



AFTER-ACTION REPORT: D.LIGHT DESIGN



SUMMARY

In May 2016, USAID—as part of its commitment to Scaling Off-Grid Energy (SOGE) Grand Challenge for Development—granted \$1M through the **Development Innovation Ventures** program to **d.light design** (d.light), one of the leading early producers of solar lanterns and solar home systems, to create distribution arms in Kenya and Uganda.

This was a new venture for an established solar product company, requiring the creation of distribution networks, implementation of a pay-as-you-go (PAYG) platform, and systems for customer service and maintenance. Specifically, d.light planned to further develop its proprietary software, establish a call center, hire and train its sales and technical staff, and build marketing resources to improve customer outreach.

With support from USAID, d.light achieved each of its designated milestones in a little over 12 months, six months ahead of schedule. This success validated d.light's ability to run a distribution business in addition to its product business in the Kenyan and Ugandan markets.

INSIGHT: Delinquent repayment rates can be reduced through regular customer engagement which allows companies to quickly identify sources of customer dissatisfaction, such as malfunctions, and then minimize repair turnaround time through regional service centers

When there are affordable, reliable solar product options available and service centers with trained technicians, customers are more likely to continue using a product like a SHS, and even upgrade their system to include more appliances. They won't pay for something that doesn't work or needs frequent fixing. To address delinquent repayment rates and user dissatisfaction, d.light worked

to engage customers more regularly via SMS and follow-up calls. Additionally, they established regional service centers to minimize repair turnaround time. During the course of implementation, d.light found that these solutions reduced delinquency rates in Kenya from ~15.5% in Sep 2017 to ~14% in Feb 2018. Delinquency was still a challenge in Uganda, however, standing at 20% at the end of Feb 2018. Some delinquency was attributable to seasonal income variation factors such as drought.

INSIGHT: Attracting and retaining field staff, while challenging, can be improved by offering standardized and ongoing

KEY FACTS

Date of award: May 2016

SOGE Grant: \$1M USD

Grant Milestones:

- Raise \$5M in outside debt or equity
- Establish 30 sales outlets with 50 agents in Kenya
- Establish 20 sales outlets with 30 agents in Uganda
- Sell 30,000 D30 SHS units combined between Kenya and Uganda

Timeframe to achieve milestones: 18 months

Milestones achieved? Yes

Milestones exceeded? Yes

Results:

- Raised over \$50M for worldwide operations, as of April 2018
- Established 250 outlets with 930 agents in Kenya
- Established 70 outlets with 640 agents in Uganda
- Sold over 39,000 SHS units combined between Kenya and Uganda

staff training, providing high-quality branded gear, strategically reducing stock outs whenever possible, engaging at events such as roadshows, and advertising widely and creatively for positions through all available media

d.light worked to attract and retain field staff through continuous training, high-quality branded gear, attendance at roadshows, and creative recruitment advertisement, such as radio. Despite these adaptations, retention and recruitment goals needed to be revised throughout the project, even as sales numbers exceeded goals.

INSIGHT: In rural communities, customers' willingness to pay is driven by the level of utility a SHS can provide and the accessibility of pay-as-you-go technology: both factors combine to support sales of larger solar systems, such as those with additional lighting or TVs.

d.light tested to see if its PAYG model would effectively support sales of larger

solar systems in rural communities. A d.light customer survey revealed that over 40% of SHS customers were upgrading from an existing solar lantern to larger systems. PAYG enabled d.light to overcome the affordability barrier faced by base-of-the-pyramid (BOP) populations. Most off-grid customers spend \$80 a year on lighting and \$50 a year on batteries for radios and phone charging. Now, customers can make a down payment as low as \$20 and pay in monthly installments of as little as \$10.5/month for a year or more for a \$170 system. This led to savings over time as customers pay off their systems and avoid recurring costs. With affordable payment plans in place, current rural customers demanded new SHS accessories, increased number of lighting hours, and better, brighter lighting.

INSIGHT: Keypad-based solar home systems are more affordable than comparable GSM systems, eliminate recurring data costs, and are more reliable in areas of low connectivity

as a mobile phone user utilize a code accessible through USSD to unlock their systems.

SOGE/USAID and d.light also explored the relative benefits of keypad-based SHS, in which customers punch in a code to unlock more light-time, compared to a remotely activated digital system. d.light found keypad technology improved affordability for target customers, as initial costs for keypad-based products were about \$10 less. Other benefits of keypad systems include lower recurring data costs and increased accessibility for customers in areas with limited mobile coverage. Remote activation of a GSM system required stronger network coverage than activating a keypad system through a code received on a mobile phone. Based on prior experience, d.light found that the 80% of its product defects were related to GSM connectivity, which the simpler technology alleviated, resulting in good customer experiences and lower payment delinquency. Keypad-based products also gave customers a range of options to pay using different telecom providers, compared to GSM-ready providers which were more limited in the Kenyan and Ugandan markets.

INSIGHT: SHS companies need to prepare business plans to be able to adjust to shifting enabling and regulatory environments in order to limit the amount of disruptions along their supply chains

As renewable energy is fairly new in East Africa, Kenya's changing and unclear tax regulations (including VAT on solar products) and political environment have had direct and indirect impacts on operating costs there, which d.light could not always mitigate.



PHOTO: D.LIGHT