

# HOW WE MADE IT IN **AFRICA**

Insight into business in Africa



Photo: Georgina Goodwin / M-KOPA

## **Case study: Finding success in Africa's rural, low-income market**

How Kenya-based M-KOPA sold its solar energy system to over 250,000 low-income households through innovative payment and distribution tactics.

PUBLICATION DATE: 19 OCTOBER 2015

## **Table of Contents**

1. Introduction
2. Company overview
3. Propriety, patented technology platform
4. Collecting payments
5. Taking product design in-house
6. Distribution through direct sales representatives
7. Value proposition: 'saving money'
8. After-sales support
9. Training programmes
10. Growth
  - 10.1 Expanding the product range
  - 10.2 Talent requirements
  - 10.3 Licensing technology

## **1. Introduction**

In the three years since its commercial launch in October 2012, Kenya-based consumer finance company, M-KOPA, managed to sell its solar energy system to over 250,000 rural, low-income customers in East Africa.

In this case study we discuss how M-KOPA has managed to achieve success through a combination of innovative technology, an effective rural distribution system, a compelling value proposition, and a strong focus on customer care. By leveraging its existing infrastructure, the company is now also expanding beyond solar, to offer customers additional products on credit.

This special case study is aimed at those interested in serving rural and low-income consumers in Africa.

## 2. Company overview

M-KOPA Solar – headquartered in Nairobi, Kenya – is a consumer financing company selling solar energy systems to predominantly rural-based, low-income consumers in Africa.

The company's latest system, the M-KOPA III, comprises an 8W solar panel, two LED lights, a USB phone charger, and a portable solar radio. Each system is paid for on a pay-per-use instalment plan. For a Ksh.2,999 (about \$30) deposit, M-KOPA customers acquire the home solar system and then purchase daily usage "credits" of Ksh.40 (about \$0.40) over a 12 month period. After one year of payments, customers own the system outright.

Payments are made via mobile money platforms, such as M-Pesa in Kenya. If a customer stops payment and runs out of credit, the system ceases to function. GSM sensors on the equipment allow M-KOPA to regulate usage – based upon payments received.

According to the United Nations Environment Programme (UNEP), 25 billion litres of kerosene, worth \$23bn, is used annually to fuel kerosene lamps across the globe. Kerosene is expensive, unhealthy and unsafe, but modern off-grid energy solutions remain out of reach for millions in Africa due to cost and poor infrastructure.

Since its commercial launch in 2012, M-KOPA (M = "mobile", KOPA = "to borrow" in Swahili) has connected over 250,000 homes in Kenya, Uganda, and Tanzania and is on course to meet its target of powering one million households by 2018. Kenya is responsible for about 75% of the company's business, while Uganda and Tanzania account for 20% and 5% respectively. M-KOPA currently sells about 600 solar systems per day in East Africa, and has also licensed its technology to a private company in Ghana.

"I think kerosene lighting is a massive pain point. People don't like the fumes, they don't like the cost, they don't like the quality of light [and] they don't like the danger... There are millions and millions of homes that rely on kerosene every day," says M-KOPA co-founder and managing director Jesse Moore.

Over the last five years M-KOPA has raised about \$40m in debt and equity funding to finance its growth.



The M-KOPA III system

### 3. Propriety, patented technology platform

At the heart of M-KOPA's pioneering asset financing business model is its patented technology platform that connects the embedded SIM card, engineered into each solar system, with the application servers and the mobile money platform. M-KOPAnet serves as a backend system to operate all functions of the business and a powerful data platform.

This enables M-KOPA to securely monitor and manage each pay-as-you-go solar system's performance. It captures and processes large volumes of data that gives M-KOPA insight into various aspects of the business such as customer repayment habits and even weather patterns in different regions. This data has helped the company improve its offering, customer service, and security.

#### **4. Collecting payments**

When M-KOPA started out, there were concerns about whether or not customers would repay their solar systems in full. If a customer pays the \$30 deposit, takes the kit home and stops making further payments, the company loses money because, for regulatory reasons, it is not allowed to repossess the equipment. But so far there have been relatively few non-paying customers. Across East Africa a total of about 80,000 units have been fully paid for, and the company has a healthy repayment rate of 90-95%.

There are a number of external factors that impact customer repayment habits. For instance, the first week of September was “bad” because, as expected, parents were sending their children back to school and needed to pay tuition. But the start of October was the “best week of collections” for 2015, because the harvesting season had kicked off and there was more money going around.

M-KOPA has put considerable thinking into the pricing of its product and the repayment process. “We don’t give this away for free. We require our customers to pay \$30 [because] it is important for us to know that they have skin in the game. We have really tested this out a lot,” says Moore.

“We will make a loss on some customers but the proportion of those customers is very small,” he explains. “We will never take our eye off credit because we are a credit issuing company but being very good at it is something we are committed to. We have people that are solely dedicated to monitoring the health of our credit portfolio.”

#### **5. Taking product design in-house**

Consumer financing may be its core business, but M-KOPA has a dedicated unit concerned with designing its solar systems. Initially the equipment was designed by global solar energy company d.light but about 18 months ago M-KOPA started doing its design in-house through a team of about 40 hardware engineers led by COO Carl Thielk, former corporate vice president for supply chain at Motorola. The designs are then manufactured in China, and come with a two-year warranty.

Moore says tapping an experienced COO who used to oversee design and manufacturing of millions of mobile phones is a sign of M-KOPA’s commitment to both high quality and volume when it comes to hardware design, production and manufacturing.

“We have had to get into another core business and it’s hard. It’s not an easy business, but we are doing quite well at it,” Moore says of running an in-house product design unit. “Selling a pay-as-you-go solar product is quite different from selling a normal solar product. There were a number of design decisions that we felt were very important for us to take. We needed to become more and more involved with GSM technology.”

## **6. Distribution through direct sales representatives**

M-KOPA relies on its 1,500 strong network of direct sales representatives (DSRs) to sell its solar systems to customers in remote villages across East Africa.

After the solar systems have been manufactured in China, they are shipped to Kenya’s port city of Mombasa, and transported by road to a warehouse in Nairobi.

M-KOPA has partnered with a shipping company that handles the warehousing and logistics management as well as the transportation of the equipment to the 60 M-KOPA retail outlets scattered across major towns in Kenya. It is here that the DSRs collect the kits, and take them deeper into the villages where the real market lies.

Initially, M-KOPA relied on existing vendors and shops to sell its solar systems, but changed tack after realising this model was not conducive for rapid growth. Its network of DSRs has helped M-KOPA solve the common challenge of last-mile distribution that plagues many businesses trying to distribute goods and services to Africa’s rural communities.

“Having it sit in a store on a shelf was not as productive as getting the product into the market where people could see it, and touch it and feel it. Maybe at some point it becomes so popular that you can stock it on a shelf and people come in and ask for it. But right now we have to build the market for the first time. Unfortunately it’s not a super simple product, or it’s not a product people have seen before, so it doesn’t just sit on shelves and sell that way,” explains Moore.

M-KOPA’s DSRs are paid on a commission basis, making on average between Ksh.15,000-20,000 (\$146-194) per month. However, Moore says there are DSRs earning significantly more than this, and who treat it as a full-time job.

DSRs are recruited at M-KOPA’s assessment centres during ‘job days’ held once to twice a month. New candidates are often recommended by existing sales representatives, while others are M-KOPA customers looking to

supplement their incomes. Potential recruits go through training and need to take an exam.

Those with good references and who perform well in the training and the exam are offered a position. DSRs are not required to make any financial investment.

“We trust them because we have got them through the training, but also all of these systems are controlled by us all the time. If we were just giving away laptops and I gave them to you and said, ‘go sell them’, I don’t have a lot of control. You might end up just selling them off the side of your truck, making money and running away. But in our case all our units are connected to M-KOPAnet,” says Moore.

## **7. Value proposition: ‘saving money’**

M-KOPA’s main value proposition centres on saving its customers money. The company claims that over a four year period, a household would save US\$750 using its solar systems instead of buying kerosene. And 92% of customers report their children’s ability to study has improved. The same number also feels safer at night as the solar system has reduced the risk of structural fires and burning injuries.

“The real pitch [to consumers] is ‘saving money’,” says Moore. “Solar is the way you save money, compared with kerosene. And I think increasingly solar is cheaper than the grid. We are more of a financial company, providing people with consumer financing, which helps them save money. We happen to provide them solar in order to save them money. The mission is really to save people money, not to give them solar per se.”

## **8. After-sales support**

One of the reasons for M-KOPA’s success is its 24-hour call centre with 200 full-time staff who deal with customer queries.

“It’s certainly not good technology that sells itself,” says Moore. “You have to have very good technology but also have to follow that through with extremely good operations... it’s a mistake for anybody to believe that if you design a really nice solar light lamp and want to sell in Kenya, you just bring it into the country and away it goes. You actually have to worry a lot about sales and then also after-sales support.”



## 9. Training programmes

Companies in Africa often complain of a lack of skilled talent. To address this challenge, M-KOPA is spending “several million dollars” over the next few years on its new training programme called M-KOPA University. The programme has three levels of training:

- M-KOPA 101 is mandatory for all staff to understand how the company operates, its values, mission, products, and how they can be successful at M-KOPA.
- The M-KOPA 201 level is for rising managers who receive training in a variety of areas such as how to set targets, manage deadlines and report progress on projects.
- Senior managers go through the M-KOPA 301 level training on how to grow themselves and their teams.

“It is critical to our success,” says Moore. “Nobody is going to solve the problem [of skills shortage] for you. I’m not going to say to universities, government, or somebody else: ‘You should train these people better.’ If our company needs people with a particular set of talents, what better way to do it than do the training ourselves?”

## 10. Growth strategies

M-KOPA’s current 250,000 customers are but a drop in the ocean compared to the over 600 million people in sub-Saharan Africa without reliable grid-connected electricity. Many of them depend on kerosene for lighting. M-KOPA hopes to reach a combined one million homes by the start of 2018.

“I’m feeling quite confident that we will get there. The reason is if we sell 500 to 600 units a day now and we can increase that to about 1,000 to 1,200 a day, pretty quickly we will get to a million. That’s the game plan in the next 24 months. But looking forward the company is definitely raising its ambitions beyond just a million homes to think of millions of homes and we are shaping up a business plan [to take us there],” says Moore.

### 10.1 *Expanding the product range*

M-KOPA has started offering clients who have paid off their solar systems the opportunity to purchase upgraded solar systems and additional light bulbs, as well as other products and appliances, including smartphones, energy efficient charcoal stoves, water tanks, bicycles and some agricultural

inputs. The over 25,000 consumers who have acquired these additional products continue to pay the daily rate of \$.040 until the full cost of these goods are covered. M-KOPA is now selling 100 to 200 of these add-on products per day.

“Because people have become used to their lighting we have confidence that they will want to continue paying for their lighting in exchange that they get a *jiko* (an energy efficient stove), for instance,” says Moore.

### *10.2 Talent requirements*

Looking ahead, one vital element for the firm’s growth is continuing to attract top talent. M-KOPA expects to increase its number of employees from the current number of over 700 to about 2,000 in two years.

“The thing I worry about most as managing director here is the people. And that is at all levels, so people who join our customer care team to people who join our C-suite. We need the best people in the world to join the company.

“I spend a lot of my time recruiting and interviewing and sorting out who it is we need to join M-KOPA to make M-KOPA the bigger and bigger company [that we aim for] in four to five years,” says Moore. “We are in a fortunate space. There is a very big market. We have a great technology that can really scale. Increasingly we have the investment that we need. Now it’s about terrific people and the commitment to delivery.”

### *10.3 Licensing technology*

The company is approaching geographic expansion both by launching M-KOPA entities in new countries, as well as through licensing agreements with third-party businesses.

“In Ghana we are selling the very same product on a very similar pricing plan. The difference is that in Kenya, Uganda and Tanzania an M-KOPA company has been set up; whereas in Ghana, there is a third-party, a company called PEG Ghana that already existed. They heard about our technology, and we reached an agreement where we licensed our technology to them.”

PEG sells the same equipment as that offered by M-KOPA in East Africa, albeit in slightly different colours, and it also collects payments via mobile money.

“We are so busy we can’t possibly expand to every country ourselves right now. So finding partners who already have an on-the-ground presence makes sense. We are busy trying to scale up here so it gives us the opportunity to get into the Ghanaian market – but we don’t need to

incorporate, and set up a company and hire our own people. We can go faster with a partner,” notes Moore.

\*\*\*

Over the last year, M-KOPA’s customer numbers have grown from 100,000 in September 2014 to about 250,000 at the time of writing. Moore attributes this growth to the shift in marketing strategy, the roll-out of its improved M-KOPA III home solar system, and the more than \$30m in debt and equity financing raised between December 2013 and January 2015 that have enabled the company to purchase more devices and increase its volumes.

“What started as a Kenyan product is now in tens of thousands of homes in other Africa countries. But I still think we are very early. We haven’t scaled yet like we are about to scale,” says Moore.

“I truly think M-KOPA can become a company that does hundreds of millions if not billions of dollars of revenue which is not only a great business, a huge business, but will be a business that is helping everybody get off kerosene and do something that is more environmentally forward.”

Maritz Africa disclaims all liability for any loss, damage, injury or expense however caused, arising from the use of, or reliance upon, in any manner, the information provided through this service and does not warrant the truth, accuracy or completeness of the information provided. The publisher's permission is required to reproduce the contents in any form.

Copyright © 2015 – Maritz Africa. All Rights Reserved.