

PRODUCT DEVELOPMENT IN EMERGING MARKETS

Growth and talent drive opportunity where you may least expect it.

By Gunjan Bagla, Amritt Inc.



As the special section on innovation in emerging markets in the July 2011 issue of *Visions* made clear, forward-looking product development professionals began to notice developing countries long ago. Today, many well-run organizations benefit from technical talent in the emerging economies of Asia and Eastern Europe. Through my work at Caltech's Industrial Relations Center and my company's global research and development practice, my colleagues and I have guided executives in science, technology and product development on this journey over the last decade.

GROWTH AND TALENT

Why are emerging countries of such great interest to R&D departments today? There

are two compelling reasons: growth and talent. Labor arbitrage is a background factor but should not be the sole driver in a push toward these countries.

In 2006, the combined GDP of the so-called emerging economies exceeded that of the developed world for the first time in 200 years. According to Goldman Sachs, countries such as Brazil, China, India, Indonesia, Korea and Russia will figure among the top dozen economic powers by 2025. Western companies looking for revenue growth must inevitably find ways to serve governments, corporations and citizens in these new frontiers where growth ranges from 7 to 12 percent per year. The slowdown since 2008 has affected developed economies disproportionately; in the near future, growth in France, Germany, Japan, the United Kingdom and the United

States will rarely exceed 5 percent – even in a good year. Furthermore, emerging countries often have unique product needs.

The second reason is the growing pool of high quality technical talent in some emerging countries. India, China and Russia graduate larger number of science and engineering professionals each year. Companies such as General Electric and Google have figured out how to leverage this talent to their competitive advantage. In an interview with a Wall Street Journal affiliate last year, Yahoo India's head of R&D, Shouvik Mukherjee, made the surprising (to some) revelation that 30 percent of the company's new intellectual property was being developed by the 2,000-strong team in Bangalore, India. He went on to tell the Daily Mint that 20 of Yahoo's products were "managed end to end from the India

center” and that many of these products are used on the company’s global properties.

While low costs attract many executives, the many challenges of dealing with emerging economies can overwhelm cost savings unless one or both of the reasons mentioned above are deeply embedded into the decision process.

CURRENT QUESTIONS

Today’s product development managers in the West often face these questions:

- Should I develop new products in China and India? *Can* I develop new technology in China and India?
- Do I de-feature my current product to sell into emerging countries?
- Should I localize my product design? Where should this localization be performed? Who should perform localization – an in-house team, contract team or distributor?
- Will my low-cost product intended for India or China be re-imported to the West and cannibalize U.S. sales?
- Can external service providers with technical talent based in India or China offer credible help for my global product development pipeline?
- Will my intellectual property be compromised by leveraging distributed development or global engineering?

There are no clear-cut, universal answers to these questions. However, ignoring the questions risks your company and your career. My experience and conviction are clear that these new opportunities generally make smart Western companies stronger than their peers and stronger than their emerging upstart competitors.

DIFFERENT PRODUCTS

In the past, Western companies could simply offer mature or fading products to Third World countries as a way of extending the life cycle of a cash cow product line. This approach is seldom very successful today.

For best market penetration, you should consider modifying your design to suit specific characteristics of the specific market.

Finland’s Nokia, for example, introduced a bicycle-powered charger for cellular phones in India. A tiny “dynamo” draws rotation power from the front tire and transmits current to a bracket mounted on the handlebars. In emerging countries, bicycles are a mainstream form of transportation for hundreds of millions of people; also, many of these people live in homes where electrical power is often unreliable and all-night outages are

not unusual. Pedal-powered chargers can serve a real need in these markets and aren’t simply a novelty.

Godrej, an Indian company, is introducing a very low cost refrigerator for rural markets. The product forgoes the traditional compressor found in virtually all cooling systems. It relies instead on the Peltier effect – converting electrical energy into a temperature difference. While it’s not as thermodynamically efficient as conventional refrigeration, the product’s absence of moving parts is likely to cause great appeal in rural markets where a repair shop could be inaccessible.

Cisco launched its global initiative for “smart connected communities” out of Cisco East in Bangalore in 2009. Product families intended to put intelligence into building management made much more sense to design in India, where real estate and energy costs are a much larger component of a typical company’s cost structure. Innovation in this category is driven from the global business unit located in India. One of the first product families released was the Network Building Mediator Manager. Though it’s sold worldwide, the product management and design are driven from India.

Product design needs may be driven by environmental factors, including extreme temperature, heat and humidity conditions, or variable and unpredictable voltage from the electrical outlets. Sometimes the needs are driven by radically different usage models. A consumer or business in China may prefer to pay for a product according to daily or as-needed use rather than all at once. The design may need to accommodate shared usage among neighbors or some way for the sales channel to build an annuity of revenue. Buyer behavior may require changes in packaging or configuration. For example, Korean carmakers found great success by increasing the space in back seats, responding to the fact that many Indians employ chauffeurs, so the owner does not occupy the “driver’s seat.”

DIFFERENT BEHAVIORS

When managing a product development team across diverse time zones and cultures, it is crucial for team members to develop cross-cultural sensitivity. From the Western perspective, it is important to develop an understanding that your own way may not always be the “right” way. Engineers in Asia grow up and live in very different social environment and are not accustomed to the informal and frank way that Americans may challenge each other’s thinking. Disagreeing

with the boss does not come naturally to a worker in Shanghai or Mumbai. If a proposed design approach is questionable or an agreed-upon work schedule is slipping, the culture in Asian societies is not attuned to stating the obvious. Western team members have to listen carefully to subtle signs of concern, and learn to seek out and amplify such signals.


Conversely, an Asian engineer may incorrectly interpret a tentative statement, hypothesis or even a question by a senior Western colleague as a firm directive. A question such as “Shouldn’t the rear stabilizer mechanism be indispensable to the next-gen product?” might be interpreted as an order rather than a point for discussion. Effective cross-cultural communication is now a key success skill among R&D professionals, and interactive workshops on the subject are often a good idea.

Asian engineers are often naturally adept at what we call “frugal engineering,” or the ability to design and improvise under tight resource constraints. For example, engineers at German giant Siemens’ Goa, India corporate technology center helped design a low-cost medical scanner. They concentrated on the camera at the scanner’s heart and developed a local replacement that cost only about \$500 to produce, compared with the original’s \$2,000.

“The new camera is not a cheap copy of a Western model,” said Vishnu Swaminathan, head of the embedded hardware system program. “We redesigned everything from scratch with a view to cutting costs while meeting the specific needs of doctors.”

This frugal engineering approach is well suited to product improvements geared toward reducing the carbon footprint of technological innovations.

GOING FORWARD

Successful product development professionals realize that the next decade of innovation will require new vocabulary and skills around global product design and global people management. Embracing these changes will allow your company to fully benefit from the opportunity that fast-growing emerging economies and their youthful technical workforces bring to the world. 



Gunjan Bagla is the founder of Amritt Inc. and a leader in its global R&D Advisory Practice, which serves product development professionals. He is a featured speaker at the upcoming PDMA Product Innovation Management Annual Global Conference. Contact him at gbagla@amritt.com.