

Mobilizing for Growth in Emerging Markets

To reach the "next billion" consumers, multinational companies will need to move beyond value chain localization and create new networks of local partners.

BY NAVI RADJOU AND JAIDEEP PRABHU

AS GROWTH IN developed economies such as the United States, Japan and Europe continues to languish, the fastest engines of global growth for several years to come will be the emerging markets of India and China. According to the International Monetary Fund, India and China may see growth rates of 9% and 7.5%, respectively, in 2012.¹ Multinationals are stepping up their capabilities in emerging economies by opening more R&D labs, factories and sales and marketing offices that can design, develop and sell locally relevant products and services. Between 2003 and 2007, multinationals established more than 1,100 R&D centers in India and China, investing a total of \$24 billion.² The result: more and more products and services marketed by multinationals in emerging markets — such as General Motors' Buick LaCrosse in China and Johnson & Johnson's reusable surgical stapler in India — are being redesigned or entirely built from scratch using local R&D talent.³

By locating R&D and manufacturing activities in growth markets, multinational companies aim to design and deliver products and services that are both economical and better suited for the aver-



THE LEADING QUESTION

How can companies sell to underserved "next billion" consumers in emerging markets?

FINDINGS

- ▶ Creating and managing networks that include both local and global partners is essential for developing and delivering offerings.
- ▶ Multinationals need to engage with key community stakeholders, such as government bodies and NGOs.
- ▶ Companies should assign partner network managers.

Through Nokia Money, a cell-phone based service, Nokia aspires to offer mobile banking solutions to millions of Indian consumers who currently don't have relationships with a bank or are underbanked.



COURTESY OF NOKIA

age local customer. (See "About the Research.") This approach has clear advantages over importing and selling high-priced products and services developed and produced in the West. However, many multinationals that rely on "value chain localization" still focus on affluent, urban customers rather than the much larger population of urban and rural poor. This strategy does not adequately prepare them for the far greater challenge (and opportunity) of reaching the urban and rural poor.

In many sectors, including cell phones, achieving meaningful gains at the upper end of the market in emerging economies is becoming increasingly difficult. For example, cell phone adoption rates are already very high in big metro areas such as Mumbai and Shanghai. Significantly greater growth opportunities lie in second- and third-tier cities and rural areas. Indeed, almost 70% of India's 1.2 billion people live in rural areas, and only an estimated 23% of the rural population has cell phones. The potential profit in reaching underserved consumers at the base of the pyramid in emerging markets is so great that it has been dubbed the "next billion."

For companies selling products and services to low-income consumers moving into the middle class, there are challenges both in terms of product design and delivery. These challenges require multinationals to move beyond the value chain localization they're accustomed to and embrace a "network orchestration" strategy that brings together local and global innovation partners.

The Design Challenge To begin with, it's important to recognize that "next billion" consumers are distinct from affluent urban consumers in their preferences and buying behavior. Although "next billion" consumers increasingly have more disposable income and want more, they nevertheless have limited resources. The juxtaposition of high aspirations and resource constraints forces multinationals to rethink how they design products and services to reach such consumers. Specifically, the design focus needs to be on affordability while maintaining the key benefits: delivering more value at less cost. Understanding the unique preferences and buying behaviors of these consumers often requires expertise or knowledge that multinationals lack but that may reside with other local actors such as govern-

ment institutions or nongovernmental organizations. At the same time, designing affordable products for emerging markets may draw on capabilities and technologies that only exist in global partners, such as experienced R&D labs located in developed countries. Thus, creating and managing networks of local and global partners becomes essential for successfully designing products and services that are relevant to the "next billion."

The Distribution (or "Last Mile") Challenge Even if multinationals succeed in designing affordable products for "next billion" consumers, they also need to figure out how to distribute these products to people in locations that are hard to reach; India, for example, has 600,000 villages. Partnering with local actors with infrastructure to facilitate delivery in an affordable and effective manner — whether they are public institutions or NGOs — is absolutely crucial. It will allow multinationals to deliver more value for less cost for more consumers in emerging markets — a value proposition that can be summed up as "more for less for more."

Network orchestration is premised on local and global partners working together to achieve innovation. By collaborating with local partners, multinationals can learn about local problems and gain insight into solutions, while at the same time taking into account the issue of affordable access. Integration into global R&D networks brings foreign expertise to bear on specific local challenges. Finally, once multinationals confront problems in one setting, they have an opportunity to adapt what they have learned to other markets.

How Nokia Connects With Innovation Partners

Nokia exemplifies how network orchestration can work. After a successful run with value chain localization in India and China, Nokia has embraced network orchestration to widen and deepen its market leadership in emerging economies.

Nokia opened its first sales office in India in 1995. Over the next 15 years, Nokia also set up R&D and manufacturing facilities in India, a pioneering move among technology multinationals. Today, most Nokia phones sold in the Indian market say "Made in India." According to D. Shivakumar, the managing

director of Nokia India Pvt. Ltd., value chain localization strategy gave Nokia's Indian team great freedom and flexibility in responding to rapidly changing market conditions, a hallmark of emerging economies.¹³ Nokia leverages its Indian manufacturing units to launch new products in a matter of weeks. Over time Nokia also built a retailer network of more than 200,000 locations across India, extending to even the smallest towns.¹⁴ This organizational malleability, responsiveness and distribution scale has enabled Nokia to out-innovate rivals in India.

However, late in the last decade, Nokia's top management realized that its homegrown assets — R&D labs, factories and retail outlets — wouldn't be enough to secure market leadership over the long term in India. To deliver more value and better user experiences at lower prices to more consumers, Nokia had to do something different. Specifically, it had to augment its physical assets with *relationship-based* assets delivered through partnerships with specialized service providers, who could deliver more value to more customers at lower cost, and in the process enhance Nokia's brand.

Against this backdrop, Nokia has launched two solutions designed to leverage its network orchestration capabilities: Nokia Life Tools and Nokia Money. The goal of the first is to enable Nokia to extend its presence into new rural markets; the goal of the second is to deepen Nokia's presence in the urban and semiurban markets it already dominates.

Nokia Life Tools Nokia Life Tools is a suite of offerings designed to deliver agricultural information as well as education and entertainment services to farmers and their families in emerging markets. In India, for instance, even though the agricultural sector employs more than 60% of the total workforce, the growth rate has declined during the last decade due to low productivity rates. Nokia believes that its technology-enabled solutions can help accelerate agricultural sector growth by providing farmers with the right information at the right time. For instance, the agricultural component of Nokia Life Tools uses SMS text-messaging technology on cell phones to provide farmers with current information on weather, advice about crop cycles, general farming tips and techniques, and market prices for crops, seeds and fertilizers, all in their native language. Farmers can

ABOUT THE RESEARCH

The ideas presented in this article are part of a larger program of research on the globalization of innovation that the authors have engaged in over the last five years. The focus of this research has been on examining: 1) the extent to which Western companies are doing R&D in emerging markets, especially in India and China; 2) the type of R&D work that these companies are doing in emerging markets; and 3) how companies are organizing to do such work globally.

This larger project has involved over 100 hours of semistructured interviews with managers from *Fortune* 500 companies doing innovation in China and India. In China, interviews were conducted over two visits in 2007 and 2010 in Beijing, Shanghai, Guangzhou and Hong Kong with managers at companies including 3M, Cisco, GSK, Honeywell, McKinsey, Medtronic, Microsoft, Mozilla, PepsiCo, Siemens, Sony Ericsson and Unilever. In India, interviews were conducted during annual visits between 2007 and 2011 in Mumbai, Chennai, Hyderabad, Delhi and Bangalore with managers at companies including Allianz, Advanced Micro Devices, Cisco, GE, Google, JP Morgan, Microsoft, Nokia, Novartis, Novell, IBM, Vodafone, Yahoo, Siemens and Xerox. In both countries, the managers interviewed had titles such as global leader of innovation, chairman and CEO, CFO, executive manager, executive director, business development manager, general manager, managing director, country head and principal scientist. In both countries, the industries studied included software, pharmaceuticals, medical equipment, fast-moving consumer goods, consumer electronics, telecommunications, consulting, advertising, product design, engineering design and financial services. Interviews typically lasted between one and two hours each and probed: 1) the types of innovation activities pursued; 2) the challenges faced in managing innovation in China and India and integrating these with activities across the company's global network; and 3) the solutions that companies use to deal with these challenges.

This article draws heavily on a small subset of the interviews and focuses on a few companies that are at the leading edge of innovating for emerging markets. The key companies in question are Nokia, GE Healthcare and Xerox. Our research in this context consists of several visits to R&D labs as well as in-depth interviews with leaders of these companies over several years.

subscribe to the service for just 60 rupees (about \$1.20) per month. During the pilot project in early 2009, farmers using Nokia Life Tools reported feeling empowered; many noted that the information gave them greater confidence in negotiating with intermediaries, who had previously controlled the information. Based on the positive response, Nokia now offers the service more widely in India, and it is introducing Life Tools into other Asian and African markets, such as China, Indonesia and Nigeria.¹⁵ Nokia has also enriched Life Tools with additional components such as education and health care services.

To develop and deploy this service, Nokia tapped into an extensive array of partners, including information service provider Thomson Reuters, agricultural domain expert Syngenta, weather expert Skymet and leading telecom carriers Bharti Airtel, Idea Cellular, Reliance Communications and Tata DOCOMO. Further, Nokia's R&D teams and partners spent many months in Indian villages

to learn about the living conditions of farmers and identify their unmet needs and aspirations. This grassroots approach to market research allowed the entire partner network to find a realistic solution that meets end-users' real needs. At the same time, Nokia partnered with local government bodies and grassroots NGOs to promote Life Tools as an innovative solution across many Indian states and accelerate its adoption by local farmers. For example, Nokia partnered with the Maharashtra State Agricultural Marketing Board to help collect daily commodity prices from MSAMB's network of 291 local *mandis* (village-level markets) across the state of Maharashtra. This information gets communicated directly to farmers' cell phones, along with other relevant news and MSAMB alerts.

Nokia executives in India say that developing Life Tools was a real test of the company's ability to partner creatively. "[It] was a painstaking process for us as we had to design and build it from scratch with no prior reference," explains Jawahar Kanjilal, global head of Nokia Life Tools. "But Life Tools wouldn't be sustainable today without the content, domain expertise, and understanding of market needs provided by our partner network. We can't expect to empower the farmers without the active involvement of all our innovation partners."¹¹

Nokia Money Through this cell phone-based service, Nokia also aspires to offer mobile banking solutions to the more than 600 million Indian consumers who currently don't have relationships with a bank or are underbanked. Initially positioned as an urban/semiurban solution, Nokia Money's mobile payments solutions will soon be available to rural populations as well, allowing family members who have migrated to cities to send remittances to relatives in remote villages. Designing, developing and delivering financial solutions for a broad segment of new customers in India was complicated. The obstacles included the Indian central bank's long-standing regulation prohibiting nonbanking entities from providing banking services; consumers themselves who were either uninformed about banking services or unconvinced that they could offer value; and target populations who were geographically difficult to reach.

After researching the Indian market, Nokia decided to build an open ecosystem for mobile payments with multiple partners that include banks, merchants, billers, specialized providers and technology vendors. The goal of this Nokia-led ecosystem is to drive adoption of mobile money services across the country. Acting as a digital wallet, mobile money services will enable users to transfer money to other cell phone users, buy groceries and pay utility bills. In 2010, Nokia piloted and launched mobile money services in partnership with YES Bank, a Mumbai-based private bank.¹² These Nokia-powered services are currently available in three Indian cities.

In early 2011, Nokia partnered with Union Bank of India to provide access to basic banking services via mobile phones. Union Bank Money Services is currently available in several Indian states and will be made available to consumers across the country in 2012, making proximity to bank branches and Internet access less critical.

To gain access to mobile banking technology solutions that can be scaled up for millions of users, Nokia has partnered with Obopay, headquartered in Redwood City, California. To spur adoption of its mobile money services, the company is trying to make them as simple and convenient as making a voice call or sending a text message. It plans to preinstall the Mobile Money client on all Nokia devices. The first Nokia handset to come with a preinstalled Mobile Money client was the Nokia X1 -01, which retails at around 2,000 rupees (\$39), making it the most affordable "mobile wallet" in India.

The potential rewards of setting up and orchestrating partnerships to design, develop and deliver Nokia Life Tools and Nokia Money are significant. Not only is there a large Indian market; there is also an opportunity to roll out these solutions in other emerging and even developed markets such as the United States.¹³ Indeed, this is precisely what Nokia is preparing to do.

How GE Makes Partner Networks Work

While multinationals such as Nokia are transitioning from value chain localization to network orchestration in order to gain more traction in emerging markets, multinationals entering green-



We had to learn to partner with institutions which can help us understand end-user needs, develop affordable solutions for the masses and make them accessible to a large number of people.”

field sectors have no choice but to embrace network orchestration as the best way to get a foot in the door. In sectors that are still evolving in emerging economies, such as health care, energy, retail and banking, multinationals need capable partners — partners that can help them define local customer needs before they develop and deploy solutions to meet those needs.

One company that has received considerable attention for its efforts to reformulate its business model for emerging markets is General Electric.¹⁸ Until the mid-2000s, GE Healthcare's Indian unit was primarily focused on adapting technology solutions invented in the West for sale to large Indian clients such as big hospitals and research universities. But GE's top management began to see that the real potential of emerging markets was not catering to big customers in big metro areas like Bangalore and Mumbai but to smaller customers in the smaller towns and villages where more than two-thirds of Indians live. As Joydeep Nag, CFO of GE Healthcare South Asia, points out, "Since the healthcare system in India is still evolving, especially in rural areas, we realized that we can be one of the architects who help design the entire system from the ground up. But to assume this broader social mandate, we had to invest in new core competencies that stretch beyond making and selling products using our own in-house R&D. We had to learn to partner with institutions which can help us understand end-user needs, develop affordable solutions for the masses and make them accessible to a large number of people."¹⁹

As a first step, GE Healthcare partnered with medical research institutes, NGOs and state governments to study India's health care delivery system in remote villages and identify the unmet needs of rural patients and the physicians who treat them. This user-centric R&D approach, which GE calls "market back" innovation, has yielded breakthrough market insights that have led to the development of afford-

able products such as the MAC i — a low cost, portable electrocardiogram machine with long battery life — that are relevant not only to emerging markets but also to the West.²⁰

More importantly, GE Healthcare is working closely with its ecosystem partners to pilot and scale up innovative business models that will make health care both affordable and accessible to increasing numbers of people in emerging economies like India. In its partnership with Manipal Heart Institute, for example, the company operated a mobile clinic equipped with portable, battery-operated ultrasound systems and ECG machines that performed cardiac screenings for thousands of patients in dozens of remote Indian villages. In a pilot project that lasted more than a year, 1,558 of the 57,000 patients screened were diagnosed with severe cardiac issues, and many of them received effective subsequent treatment at Manipal Heart Institute.²¹

Similarly, in Bangladesh, GE partnered with Grameen Kalyan (a sister company of Grameen Bank, the pioneering microfinancing organization) to help reduce infant and maternal mortality in poor rural communities. The organizations worked together to train paramedics with limited education on the use of ultrasound technology, which was made available in rural clinics. As a result, paramedics screened more than 10,000 expectant mothers, and more than 500 obstetric complications were identified for treatment. Encouraged by the success of the partnership model, GE Healthcare is looking to replicate the model in Indonesia, Vietnam and countries in Africa.²² The grassroots delivery models — anchored by partner-rich ecosystems — are integral to GE Healthcare's efforts to democratize access to high-quality diagnosis and care in emerging markets.

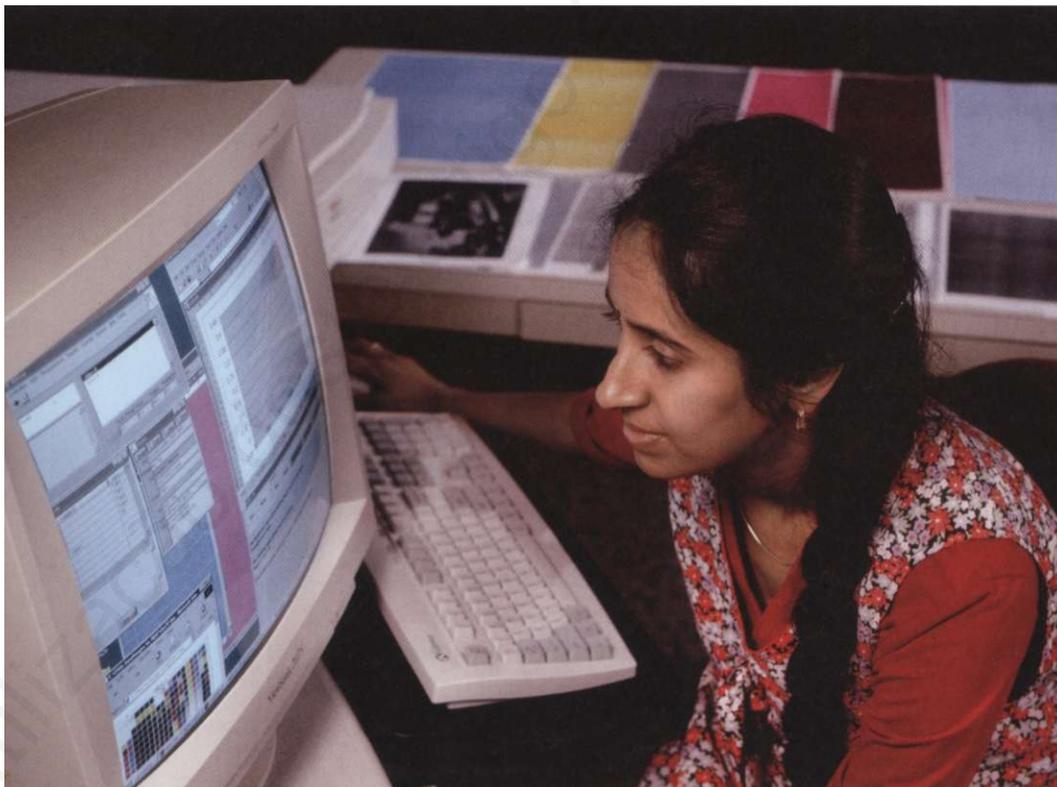
At the same time, GE Healthcare has established public-private partnerships with several Indian state governments to make high-quality health care af-

fordable and accessible to low-income patients. GE Healthcare works with the local governments and third-party service providers that agree to operate a diagnostic imaging facility equipped with GE's equipment at public hospitals. By leveraging a diverse network of public, private and nonprofit partners, GE Healthcare is able to identify local needs and codesign and codeploy innovative solutions to deliver quality care to more patients at less cost.

How Xerox Coinnovates With Local Partners

As Nokia and GE operate their own R&D labs in India and combine in-house innovation expertise with external partner capabilities, Xerox, a leader in business process and document management, has gone one step further. It has tightly integrated its R&D activities in India with local partner networks from the get-go. This move is part of Xerox's strategy of creating lean and nimble innovation hubs in emerging markets. Rather than owning all of the R&D resources, Xerox's labs in India actively partner with local universities and startups to achieve scale and speed in developing cutting-edge ideas and bringing them to market.

Xerox has opted to set up a research center in India to network with external inventors and exploit in-house R&D and marketing capabilities.



Other multinationals such as Procter & Gamble, Eli Lilly and Boeing have used networked approaches to R&D in U.S. and European markets.²⁷ They essentially build collaborative ecosystems that leverage talent, ideas and capital from local universities, venture capitalists and startups to cocreate new products and services. The Xerox Research Centre India, however, is an attempt by a multinational to not only create an innovation network in an emerging market but also make it a cornerstone of its global R&D strategy. Its initial mission is to develop business process and document management solutions that are relevant to emerging market countries and contribute innovation that can improve solutions and services delivery worldwide.

The logic behind the strategy is simple. India is home to top-notch science and technology universities and a bevy of creative entrepreneurs. These talented players possess proven domain expertise and specialized skills that can help develop cutting-edge solutions for challenging technical problems that Xerox's in-house researchers are trying to solve, such as leveraging cloud computing for services delivery. Further, because the external solution providers are deeply embedded in their

local communities, they possess an intuitive sense of what end users need and can thus produce solutions that are highly relevant.²⁸ Instead of guessing local market requirements and relying exclusively on its in-house R&D staff, Xerox opted to set up a research center in Bangalore, India, that would network with external inventors and exploit in-house R&D and marketing capabilities as a way of scaling up internally and externally sourced inventions and rolling them out. The hope is that this center will enable Xerox to realize greater economies of scale and scope in innovation both in emerging economies such as India and in developed markets.

Xerox's innovation network in India is still relatively new, but it already includes several high-profile knowledge partnerships. For exam-

pie, Xerox has struck an alliance with the Indian Institute of Technology Madras, one of India's leading engineering institutions, to use cloud computing to boost the efficiency of document services delivery. In addition, it is collaborating with IIT Madras's Rural Technology and Business Incubator to cocreate affordable solutions to improve work flow at small rural businesses in India. Xerox has also teamed up with the Indian Institute of Science to apply machine learning and game theory principles to increase the performance of online service marketplaces. Moreover, the company has ongoing discussions with venture capitalists, incubators and entrepreneurs across India to identify promising edge technology that could be of strategic value for Xerox in global markets.

Dos and Don'ts in Network Orchestration

Multinationals such as GE, Nokia and Xerox are poised to ride the next wave of growth in emerging markets by effectively orchestrating partner networks. Specifically, they are systematically coinnovating with local customers and partners in emerging markets while continuing to be integrated with the rest of their global R&D and business network.

However, we have found that building and managing partner networks are easier said than done. Multinationals must understand the challenges and do the following:

Extend innovation partnerships beyond the usual suspects. The partner networks we have described in this article extend beyond the traditional R&D and marketing alliances multinationals have established in emerging markets with local channel partners to serve urban customers. To effectively serve the "next billion," multinationals must go beyond channel partners and engage key community stakeholders, such as national and state-level government bodies, universities, NGOs, charities and end users, to develop affordable and accessible solutions that meet the needs of local communities.

Engage innovation partners strategically with a larger purpose. Many multinationals engage partners in emerging markets on a project-by-project basis. Unfortunately, this transactional

approach only yields incremental value or one-off hits at best. To keep partners fully engaged, multinationals should follow GE Healthcare's lead by painting a strategic vision or setting a bold goal (e.g., making health care affordable and accessible to everyone in India) that galvanizes the entire partner network.

Trust but verify in a transparent manner. Although trust is the critical ingredient that makes innovation partnerships work, accountability is what sustains them. Trusting relationships need to be backed up by performance-based contracts that clearly stipulate: a) the target all partners in the network aim for, and b) the short- and medium-term objectives that individual partners should strive to achieve. Companies and partners need to agree upon key performance indicators, thereby allowing the companies to monitor performance in real time and take appropriate measures if partners fall behind. For instance, GE Healthcare has worked on a flexible pricing model in India known as "pay-per-scan" that allows cost-conscious medical diagnostic centers to rent GE's diagnostic equipment, with the payment based on the total number of scans performed each year. This revenue-sharing model is backed by key performance indicators that track equipment usage on an ongoing basis. Similarly, Nokia has created a team of agricultural experts who analyze, verify and validate commodity price and weather and crop advisory data collected from various content partners — thus ensuring the integrity of the data delivered to the farmers who rely on Life Tools for their livelihood.

Assign partner network managers. Multinationals looking to build networks in emerging markets need to employ dedicated local managers who are adept at identifying potential innovation partners, negotiating the terms of collaboration and managing day-to-day partner engagement. These individuals must have superior interpersonal skills to help them smooth out differences with partners. For example, many of Xerox's researchers in India are not just scientists but also "open innovation managers" charged with identifying and leveraging opportunities for partnerships with leading academic institutions, research labs and entrepreneurs in areas of strategic interest. Similarly, the Nokia Life Tools unit in each emerging market

has its own partner management team, which works to keep local partners in, say, the agricultural sector, fully engaged.

Multinationals looking to tap into the "next billion" need to get ready to shift gears. Instead of simply locating more R&D labs and factories in emerging markets, they must learn to cultivate and orchestrate networks of local partners who can help them discover local consumer needs and create solutions to meet those needs. By integrating the local networks with global operations, companies have opportunities to generate new growth. At the same time, they can leverage the solutions from one emerging market to others — even markets in more developed countries.

Navi Radjou is an independent strategy consultant and a fellow at Judge Business School at the University of Cambridge. Jaideep Prabhu is the Jawaharlal Nehru Professor of Indian Business and Enterprise and director of the Centre for India & Global Business at the University of Cambridge's Judge Business School. Their book, Jugaad Innovation: Think Frugal, Be Flexible, Generate Breakthrough Growth, is scheduled for publication by Jossey-Bass in April 2012. Comment on this article at <http://sloanreview.mit.edu/x/53315>, or contact the authors at smrfeedback.mit.edu.

REFERENCES

1. International Monetary Fund, "World Economic Outlook: Slowing Growth, Rising Risks," September 2011, www.imf.org/external/pubs/ft/weo/2011/02/index.htm.
2. IBM Global Business Services, "Global Location Trends," Annual Report, October 2009, www-935.ibm.com/services/us/gbs/bus/html/glt-landing-2009.html.
3. F. Warner, "Made in China," *Fast Company*, April 1, 2007.
4. See N.S. Lang and S. Mauerer, "Winning the BRIC Auto Markets: Achieving Deep Localization in Brazil, Russia, India, and China," (Boston: Boston Consulting Group, January 2010).
5. "Shanghai Invests in Being 'Smarter'," *Shanghai Daily*, Jan. 24, 2011.
6. "Rural India to Fuel Mobile Services Growth," *Indian Express*, Jan. 23, 2011.
7. The term "next billion" was initially coined by the World Resources Institute's Markets & Enterprise Program as part of a website it launched in 2005 called www.NextBillion.net. The phrase "next billion" designates the next billion people entering the middle class from the base of the economic pyramid (BoP) worldwide. The term BoP was first introduced by C.K. Prahalad and Stuart L. Hart in their article "The Fortune at the Bottom of the Pyramid" (*Strategy + Business* 26, 2002). But "next billion" also indicates the next billion(s) in profits businesses can make by devising the right business models to integrate the BoP consumers into formal economies. See www.nextbillion.net/about.
8. N. Radjou, "Innovation Networks: A New Market Structure Will Revitalize Invention-to-innovation Cycles," *Forrester Research*, June 17, 2004; J. Hagel and J.S. Brown, "The Only Sustainable Edge: Why Business Strategy Depends on Productive Friction and Dynamic Specialization," 1st ed. (Boston, Massachusetts.: Harvard Business Press, 2005); and V.K. Fung, W.K. Fung and Y. Wind, "Competing in a Flat World: Building Enterprises for a Borderless World," 1st ed. (New York: Pearson Prentice Hall, 2007). See www.nextbillion.net/about.aspx.
9. J. Lawrence, "The New Shape of Innovation," *I-Global Intelligence for the CIO*, July 19, 2010, www.i-cio.com/features/july-2010/polycentric-innovation.
10. C.K. Prahalad and R. A. Mashelkar, "Innovation's Holy Grail," *Harvard Business Review* 88, no 7/8 (July-August 2010): 132-141.
11. N. Radjou, "The Rise of Globally Adaptive Organizations," *Forrester Research*, December 13, 2006.
12. Prahalad and Mashelkar, "Innovation's Holy Grail."
13. See www.nokia.co.in/about-nokia/company.
14. See http://en.wikipedia.org/wiki/Nokia_Life_Tools.
15. Jawahar Kanjilal, interview with authors, Feb. 3, 2010.
16. "Nokia Passes Key Milestones as Services Business Continues Strong Momentum," February 15, 2010, <http://press.nokia.com/2010/02/15/nokia-passes-key-milestones-as-services-business-continues-strong-momentum>.
17. N. Radjou, "Mobile Banking's Next Big Market: The United States?," *Harvard Business Review Blog Network*, October 28, 2009, <http://blogs.hbr.org/radjou/2009/10/mobile-bankings-next-big-market.html>.
18. J. Immelt, V. Govindarajan and C. Trimble, "How GE Is Disrupting Itself," *Harvard Business Review* 87, no. 10 (October 2009): 56-65.
19. Joydeep Nag, interview with authors, Nov. 30, 2011; and visit to GE's R&D lab, the John F. Welch Technology Centre, in Bangalore, India, Dec. 16, 2009.
20. "GE Healthcare's New Initiatives to Expand IT India Business," *Daily News & Analysis*, Nov. 23, 2009.
21. "GE Spearheads Affordable Healthcare for All in Rural India." *Mathrubhumi*, Sep. 27, 2008.
22. See www.healthymagination.com/progress/delivery/bangladesh-grameen.
23. H. Chesbrough, "Open Innovation: The New Imperative for Creating and Profiting From Technology" (Boston: Harvard Business Press, 2003).
24. S. Vandebroek, interview with authors, March 17, 2010.

Reprint 53315. For ordering information, see page 8.

Copyright © Massachusetts Institute of Technology, 2012.
All rights reserved.