



A child reads with the help of a solar-powered light. M-Kopa customers in Tanzania, Kenya and Uganda pay in small increments using their mobile phones. Over time, they own the system. ALLAN GICHIGI/M-KOPA SOLAR

Canadians bring solar power to off-the-grid Africa

M-Kopa and Jaza Energy take different paths, but their founders agree there is room for expansion in East Africa

DAVID ISRAELSON

Many people dream of building their small business into an international power base, but two Canadian companies in Africa are taking different approaches to spreading the power.

Jaza Energy and M-Kopa, both started by Canadians, are bringing small-scale solar energy to communities in Tanzania and, in M-Kopa's case, to Kenya and Uganda as well.

Their main line of business is similar, and it's one that in the long term may be potentially disruptive for utilities in developed countries.

Both firms deal in distributed generation – providing on-site, off-the-grid electricity that can be installed cheaply and quickly and which doesn't necessarily require giant infrastructure such as power plants or transmission lines.

Despite their similar market spaces, the two companies take different approaches to sales, marketing and distribution. M-Kopa customers pay for their solar panel units in small increments using their mobile phones, says Jesse Moore, the company's CEO and co-founder.

"The 'M' in M-Kopa stands for mobile," explains Mr. Moore, 40, speaking from the firm's headquarters in Nairobi.

"Our customers pay the equivalent of about 50 cents a day, making payment by phone. Over time, within a year or two, they are buying their solar system from us, in the same way as you would take a mortgage from a bank to buy your house," he says.

M-Kopa, started eight and a half years ago, has connected more than 700,000 homes in East Africa to solar power, with 150,000 homes added every day. The company says that by using solar power to light homes, its customers save the equivalent of 75-million hours of kerosene that would otherwise be burning, emitting fumes and contributing to climate change.

Jaza, started in 2016, is smaller than M-Kopa, powering about 2,000 households, or about 10,500 people in Tanzania. It sets up and sells its power units through small-scale retail hubs, often run by women, which are both sales points and solar-powered recharging stations.

Customers take their removable power batteries to the local hub each week to swap. A single hub can serve up to 100 households that need their batteries recharged.

Unlike M-Kopa, Jaza doesn't rely on mobile phones for payment, says Jeff Schnurr, Jaza Energy's CEO and co-founder.

"We see mobile payments as a way that captures the first wave of customers, and our method as the next wave," explains Mr. Schnurr, 33, who operates out of both Dar es Salaam, Halifax and



Jaza's retail hubs in Tanzania are often run by women. JAZA ENERGY

OPERATING IN AFRICA

In the latest McKinsey Quarterly, sub-Saharan business leaders offer tips for how to build successfully in the region:

MAP YOUR STRATEGY

Take a long-term view of where you want your business to grow. Jaza, for example, is already planning to expand in the near future from 40 energy hubs serving 2,000 households to 250 hubs powering 15,000 homes.

BUILD TO LAST

Both M-Kopa's and Jaza's systems are designed to be resilient by tapping into existing structures. One is connected to East Africa's massive mobile payments infrastructure; the other expands community by community.

DEPLOY LOCAL TALENT

While the two off-grid solar companies were conceived by Canadian entrepreneurs, they work on the ground in Africa and rely on their teams there.

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New Brunswick. "We see phone customers as early adopters and our customers as second-stage. A lot of our customers don't have very big balances on their mobile phone accounts or don't have phones.

Also, people with mobile phone accounts still have to walk somewhere [usually a newsstand or local market] to load up their phones, and our power is about one-seventh of the cost of competitors," he adds.

Both methods appear to have a place, and different advantages, in East Africa.

"We are problem solvers," Mr. Schnurr says. Setting up hubs helps give communities a new focal point and – no pun intended – empowers women who can be in charge of the hubs.

Swapping Jaza's batteries costs householders the equivalent of 55 cents Canadian each week, so it is indeed cheaper than M-Kopa's panels. The retail hubs where the batteries are traded in and recharged using solar panels cost \$6,200 to set up and can be

put together in a few hours, making it possible to serve even the most remote villages.

Mobile payment, on the other hand, is a major method of financial transaction in Africa. According to the mobile sector's umbrella group, the GSMA (Global System for Mobile Communications Association), more than half of the world's nearly 300 mobile money services are in sub-Saharan Africa, used by one in 10 African adults.

Many people in Kenya, Tanzania, Uganda and other sub-Saharan countries have bypassed traditional banks to use only their phones to save, invest, borrow, buy and sell goods and services and pay bills.

It has been estimated that up to 40 per cent of Kenya's GDP moves along the giant M-Pesa system, launched in 2007 in partnership with Vodaphone Group PLC's co-owed Safaricom Ltd.

In financial services, companies like M-Pesa can trigger a leap in technology that may suddenly leave existing infrastructure behind. Some experts foresee a time when this could happen to electric power, too – with small-scale local units all over cities displacing massive coal and nuclear plants and miles of power lines.

"Kenya's power company cannot reach certain customers, so there is definitely a large market for off-grid solar power producers," says Charles Field-Marsham, Canadian entrepreneur and founder of Kestrel Capital Management Corp., an investment bank specializing in sub-Saharan Africa. "But there will increasingly be competition," he adds.

The competition doesn't bother either Mr. Moore or Mr. Schnurr, though.

"There are several dozen companies in East Africa using pay-as-you-go models to provide solar energy," Mr. Moore says. The potential to expand is huge, because the alternative – stringing power lines everywhere – is so expensive.

"It can cost \$1,500 to \$2,000 just to string a line to someone's home. That's a crazy cost, before you even get any benefit," Mr. Moore says.

"We haven't seen a lot of competition yet, but I don't think it's a winner-take-all market. There are 600 million people in sub-Saharan Africa without electricity," Mr. Schnurr says. "That's 17 times the entire population of Canada."

Special to The Globe and Mail

Meddo offers a scrappy startup alternative to top-down hierarchy

AMY O'KRUK

A Canadian startup is on a mission to overhaul the management industry with software that offers "startup speed at enterprise scale" by cutting down bureaucracy.

Meddo, a Kitchener, Ont.-based software company, helps businesses to organize people around strategy instead of top-down management hierarchies. Launched last February by co-founders Kurtis McBride and Ben Brubaker-Zehr, the platform takes company-wide goals and applies them to five layers: key objectives, initiatives, projects, roles and people.

Meddo creates a real-time model where employees can see how their projects are contributing to the big picture, and leadership can view work and connect it to strategy.

The concept is part of a larger workplace trend as companies turn to software and technology to organize priorities, manage teams and appeal to a millennial labour force with values such as flexibility, collaboration and purpose. Enterprise, or large, companies are also turning to software solutions in the hope of tapping into the adaptability and agility often found at startups, along with work cultures that view offices as places of passion and meaning rather than drudgery.

EVERYONE CAN SEE THE WHOLE PICTURE

"Traditional hierarchies and bureaucracy are a competitive disadvantage today," said Mr. Brubaker-Zehr, Meddo's CEO. "Meddo helps an enterprise to work like a startup, where everybody knows the whole picture and sees how their role has an impact."

To engage employees, the software has a set of built-in tools. Staff can request to work on projects that better align with their interests and skills or offer and request mentorship opportunities. Meddo also encourages feedback. After a project is completed, employees can express how they feel their potential is being used.

"It's a hierarchy of work and objectives rather than people," Mr. Brubaker-Zehr said. "The features allow leadership to understand how the business is actually going."

The idea for Meddo comes from another successful startup. The software started out as Teal, an internal tool at Miovision Technologies, a traffic analytics company in Kitchener, Ont. While Miovision started small in 2005, today it has several hundred employees and its technology is used worldwide in more than 17,000 municipalities.

As the company scaled up, it faced a dilemma. Mr. Brubaker-Zehr said Miovision saw growing bureaucracy frustrate employees, causing them to lose interest in the business and its direction.

The company created Teal as a way to encourage the scrappy startup culture that helped to make it successful. In October, Teal became Meddo, a stand-alone software platform designed for mid- to large-size companies. The name references the word meadow and the idea of a flat area where people can gather and see clearly.

The company has caught the interest of tech companies across North America, Europe, Asia and Africa as it gears up for a closed beta release of its software in early February, according to Mr. Brubaker-Zehr. Meddo is collaborating with more than 50 partners, including businesses and consultants, and will use the feedback to tweak its product before its official launch later this spring.

INVESTORS BACK SOFTWARE PLATFORM

Meddo has also attracted investors. The startup has raised \$500,000 in seed funding to date and Mr. Brubaker-Zehr said they plan to raise another round this year, with another \$500,000 already committed.

But while the company is gaining momentum, Meddo may face challenges as it takes its idea to market. Melissa Nightingale, author and founding partner of management consulting group Raw Signal, said objectives and key results (OKR) is a popular framework for setting high-level goals and measuring progress in organizations, and the dominant software tool for managing OKRs is Google Docs.

"That sounds like an uncomplicated technical solution, but that's part of the appeal. The reason it works for most organizations is that it's something they already have, teams know how to use it and it's really easy to update and share," Ms. Nightingale said. For large companies, it can be expensive for teams to switch applications, transfer data and learn a whole new set of functionalities.

"Enterprises, by and large, already have a set of tools that they're using. If an organization is using a tool like Google Docs, you're basically asking them to pay for something that used to be either already paid for or free."

Ms. Nightingale points to Holacracy as a cautionary tale. Holacracy, a self-management method, is based on a model where employees don't report to a direct manager. Instead, decision-making power lies in teams or "circles" and roles rather than individuals. It's been adopted by businesses worldwide and rose to prominence after Amazon-owned online shoe and clothing retailer Zappos adopted it in 2013.

"Around 2014, it was really in vogue for organizations to experiment with rolling out Holacracy," Ms. Nightingale said. "In 2016, most of those organizations had rolled it back. It had a catastrophic impact."

Meddo is also competing with other Canadian workplace software providers such as Toronto-based Sensei Labs, Ottawa-based Fellow and established U.S. companies such as Asana, which offers an application that helps teams to organize, track and manage work.

But Mr. Brubaker-Zehr said he hasn't seen a competitor present a complete organizational model that connects broad business strategy to people in real time. "Creating a data model between individuals and outcomes is where Meddo becomes an increasingly powerful thing," he said.

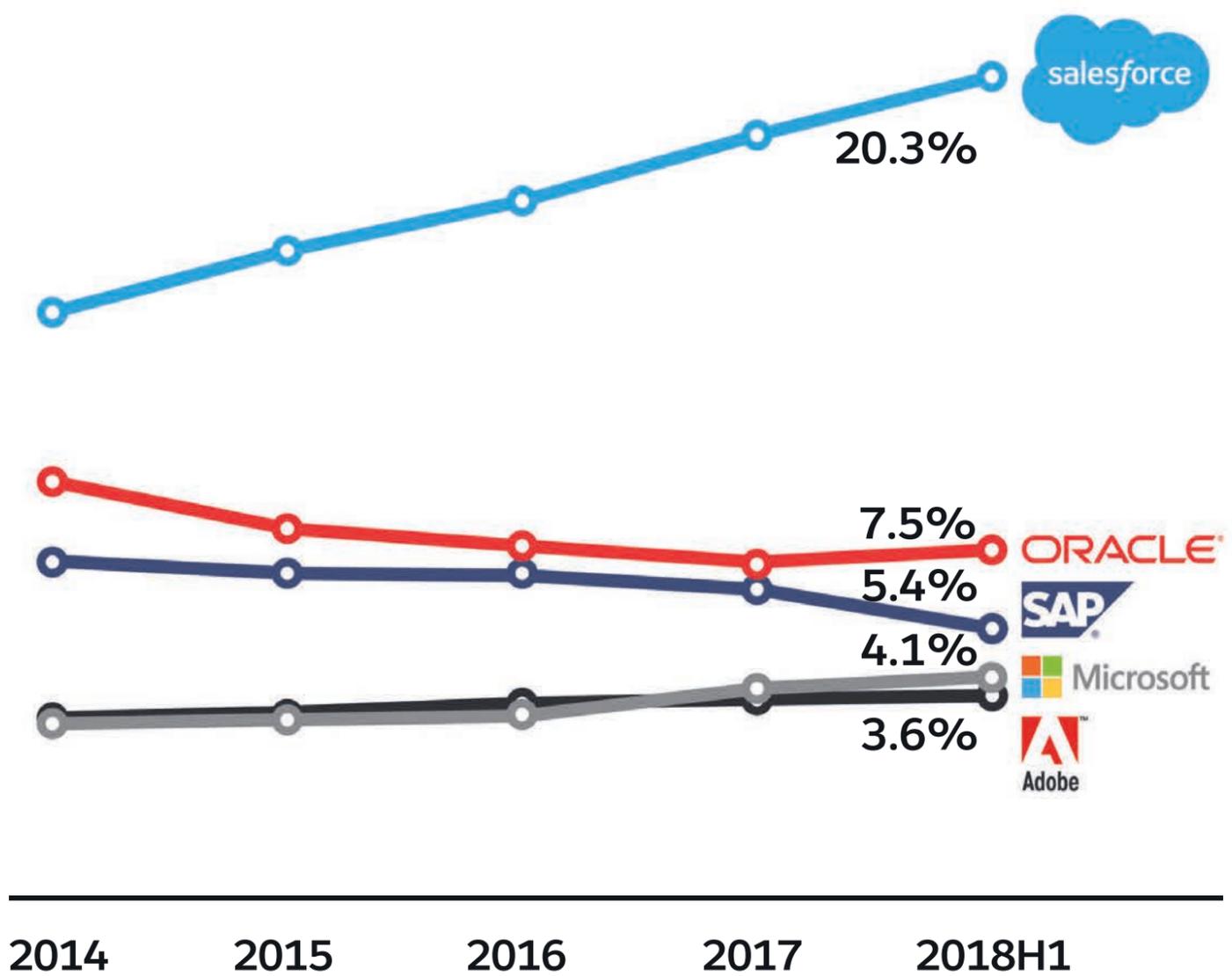
Special to The Globe and Mail



Meddo can help larger firms work like a startup, says Ben Brubaker-Zehr, CEO. GLENN LOWSON/THE GLOBE AND MAIL

Salesforce. #1 CRM.

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2018H1 Revenue Market Share Worldwide.



Source: IDC, Worldwide Semiannual
Software Tracker, October 2018.



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