

VIEWPOINT

INSIGHTS FROM THE FRONT LINES

The Embedded Enterprise

To reach base-of-the-pyramid markets, entrepreneurs need to align their business models with customers' lives.

BY TED LADD

Entrepreneurs who operate in impoverished regions of the world face a quandary: Even though the need for their products and services is enormous, the challenge of bringing those products and services to market can be nearly insurmountable. Without access to mass media or even mass communications, entrepreneurs have no established channels through which to reach potential customers. Few of those customers, meanwhile, are accustomed to evaluating new products. But a handful of ventures that serve communities at the base of the pyramid (BOP) have overcome this challenge by embedding their solutions into the circumstances that define and give structure to their customers' lives.

Take, for example, the field of electricity. There are 1.6 billion people in the world without consistent access to electrical power. Centralized power grids, moreover, are groaning under the pressure of inadequate capacity and chronic underinvestment. In response to those conditions, hundreds of entrepreneurs have started companies that offer "distributed" electricity. These companies use sources like solar and hydropower to generate electricity and then deliver it directly to homes or even entire villages without touching a central grid.

In 2013, I began a research project with the goal of exploring business models that would explain successful ventures in the distributed electricity field. For the project, I interviewed 30 entrepreneurs who sell electricity in some form to customers in remote rural regions of Africa, the Caribbean, East Asia, and South Asia. They might offer a solar-powered lantern for a single room, for

example, or a generator that uses discarded agricultural waste to generate power for an entire village.

I started with the Business Model Canvas, a popular tool for teaching high-growth entrepreneurship to business school students. Using the tool involves a multi-step process: Define discrete customer segments. Analyze the product benefits that will appeal to each segment. And specify the channels, revenues, and costs that will enable a venture to target those segments. As I conducted interviews, it became clear that this process did not match the experiences of BOP-oriented electricity entrepreneurs. Indeed, one entrepreneur told us that he doesn't engage in segmentation at all; instead, he simply focuses on serving any customers he can find.

That response proved to be typical, and the logic behind it soon became evident:

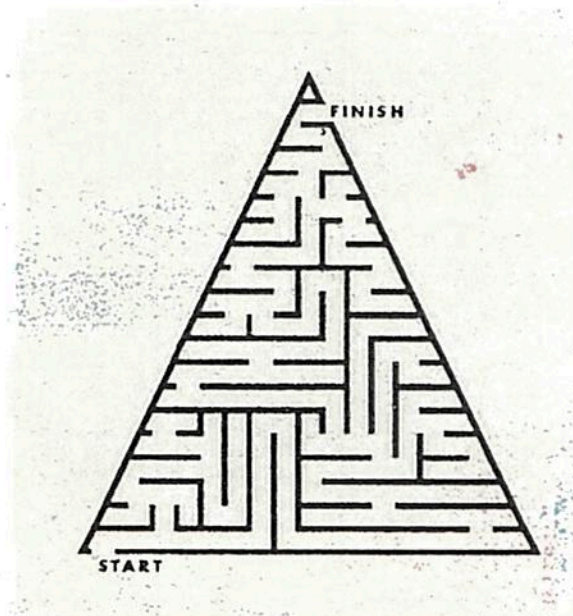
Because the market for distributed electricity is so vast, new entrants can easily find unoccupied market space and therefore face almost no competition. Similarly, most people in BOP communities are already familiar with electricity and its potential to provide increased output, comfort, and safety. So entrepreneurs do not need to place a heavy emphasis on honing and communicating a core value proposition. Electricity, unlike many other products and services, already enjoys significant pent-up demand within BOP markets.

Perhaps the most unexpected insight to emerge from these interviews involved the entrepreneurs' view on pricing. In developed markets, pricing strategies typically focus on value, cost-plus-margin, or a reference price set by competitors or substitutes. Ventures that sell electricity in BOP markets, by contrast, tend to emphasize affordability: They strive to keep prices low by making changes to their business model or their product design (or, in some cases, by tapping outside funding sources).

From this project, in short, I learned that theories and strategies that apply to mature markets are often ill-suited to the realities of entrepreneurship in BOP markets. After reviewing the first set of interviews that I conducted, I recalibrated my expectations. Instead of trying to verify what I already believed, I resolved to look at the interview data from a "blank slate" perspective. In that way, I was able to derive new principles for developing business models that would be relevant in a BOP setting.

NOVEL MODELS

As I analyzed the content of my interviews with social entrepreneurs in the electricity field, a theme began to emerge: Successful BOP ventures, I concluded, embed their solutions into customers' lives in one of four ways.



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Social networks | Some entrepreneurs design business models that rely extensively on social networks to generate demand, to deliver products, to collect payments, and even to conduct post-sales service. Solar Sister, for instance, employs more than 850 women in remote villages in Nigeria, Tanzania, and Uganda to sell solar lanterns to their neighbors. These micro-entrepreneurs go to a central location where they purchase the lanterns from the company at a wholesale price. They then distribute those products to customers using their personal connections. Katherine Lucey, founder and CEO of Solar Sister, explains how the process works: “We help them do a map: ‘Here’s you. Now, who is in your family? How about your husband’s cousins? Draw a picture of your social network.’”

This model has some interesting benefits. The micro-entrepreneurs don’t follow a set script. Instead, they draw on their knowledge of a potential customer’s circumstances and tailor their marketing message accordingly. They might emphasize the value that a solar lantern provides in allowing people to work after dark, or they might stress how safe the product is in comparison with kerosene lamps. Because they live near their customers, moreover, they are able to handle repairs, returns, and other forms of post-sales service more efficiently.

Activity cycles | Successful BOP ventures don’t try to alter the daily habits of potential customers. Instead, they work to integrate their products into customers’ existing routines and activities. That’s what Jamie Yang, CEO of EGG-energy, did in rolling out an early version of his business. In the villages of Tanzania, people have traditionally purchased kerosene a few times per week: They travel to a village marketplace and refill their kerosene jug when they have enough disposable income to do so. Following that model, EGG-energy sold solar-charged batteries that consumers could connect to an electrical device at home. Each battery had enough power to last a few days, and customers would then have to return it—just as they would return an empty kerosene jug.

(Later, as customers began to understand the potential of solar energy, EGG-energy shifted its model to one that involves selling residential solar kits.)

Mental models | Effective entrepreneurs who serve BOP markets understand the need to accommodate their customers’ mental models—the preconceptions that shape how customers view and describe their needs and desires. Instead of attempting to alter such mental models, these entrepreneurs adapt their business models to fit what customers are used to. Simpa Networks, for instance, sells home solar systems in India at a very low upfront cost and then charges customers a fee for each hour of light that a system delivers. To design and sell this “light time” model, the company has drawn on the established model of selling cellular airtime. Simpa even borrows language from cellular carriers’ marketing and service messages to communicate with its customers. “The closer that you mimic what either the telecom operators do with prepaid mobile airtime or the satellite TV companies do with their pricing model, the easier it is for people to understand,” says Jacob Winiecki, cofounder of Simpa.

Indeed, as the cost of residential solar panels declines and as the usage of cell phones increases, several firms that sell electricity services are shifting to this model. EGG-energy (cited earlier) is one example. Another is Angaza Design, a company that has created a platform to support “pay as you go” energy products. The platform allows customers to use their cellphones to buy electricity in small, prepaid increments. Victoria Arch, director of strategy at Angaza, had initially expected customers to balk at adopting that payment model. But because of customers’ comfort level with using their cellphones, she reports, that has not been a problem.

Product constellation | No commercial offering exists in isolation. For that reason, companies that succeed in reaching BOP customers often take care to fit their solution into the constellation of products that customers already own. One firm in my study,

Bboxx, offers electricity-generating equipment that works seamlessly with electricity-consuming items that are already common in the BOP households that form its target market. Electric power on its own, after all, is worthless; only when customers also have appliances that use electricity does that service become life-altering. Bboxx provides a catalog of appliances—from cellphone chargers to refrigerators—for purchase alongside its generator products. Christopher Baker-Brian, a cofounder of the company and its CTO, notes that high-efficiency lights, mobile device chargers, and television sets are among the more popular purchases that Bboxx customers make. “We initially focused on lighting and phone charging,” he says. “But people wanted TVs and power shavers.” The company’s largest market, he adds, includes “people who want to generate an income from these products.” Bboxx also focuses on selling generators and appliances that will be interoperable with other devices that its customers might already use.

BEYOND “BOP”

Creative entrepreneurship in BOP markets is vitally important not just because it can help lift billions of people out of poverty, but also because it generates lessons that apply to social ventures in the developed world. Entrepreneurs everywhere, for example, should consider structuring their ventures around in-person *social networks* that give them access to high-value, high-touch referral systems. Instead of trying to alter customers’ habits, entrepreneurs could adapt their delivery and usage models to mesh with customers’ routine *activity cycles*. Marketers, meanwhile, should steer clear of newfangled terms and should instead frame their value proposition with reference to customers’ existing *mental models*. Designers, for their part, should develop and test new products in a context that reflects the current *product constellation* of their customers. In sum, even companies that operate in mature markets can improve their performance by adapting their business models to suit the habits and behaviors of their customers. ■