

16.6: Innovation for the Bottom of the Pyramid

Learning Objectives

1. Understand the nature and size of BOP markets.
2. Know examples of firms pursuing BOP strategies.
3. Be conversant with the twelve principles of BOP innovation.

Contemporary View of BOP

In 1998, Professors C. K. Prahalad and Stuart L. Hart defined the **bottom of the pyramid (BOP)** as the billions of people living on less than \$2 per day. Both men expanded this definition of BOP in their subsequent writing (e.g., Prahalad's *The Fortune at the Bottom of the Pyramid* in 2004 and Hart's *Capitalism at the Crossroads* in 2005). C. K. Prahalad, *The Fortune at the Bottom of the Pyramid* (Upper Saddle River, NJ: Wharton School Publishing, 2004); Stuart L. Hart, *Capitalism at the Crossroads* (Upper Saddle River, NJ: Wharton School Publishing, 2005). The BOP is estimated to comprise between four billion and five billion people.

Too Good to Be True?

Professor Aneel Karnani at the University of Michigan argues that the BOP proposition is indeed too good to be true. "It is seductively appealing, but it is riddled with fallacies. There is neither glory nor fortune at the bottom of the pyramid—it is all a mirage." Aneel Karnani, "Fortune at the Bottom of the Pyramid: A Mirage," Ross School of Business Working Paper Series, Working Paper No. 1035, July 2006, accessed February 12, 2011, http://deepblue.lib.umich.edu/bitstream/2027.42/41223/5/1035-Karnani_OLB.pdf. He argues that the BOP proposition is logically flawed and is not supported by empirical evidence. He proposes an alternative approach for the private sector to alleviate poverty by viewing the poor as producers, not consumers. This shift in view, Karnani argues, is the way to alleviate poverty by raising the incomes of the poor.

In Prahalad and Hart's view, companies that understand the potential for commercial consumption at the BOP can open a new, potentially lucrative market that benefits the business as well as BOP consumers. By innovating to meet the needs of BOP customers, a company treats them with dignity and respect that previously was afforded only to the wealthy, Prahalad and Hart say.

Twelve Principles of BOP Innovation

Addressing the bottom of the pyramid requires a fresh managerial mind-set, summarized below in Prahalad's "12 Principles of BOP Innovation"—which are innovations themselves. C. K. Prahalad, *The Fortune at the Bottom of the Pyramid* (Upper Saddle River, NJ: Wharton School Publishing, 2004), 25–27. In developed markets, Prahalad suggests that one may take the availability of electricity, telephones, credit, refrigeration, and other such amenities for granted. At the BOP, the infrastructure is much spottier and more hostile. Consumers may have to cope with frequent electric-power blackouts and brownouts. Credit may be extremely costly. Refrigeration may be unavailable. Products marketed to the bottom of the pyramid must be able to withstand such an environment.

Below are Prahalad's "12 Principles of BOP Innovation," along with examples of each.

1. **Focus on value and on delivering performance for the price.** The BOP consumer isn't interested merely in cheap prices but in getting the greatest possible performance for the price paid. It's extraordinary how low a price can be and still be highly profitable, if the seller is organized to deliver value. For example, doctors at India's Aravind Eye Care System, the world's largest eye-care business, perform hundreds of thousands of cataract surgeries each year. The prices range from \$50 to \$300 per surgery, including the hospital stay. Aravind is quite profitable, although 60 percent of its patients pay nothing.
2. **Innovate.** Old technologies can't solve the problems of BOP consumers, and products aimed at the BOP market can't simply be watered-down versions of developed-world products. Instead, products must be rethought to bring radically lower cost while at the same time having features that meet the BOP's highest needs. For example, Hindustan Unilever Limited (HUL), a Unilever subsidiary, developed a new molecular encapsulation technology to prevent iodized salt from losing its iodine before consumption. To test the efficacy of the technology, the researchers used radioactive tracing techniques pioneered by the Indian Atomic Energy Commission.
3. **Make the solution scalable.** When delivering high performance at affordable prices, profits must be generated through volume sales. The product itself must be low cost, but with four billion to five billion BOP customers across the world, scaling the operation is what will make the venture sustainable. Solutions should be scalable across borders.

4. **Aim to conserve resources.** BOP consumers cannot afford to waste resources. Per capita water consumption in the United States is almost 2,000 cubic meters per year, compared to less than 500 in China and less than 700 in India. The developed world's high standard of living is a water- and waste-intensive lifestyle. Innovations should emphasize conserving resources, recycling materials, and eliminating waste. Creating products for five billion people means designing the products in ways that can be environmentally sustainable. China's focus on electric cars rather than gasoline-powered cars reflects the reality that it's unlikely China could obtain the oil it would need for that many cars and that its extremely polluted cities could handle the additional exhaust fumes.
5. **Identify functionality.** BOP customers likely require different functionality than high-end consumers. For example, prosthetic legs developed for India's BOP consumers needed to meet some special requirements: consumers needed to be able to squat, sit cross-legged, and walk on rough ground. Dr. Pramod Karan Sethi and Ram Chandra developed the Jaipur Foot prosthetic for this purpose. The charity Bhagwan Mahaveer Viklang Sahayata Samiti, which is based in Jaipur, India, made them available for less than \$30. Tim McGirk, "The \$28 Foot," *Time*, accessed May 11, 2011, www.time.com/time/reports/heroes/foot.html.
6. **Think in terms of process innovations.** One way to bring costs down dramatically is to standardize processes. That's how Aravind is able to bring down the costs of cataract surgery so dramatically. Aravind made the process highly standardized and trained young village women to prepare patients and handle postoperative care. Thus doctors focus exclusively on surgery and perform only cataract surgery—nothing else. This focused process lets one doctor and two technicians perform fifty surgeries per day.
7. **Reduce the skills required to do the job.** Design products and services suitable to people without skills. Voxiva, a Peruvian start-up, developed a system enabling health-care workers to diagnose illnesses such as smallpox by comparing a patient's lesions to a picture of a similar lesion. With this simplified diagnostic process, health-care workers don't require great skills to know when to call a doctor.
8. **Educate consumers in the use of products.** This may require collaborating with nongovernmental organizations (NGOs), governments, and others. HUL launched a program in some of India's village schools to promote the washing of hands with soap as a way to prevent the childhood diarrhea that kills two million children per year. HUL educated the children, who in turn educated their parents.
9. **Design products and services to operate in very tough infrastructure environments.** For example, when Indian conglomerate ITC built a network connecting Indian villages, it had to provide personal computers that could handle wide voltage fluctuations. ITC included surge suppressors and solar panels to give the system adequate, reliable electricity.
10. **Make the interface simple and the learning curve short.** In Mexico, the chain retailer Elektra uses automated teller machines (ATMs) with a fingerprint identification system so BOP consumers don't have to remember lengthy identification codes.
11. **Innovate in distribution.** Avon has built a Brazilian direct-sales business that delivers revenues of \$1.7 billion annually.
12. **Challenge assumptions.** The Jaipur Foot and Aravind Eye Care System hospitals defy conventional wisdom about how (and at what price) it's possible to deliver health care to the poor.

Ethics in Action

NextBillion.net began as an initiative of the World Resources Institute's Markets and Enterprise Program. The name refers to the next billion people to rise from the bottom of the pyramid into the middle class and connotes the next billion in profits that companies can make serving this market. The purpose of the site is to provide a source for news, analysis, research and discussion on development through enterprise and BOP ideas. In addition, the NextBillion.net website has a career center that posts jobs (consulting projects as well as full-time jobs and academic appointments). As the site states, its mission is to "highlight the development and implementation of business strategies that open opportunities and improve the lives of the world's approximately 4 billion low-income producers and consumers." "About NextBillion," NextBillion, accessed May 11, 2011, <http://www.nextbillion.net/about>.

KEY TAKEAWAYS

- The BOP (or bottom-of-the-pyramid) market refers to the four billion to five billion people living on less than \$2 per day.
- When businesses get involved in BOP economies, they can stimulate the creation of new services and products. Though there is some debate as to whether the goal should be to innovate and sell to the BOP or to engage the BOP markets as the source of innovation, all parties agree that engagement with BOP economies is desired and productive.

EXERCISES

(AACSB: Reflective Thinking, Analytical Skills)

1. Why are businesses interested in BOP markets?
2. What are some examples of products developed to profitably serve BOP markets?
3. What are some of the challenges of serving BOP markets?
4. In what ways might BOP markets be a source of innovation?
5. What are some examples of innovations derived from the BOP?

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