future Plans:

Nomanini has recognised that its service offering has applicability well beyond mobile. Of particular interest right now is electricity. Nomanini has a wealth of experience and technology that can be put to good use to provide reliable and widespread access to prepaid electricity across Africa. Many electricity utilities are rolling out prepaid metering, but creating sustainable vending channels is proving more difficult. Nomanini's electricity platform will provide effective and complementary distribution for both airtime and electricity.

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