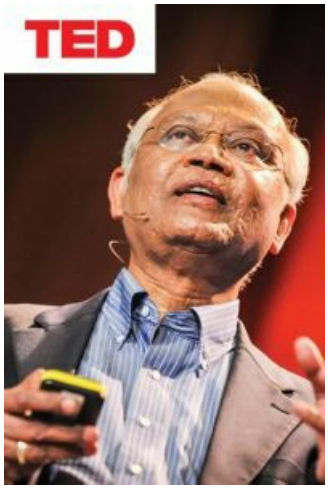

Video Breakthrough Designs for Ultra-Low-Cost Products

R.A. Mashelkar
TED, 2009

Recommendation

R.A. Mashelkar tells the story of three products that Indian innovators developed specifically so that the poor could afford them. He promotes "Gandhian engineering" and urges innovators to push products for the extreme low-cost segment of the market. His approach is laudable, and his presentation is inspiring. It also contains a valuable message about how innovation works: Strive for impossible goals, have a purpose in mind and set motivated people to the task. *BooksInShort* recommends this talk to innovators who are ready to dedicate themselves to serving "the many."

Take-Aways

- Most businesses look for "value for money" rather than "value for many." However, many innovative companies have launched successful products that the poor can afford.
- This process – known as "Gandhian engineering" – provides more value to the poor in terms of "dignity" and "safety."
- Several progressive Indian firms have embraced Gandhian engineering: Tata developed a $2,000 car. Another firm created a prosthetic leg that costs significantly less than an American prosthesis.
- Rethinking the process of research and development has also decreased the costs of developing new medications.
- Gandhian engineering is inspiring manufacturers from outside India. For example, students at Stanford University devised a $25 incubator to save newborn infants.

Summary

Most companies seek "value for money" rather than "value for many." While the rich can afford cars, the poor are stuck with bicycles or scooters. Is there a way to provide a product at the same price level that has more value in terms of "dignity" and "safety"? In India, you regularly see families sharing scooters. Automaker Ratan Tata didn't just see this; he thought about it. When he observed a family riding a scooter in the rain, he decided to build a car that the family could afford. The result was the Nano, "an incredible car." Tata assembled five young engineers and asked them to build a $2,000 car. He told them to break free from any limits in their thinking. The engineers – and Tata, who got involved at times – came up with innovative ideas. They worked closely with partners in the supply chain, "relocated vendors" nearer to the car plant and organized distribution through new channels (for example, local clothing shops). They used input from many different fields, adapting the "mechanism of helicopter seats and windows," as well as fuel lines, lamps and dashboards based on parts for two-wheelers. The Nano has only half the number of parts that other cars have, but most of those parts perform dual functions. The Nano is shorter than a normal car, but it has a larger interior. This kind of "Gandhian engineering" is based on the principle of "getting more from less for more and more people," a philosophy that will lead the way forward.

> "An innovator is one who does not know it cannot be done."

Take another example: American prostheses are too expensive for most people in India and not suitable for the strain of everyday life there. The Indian "Jaipur Foot" is easy to fit and adjust. Those with this prosthetic leg can jump, climb and run. And it costs only $28. Similarly, in the health industry, Indian innovators created a treatment for psoriasis, a skin disease. By revolutionizing the entire process of innovation, they developed this medicine in merely five years (ten years is normal), reduced the costs of the treatment to $100 (down from $20,000) and spent less than $10 million on development (costs normally reach hundreds of millions of dollars).

> "When you wish to achieve results that have not been achieved before, it is an unwise fancy to think that they can be achieved by using methods that have been used before." (Sir Francis Bacon)

These new products are so much cheaper that the poorest people can afford them. More manufacturers should emulate this Indian model of innovation. A group of Stanford students working on an extreme-affordability project did just that: They developed a $25 incubator to save newborn babies.

About the Speaker

R.A. Mashelkar is the president of the Global Research Alliance. He is a proponent of sustainable development.