Reaping riches out of the poor

Equipment suppliers and operators have shied away from serving the rural and low-income markets as the low per-capita yields and traditional prohibitive cost of rolling out networks in these areas have not been deemed worth the effort. However, with a change in mindset, the ones who dare to serve the village market might find that there are in fact riches to be made.

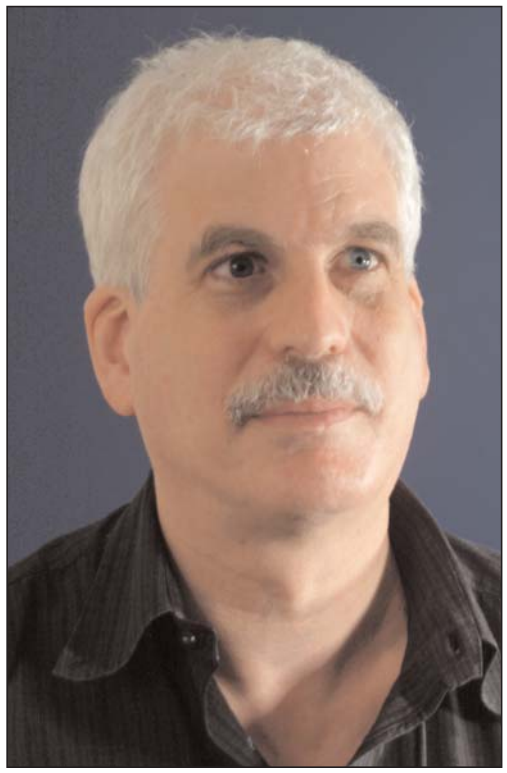
By Raj Chotrani

The rich world's communications service providers and equipment vendors salivate over the prospect of serving the burgeoning middle classes of the emerging markets. They dream of the riches that they can reap by selling network equipment, mobile handsets, and telecom services to the nouveau riche of China, India, Southeast Asia, Brazil, Russia, and even where sizeable middle classes exist, in parts of sub-Saharan Africa.

This approach to the emerging markets however has two critical shortcomings. One, with just about every multinational focusing on the middle class, competition at this level can be intense, on occasions, even pushing margins to abysmal levels. Second, the majority of the developing world's population still lives at income levels that are, by developed-country standards at least, below the middle-class category. This segment comprises four billion people who come from households with an average annual income of $1,500 or less at purchasing power parity. It is obvious then, on the surface at least, why this market has been ignored.

FRESH FOCUS

Telecom equipment vendors' and communications service providers' approach to marketing has been conditioned by their knowledge of and familiarity with their home countries and the surrounding regions, which are generally higher-income environments than the emerging markets. "Perception of market opportunity is a function of the way many managers are socialized to think and the analytical tools they use," say CK Prahalad and Stuart Hart, authors of article "The Fortune at the Bottom of the Pyramid" in *Strategy & Competition*, which is published by management consultancy Bain & Co.



Ken Margon

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This mindset has driven many to work on the assumption that the poor are not profitable enough to be served. Thus, the majority of the world's telecom industry players have not invested adequately in developing technologies and strategies to serve this market. This is a mistake, say Prahalad and Hart.

There are two reasons why this market is worthy of breaking into. One, yes, though they are low yield on an individual basis, collectively, they can pack a punch. Second, many of the poor aspire to join the middle class. This is most pronounced in China, where poverty levels have plunged dramatically over the past two decades. India too has made similar progress but at a slower rate. Thus, service providers and vendors need to think of building up their branding among tomorrow's middle class now.

"Consumers in China and India will easily outstrip the US as the world's largest consumer markets within 25 years," forecasts Swiss investment bank UBS in a study it recently released. "Their combined purchasing power will be five times that of US consumers' by 2030 even in the most conservative projection of 'modest productivity'," the study claims.

STARTING FROM SCRATCH

"Most of the communications technologies available in the market have been developed primarily for use in the urban environments of the more advanced countries," says Kenneth Margon, managing director of Cape Range Wireless, a specialist in developing telecom solu-

tions for use in low-income and rural areas. "This is why a lot of the technologies that we see in the rural areas are in fact adaptations of solutions in use in urban areas. This is not the right approach to serving the rural market.

"The developed countries have already laid in a lot of copper into the ground; operators are using this infrastructure to roll out new services," says Margon. Laying copper over long distances to serve relatively low-yield and light-to-moderately populated rural areas is expensive. "These traditional technologies are too expensive for rural and low-income areas."

"In the developed markets, at least up to the late nineties, operators were adding new networks to the existing infrastructure as new services were made available," explains Sharat Sinha, director, Marketing & Strategy, Service Provider Operations (Asia Pacific), Cisco Systems. "They've added intelligent network services, the Internet, broadband, and so on." This has created a whole series of parallel networks. And this is expensive. This approach makes commercial sense in higher-income urban markets because there is usually enough demand for such services to justify the investment. "This approach won't work in rural markets though," clarifies Sinha.

THE TECHNOLOGIES EXIST

Technologies have become available in recent years that do not require the lay-out of parallel networks. One particular technology solution uses a combination of copper and wireless that can serve even isolated areas such as fishing communities living in outlying islands.

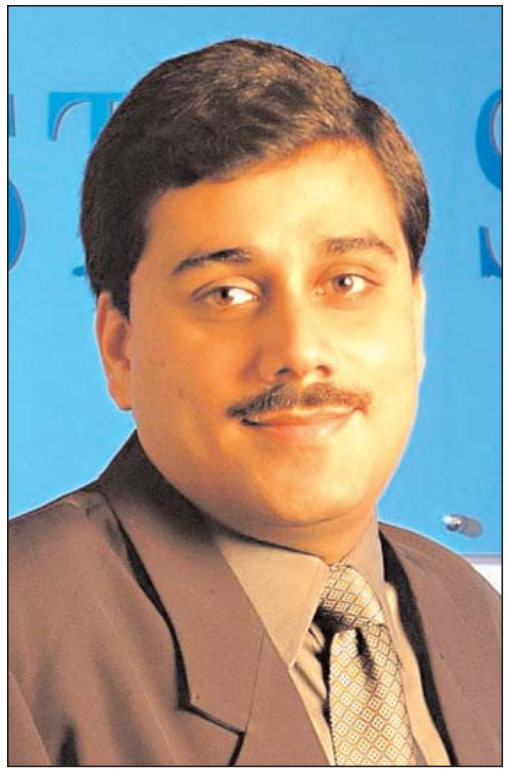
Margon explains, "Let's say the closest switch to a cluster of islands is 50 kilometers away. A service provider installs a microwave to link this switch with a base station within this cluster. Each of these villages on these islands has a remote station. The base station has line-in-sight with these remotes. The remote is [then] connected by drop-wire copper to the schools, shops, houses, and so on, in its village."

This saves the operator the cost of having to lay copper in the ground all the way from the switch to the end user.

Sharat Sinha

"This technology [IP-based networks] enables voice and data to be served across one network, which means that the operator does not have to lay in a new network each time it introduces a service."

- Sharat Sinha, Cisco Systems



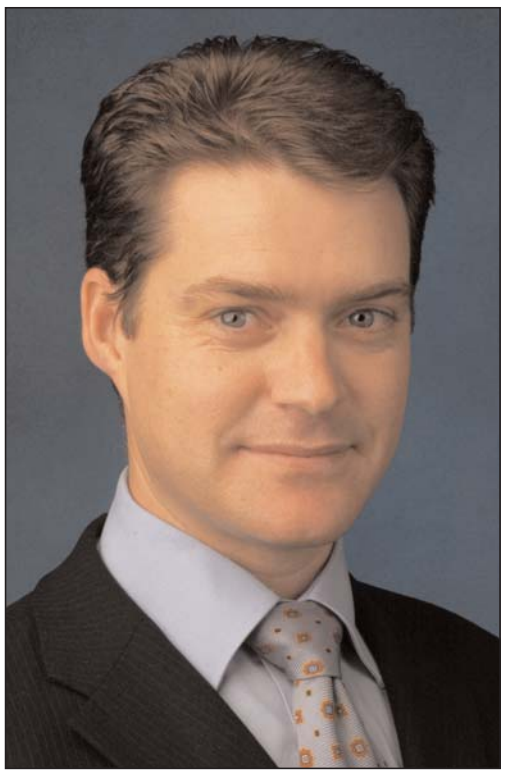
Nitin Bhat

"[The success of implementing new technologies] all depends on how regulation has been customized or leveraged to make it relatively easy and manageable for operators to try out new technologies."

- Nitin Bhat, Frost & Sullivan

"The last quarter-mile, not the last mile, is copper," Margon says to highlight the cost saving that comes with this solution. But this is only a part of its benefit. This solution delivers the full gamut of communications services: ISDN, voice, the Internet, and so on. All modifications to provide these services are made at the switch. "An operator can even link the base station with the switch by fiber instead of using microwave," Margon adds.

The other area of promise is in the use of IP-based networks. "This technology enables voice and data to be served across one network, which means that the operator does not have to lay in a new network each time it introduces a service," says Cisco's Sinha. "Operators consolidate the infrastructure at, say, the district HQ, from where it is spread out to surrounding villages." This hub-and-spoke arrangement makes it especially suitable for Asia because large areas of the continent's rural landscape is fairly densely populated, compared with Australia, Africa, Latin America, and North America. This means villages are unlikely to be far apart from each other. "It's



Ricky Corker

Brad Gray

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"The solution [in serving rural areas] lies in enhanced wireless services. And by that, I mean wireless access such as the upcoming WiMAX standard. This is a good opportunity [for developing countries] to leapfrog to wireless technologies."

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possible to enjoy an attractive ROI even if per-capita yield is low, thanks to the economies of scale that comes with high population density," Sinha adds.

"I think the solution [in serving rural areas] lies in enhanced wireless services," says Brad Gray, South Asia vice president of Juniper Networks, a provider of networking and security solutions. "And by that, I mean wireless access such as the upcoming WiMAX standard. This is a good opportunity [for developing countries] to leapfrog to wireless technologies. Wide-area wireless services can be deployed without digging up the ground. Several well-placed transceiver towers in a populated [rural] area may be able to provide sufficient access, without the costs and logistics of laying down physical wiring."

ENTER THE REGULATOR

The success of using new technologies hinges substantially on the design of regulatory frameworks that governments have put in place. "It all depends on how regulation has been customized or leveraged to make it relatively easy and manageable for operators to try out new technologies," says Nitin Bhat, director of Asia-Pacific Telecom Services and Equipment practice, Frost & Sullivan, a consultancy.

The regulatory framework has to be carefully fine-tuned such that it does not discourage or inhibit operators in any way in testing new technologies and business models. After all, there is a higher level of risk in trying anything that is relatively new. Regulators therefore need to be more sensitive and appreciative of these efforts and may need to provide operators with incentives or reduce restrictions that may not have been the case with traditional technologies. Regulators will also have to ensure that they have the skills to efficiently regulate the new technologies, which may require a different set of skills or even mindset from those required in regulating traditional services.

Governments and the multilateral banks can also play a lead role here, in financing the training of regulatory staff to ensure that their skill sets move in line with changes in technology and market demands.

FOCUS ON TCO

The initial cost of building telecom infrastructure can still add up to a hefty sum, even with the newer technologies. "For infrastructure suppliers and operators, managing the total cost of ownership (TCO) is one of the key drivers for enabling operations in non-urban markets," says Ricky Corker, director, Mobile Systems (Asia Pacific), Networks, Nokia.

"Capex is not the primary problem," explains Margon. "I think operators are looking for higher levels of certainty on their TCO to motivate them to serve rural markets." Given that the challenges of serving these markets are so different from those faced in urban markets and that the experience most operators have in working in rural areas

These rural folk are destined to become tomorrow's savvy and lucrative consumers.

is limited, it is difficult for them to forecast their TCO.

An operator needs to look at all challenges including the provision of adequate customer service, ensuring proper collection of monies, and ensuring the easy repair of equipment such that an engineer is spared from making a day-long boat trip to repair a fault. These issues are managed very differently in rural markets vis-à-vis urban markets. "This is why the technology is critical…it's got to be robust and easy to maintain, and this is why adapted solutions are not ideal," says Margon.

These challenges also explain why regulators need to be more accommodating toward operators. Regulators face the challenge of designing appropriate frameworks that will enable operators to enjoy the rewards for the commensurate levels of risk and uncertainty they take in serving rural areas. This is a challenge for many reasons. The most important one is, in being seen to allow operators to enjoy high levels of reward, the regulator runs the risk of exposing itself to attacks by NGOs and political groups. The provision of communications services is still deemed by many people in developing countries as a social service.

The higher levels of uncertainty in operating in rural markets, if managed incorrectly, can push up the cost of operating in rural markets to astronomical levels.

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DOLLARS AND SENSE

The fact that operators are short on the availablity of guidelines on commercially workable business models for rural and low-income areas implies that many of them have to adopt a trial-and-error learning process. This increases their risk levels, which, as explained earlier, hikes the cost.

In theory, governments can help by offering subsidies. But does not this go against the free-market principles that have been sweeping across the telecom world over the past 10 years or so? "Subsidies are still a necessity for some rural areas," says Sinha. "They're too weak on their own." But this triggers two further issues. To what extent, and how much, can governments of developing countries spend? First, a government can make itself look wildly unpopular in the eyes of the electorate, by contributing to the profits of rich private-sector [and foreign] operators. Second, given this sensitivity, does this mean that governments should take on the responsibility of rolling out networks, at least in the severely disadvantaged or depressed areas?

Take the example of India. It has taken 57 years since India gained independence from the British for it to attain an impressive fixed-line penetration rate of 4.2 per cent as at end-2003. There is no reason to believe that governments will do a good job. India is somewhat an extreme example of a government's incompetence in managing development activity, by East Asian standards at least. Nevertheless, Britain's Margaret Thatcher triggered the world's first telecom privatization in the eighties because she knew that rolling out efficient telecom networks is not an area of competency of governments. It appears the only way forward will be by trial and error.