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MONITOR

Beyond the digital divide

Mar 11th 2004

From The Economist print edition

Development: Amid much worthy talk of “bridging the digital divide”, technology firms have realised that fostering the adoption of information technology in the developing world would not just benefit locals, but is in vendors' best interests as well

AFP



Aggregated buying power in action

THE gleaming Indian headquarters of Hewlett-Packard, an American computing giant, are testament to India's technology-led boom. The glass-panelled tower, located on a busy Bangalore thoroughfare, swarms with a new breed of well-heeled urban professionals. But inside the building, in a warren of cubicles on the second

floor, a rather different customer is being targeted. Engineers and programmers at HP Labs, the company's research arm, are working on low-cost devices for the three-quarters of Indians who still live in the countryside. In one room, a cheap e-mail device that allows messages to be sent in local languages is on display; in another sits a tablet-shaped PC that lets users fill out government forms in Indian scripts.

These technologies are part of HP's ambitious plans to sell to the 4 billion poorest people at the bottom of the global economic pyramid. In addition to work being done at the HP Labs, the company has also invested resources in its "e-inclusion" initiative, a project designed to set up "Digital Villages" and "i-communities" around the world—the former are philanthropic projects, the latter strategic market investments. Several centres—in India, South Africa, Ghana and Brazil—have already been established.

All of this activity could easily be mistaken for yet another philanthropic effort to bridge the "digital divide" between rich and poor. But that is only part of the story. Anand Tawker, the head of HP's e-inclusion efforts in Asia, speaks of a "blended strategy" that creates social benefits at the same time as boosting HP's brand and sales. "In the process of creating social value, there is also a profitable return to HP," he says. "Doing good and doing well are not mutually exclusive."

HP is somewhat ahead of the curve, but it is not alone. Companies around the world are now busy developing low-cost devices and innovative business models to reach the world's poor. Intel, the world's largest chipmaker, is pushing cheap wireless-data systems as the best way to extend connectivity to rural areas. Vodacom, South Africa's largest mobile operator, has set up "phone shops" where rural entrepreneurs can buy and resell airtime. And the Indian Institute of Technology (IIT) in Chennai recently unveiled a stripped-down cash-dispenser that it plans to take to the masses in partnership with private-sector banks.

Of course, the idea that the poor constitute an untapped market is hardly new. Hindustan Lever, a subsidiary of Unilever, pioneered the idea years ago, marketing its shampoos and detergents in single-use sachets rather than larger (and more expensive) bottles. But the increasing ubiquity—and falling cost—of digital networks has heightened interest in these markets for at least two reasons. First, such networks increase information transparency, allowing, for instance, farmers or fishermen to sell their produce to the highest bidder, rather than just to the nearest market. This in turn creates new markets and expands existing ones. Second, dispersed electronic databases can aggregate demand, opening up low-margin markets that depend on high volumes for their viability.

In a celebrated article published in the *Harvard Business Review* in 2002, C. K. Prahalad of the University of Michigan and Allen Hammond of the World Resources Institute, an environmental think-tank, pointed out that the collective buying power of the poor in Rio de Janeiro is \$1.2 billion. Ashok Jhunjhunwala of IIT-Chennai, who has been instrumental in bringing several technologies to rural markets, points out that there are 600,000 villages in India alone. "Give me profit margins of just one rupee, and I'll be happy," he says.

While such numbers are indeed striking, and heartening to would-be rural entrepreneurs, the challenge lies in the implementation. Mike Best of the Massachusetts Institute of Technology, who has worked in rural markets in Africa

and Asia, points out that many developing countries (he cites Ghana as an example) lack the requisite connectivity. In addition, aggregated demand in, say, Madagascar, with a population of 17m, is unlikely to yield the same economies of scale as in India. And with its multitude of languages and cultures, even India poses difficulties.

Some of the difficulties may have technical solutions. To deal with the problem of multiple languages, HP is devising character-recognition systems capable of recognising a variety of scripts. The engineers at IIT-Chennai are implementing a fingerprint-recognition system in their cash dispensersthat would save the (often illiterate) villagers from having to remember a personal identification number.

But perhaps the best reason to be optimistic is that the companies in question are driven by a powerful motivator that is lacking in donor-led rural programmes: profit. Mr Tawker, for example, happily characterises HP's efforts as a long-term strategic response to saturation and slower growth in the company's traditional markets. Now, the technologists just have to devise the technological equivalent of shampoo sachets.