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**Socially Responsible Distribution:
Distribution Strategies for Reaching the
Bottom of the Pyramid**

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**SOCIALLY RESPONSIBLE DISTRIBUTION:
Distribution Strategies for Reaching the Bottom of the Pyramid**

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Summary

While management scholars and development economists have provided a compelling case for greater attention to the bottom of the pyramid, few contributions have examined specific strategies for reaching the bottom of the pyramid. The majority comprising the bottom of the pyramid resides in hundreds of thousands of villages located beyond most multinationals' distribution networks. Its access to essential goods is limited not just by high prices, but also by inadequate rural distribution, which also restricts the poor in distributing its produce. We use the term socially responsible distribution to describe initiatives that provide poor producers and consumers with market access for goods and services that they can benefit from buying or selling, by helping neutralize the disadvantages they suffer from inadequate physical links to markets, information asymmetries, and weak bargaining power.

This paper examines three socially responsible distribution case studies of multinational company, government and NGO initiatives. It identifies how socially responsible distribution can be achieved by strategies that take cost out, reinvent the distribution channel or take a long-term perspective that invests for the future. It summarizes procedures and precautions for setting up distribution into the rural bottom of the pyramid, and the payoffs from socially responsible distribution strategies.

SOCIALLY RESPONSIBLE DISTRIBUTION:

Distribution Strategies for Reaching the Bottom of the Pyramid

Les bons pauvres ne savent pas que leur office est d'exercer notre générosité.

Jean-Paul Sartre, *Les Mots* (1964)

Recent thinking and practice in management has challenged the widely-held view that the role of the poor, as Sartre put it, is to exercise our generosity. There are alternatives to charity where the poor help themselves and business plays a part by pursuing its economic interests and tapping the economic potential of the bottom of the pyramid (BOP)—the 2.7 billion people who live on less than \$2 a day. Prahalad and Hammond (2002, p. 48), in their seminal article on “Serving the World’s Poor, Profitably,” highlighted the potential of market forces in large-scale poverty alleviation. This was a particularly welcome message in light of the challenges of meeting the Millennium Development Goals and concern about the role of poverty in fostering terrorism. A literature has begun developing that builds on the core argument of Prahalad and his colleagues (see: Prahalad 2005; Prahalad and Hammond 2002; and Prahalad and Hart 2002; for a critique, see Karnani 2007).

Unfortunately, inadequate attention has been given to the specific strategies and business models for effectively engaging the bottom of the pyramid (see Chesbrough et al. 2006 for a notable exception). In this paper, we focus on distribution strategies for reaching the rural poor—the majority of the BOP that poses distinct distribution challenges relative to the urban poor, who in many respects are easier to reach. As Prahalad and Hammond (2002, p. 50) point out, “[T]he critical barrier to doing business in rural regions is distribution access.” Similarly, the International Fund for Agricultural Development (IFAD) (2001: 161) has observed that, “Today, more than ever before, enhancing the ability of the rural poor to reach... markets, and

actively engage in them, is one of the most pressing development challenges.” We call overcoming this barrier socially responsible distribution.

In the marketing literature, distribution is conceived as the provision of availability. Channels of distribution are the routes leading to customers and the associated marketing management considerations range from gathering and providing customer and product information to physical distribution (see, for example, Kotler 2000, p. 491). This literature assumes a developed world marketplace of intense competition and a highly developed communications and distribution infrastructure. The developing world, particularly its rural markets, is almost entirely ignored. However, the core question remains the same—how do customers get access to products and services?

We start by clarifying and quantifying the geographic spread of the BOP. We then turn to the challenge of distribution to the BOP and the fundamental reasons why large numbers of the rural poor cannot access basic and essential products and services or effectively distribute their own produce. Next, we introduce the idea of socially responsible distribution strategies—innovative strategies that offer the opportunity to create access for the rural poor and enhance their welfare while making efficient use of scarce resources. Three case studies from rural India illustrate socially responsible distribution. We do not restrict our attention to multinational company initiatives. Our interest is in the use of innovative strategies, be it by a private firm, a government department or an NGO. We identify successful strategies and show how socially responsible distribution is realized by either taking cost out, reinventing the distribution channel or by taking a long-term perspective and investing for the future. We summarize procedures and precautions for setting up distribution to the rural BOP and conclude by highlighting major payoffs for the people at the BOP, companies, governments and NGOs.

GEOGRAPHIC SPREAD OF THE BOP

In 1932, Franklin Roosevelt referred to the American poor as the “forgotten man at the bottom of the economic pyramid” (Shlaes, 2007). Today, the term bottom-of-the-pyramid, refers to the global poor, most of whom live in developing countries. Sachs (2005) builds on definitions used by the World Bank to distinguish among poverty levels. Households in extreme poverty are unable to meet basic needs. They are “chronically hungry, unable to access health care, lack ... safe drinking water and sanitation, cannot afford education for some or all of the children, and perhaps lack rudimentary shelter... and basic articles of clothing” (Sachs, 2005: 20). Those in moderate poverty barely meet basic needs.

The World Bank determined that about 1.1 billion people with daily consumption income of less than \$1.08ⁱ (rounded off to \$1) lived in extreme poverty in 2001. They were concentrated in South Asia (39.5%), Sub-Saharan Africa (28.9%) and East Asia (24.8%) (Chen and Ravallion, 2004). The number that lives on less than \$2 a day, classified as moderately poor, was about 2.7 billion, or nearly half the global population (see table 1).ⁱⁱ

Insert table 1 here

THE DISTRIBUTION CHALLENGE

The market access disadvantages suffered by the rural poor are rooted in many factors, which affect the flow of goods and services both in and out of rural areas, and adversely affect the rural population’s income and quality of life (see Figure 1).

Insert figure 1 here

Poor road, communications and electricity infrastructure

A large proportion of the rural population in developing countries lives in remote villages that are inadequately connected by roads with the outside world and poorly served by appropriate and affordable transport, which poses a physical barrier to markets. The poor in Ghana regard bad

roads as one of the “major obstacles to more successful farming and food security in their communities” (Kunfaa et. al, 2002: 24). Limited local demand combined with high cost of transporting goods to and from remote villages depresses farmers’ incomes, and results in higher prices of agricultural inputs and consumer goods they acquire from urban areas. For example, in Chile, consumer goods prices in the remote North and South of the country, are 20-25% higher than the more highly-populated central region of Santiago and Valparaiso (Ferreira and Litchfield, 1999).

Poor roads can present a significant barrier to school attendance. Okunmadewa, et. al (2002: 101) report that in parts of Nigeria, “[s]choolchildren have to trek many kilometres daily to and from the nearest school, and most cannot attend in the rainy season or other times the road becomes impassable.” Physical location can pose a significant barrier for poor urban neighborhoods as well. Poor children living in urban slums often fail to attend school regularly owing to distance from home to school and an inability to afford or safely use public transport.

Despite significant improvement in connectivity resulting from growth in cell phones, the information highway still bypasses many in developing countries. In 2006, there were 32 cell phones and 14 fixed-line telephones per 100 people in developing countries versus 91 cell phones and 51 fixed-line telephones in developed countries. (International Telecommunications Union, 2007). Internet penetration in developing countries was 10% compared with 59% in the developed world. The rural poor live in areas where communications infrastructure is worse than in urban areas, and even when it exists most are unable to access information because they cannot afford cell phones and computers.

Information problems

Inadequate infrastructure and lack of information providers result in unavailability of information necessary for the rural population to make informed choices about buying and

selling goods and accessing services. Information asymmetries in which small farmers are unaware of commodities' market prices and trends and see few options regarding when and where to sell their produce are a major challenge, especially while those they trade with are better informed. IFAD (2001: 168) reports “[t]raders, especially if irregular or facing little competition, may be little concerned about reputation, and in such cases asymmetric information often forces the poor to accept low prices for products and to pay high prices for consumer goods.” Rural farmers are also disadvantaged when it comes to purchasing agricultural inputs as they lack information on competing product prices, features and quality.

Lack of knowledge and skills

The availability of information is necessary but not sufficient for welfare enhancement. In order to extract the benefits of information, farmers must know how best to use it. For example, they must understand how to decide what practices to adopt for tackling threats to agricultural crops.

Illiteracy

Those who are illiterate or poorly educated naturally suffer greater disadvantage in developing the knowledge and skills to derive value from information. Sub-Saharan Africa and South Asia are the regions with the lowest literacy, averaging 64% and 61% respectively. The average years of schooling in India is only 5 years (7.8 years in urban areas and 3.9 in rural areas) compared to 12-13 years in developed countries where there is little difference in urban and rural areas (World Bank, 2005). (The average is 5.8 years in Nigeria and 2 years in South Africa.)

The World Bank (2004: 85) reports “there is growing recognition that consumers in even the poorest countries can suffer from the sale of counterfeit goods, as examples ranging from falsely branded pesticides in Kenya to the sale of poisoned meat in China attest.” The illiterate are especially prone to being confused by counterfeits as they rely entirely on package design to recognize and evaluate brands.

SOCIALLY RESPONSIBLE DISTRIBUTION STRATEGIES

We refer to socially responsible distribution to describe initiatives that provide poor producers and consumers with market access for goods and services that they can benefit from buying or selling, by helping neutralize the disadvantages they suffer from inadequate physical links to markets, information asymmetries, and weak bargaining power. Governments, civil society and the private sector can all play a role in providing socially responsible distribution.

The market access disadvantages of the rural poor could be addressed with massive spending on roads. With a factor such as illiteracy, it might also be possible to find a solution in substantially increased spending on education. However, the governments concerned are poor and the political influence of rural regions is typically low. Spending that favors rural regions would be difficult to justify relative to competing priorities especially with limited evidence of any multiplier effect making it a major contributor to economic growth. Thus, while some might argue for massive government investment in the rural poor, we consider this to be relatively unlikely. Fortunately, there are three creative market-based alternatives that we identified in our research:

- ***Taking cost out.*** This approach increases access by lowering costs of distribution.
- ***Reinventing the distribution channel.*** This approach increases access through innovation, by identifying different routes for reaching rural consumers and for rural producers to get their products to market. New technologies provide one type of solution. Other solutions come in business process redesign.
- ***Taking the long-term view and investing for the future.*** This approach entails increased private sector investment anticipating a long-term payback and/or as a social commitment.

To understand how socially responsible distribution meets the challenge of distributing goods and services we looked at the strategies of three organizations drawn from different sectors: government, the private sector and civil society. We decided to focus our research on rural India because of its high levels of poverty (though we believe our study is generalizable to the rural BOP in other countries).

India has the largest population living in poverty (826 million in 2001) and the largest proportion (79.9%) in poverty, counting extreme and moderate poverty. In 2006, India's one billion people had per capita GNI (gross national income) of \$820 (\$3800 at purchasing power parity, or PPP) compared with \$36,487 for the billion who lived in high-income countries (\$34,701 at PPP) (World Bank, 2007).

Rural focus. Three-quarters of India's poor lives in rural areas and a staggering 87.7% of India's rural population (652 m. people) lives in poverty (less than \$2/day: see table 1). As Karnani (2007) points out, it is critically important to help the poor enhance their incomes. In describing the plight of the rural poor in India, the World Bank (2005: 21) notes that "illiteracy and malnourishment may prevent [the poor agricultural laborer] from breaking out of the cycle of poverty." The lower caste laborer becomes heavily indebted to powerful upper caste landlords and "[e]ven if laws were in place that would allow him to challenge his landlord's dictates, being illiterate he would find it difficult to navigate the political and judicial institutions that might help him assert his rights." Poor farmers suffer significantly from lack of free and well-informed access to markets, which limits the income they can derive from the commodities they grow. Socially responsible distribution can help them enhance their incomes by overcoming physical, informational and institutional barriers to markets.

Notwithstanding the poverty, lower income groups in India provide significant markets for certain products. Poorer consumers tend to purchase essentials: consumables such as tea,

cooking oil, and washing powder and durables such as bicycles and transistor radios (National Council for Applied Economic Research, 2002). For some products, by the mid-90s, rural demand exceeded urban demand (see table 2). In 2005, rural markets were responsible for 56% of the demand for fast moving consumer goods (FMCG), which comprise food, beverage, household products, personal care products, confectionary and tobacco, and accounted for 80% of consumer spending in India (KPMG International, 2005). The improved market access that socially responsible distribution provides the rural poor can give them better product choices and help them derive greater value from their purchases.

Insert table 2 here

In order to study socially responsible distribution strategies across multiple sectors in India, we chose a multinational company, an NGO and a government department that have implemented successful programs to bridge the gap in serving the bottom of the pyramid. We spoke with managers, academics and government officials to identify the best organizations to focus on. ITC Limited was mentioned by several as having more significant programs for rural distribution than most companies. To broaden industry focus, we decided to select an NGO involved with education at the bottom of the pyramid. We chose Gyan Shala since it is run by a professional manager and was financed by reputable agencies such as the Ratan Tata Foundation. Our choice of government department was guided by conversations with senior bureaucrats, who recommended the Departments of Posts.

Data were gathered through 20 in-depth interviews with rural entrepreneurs, slum dwellers, managers, bureaucrats, and NGO officials. Interviews were conducted in three villages in the states of Andhra Pradesh and Madhya Pradesh, and in the cities of New Delhi, Mumbai, Ahmedabad, Hyderabad and Mhow. In addition to our case study organizations, we gathered information from others involved in promoting welfare at the BOP - the National Bank for

Agriculture and Rural Development, the Public Distribution Department, Rural Electrification Department and the Rural Development Department – with the objective of understanding the institutional nature of the rural BOP environment.

ITC Limitedⁱⁱⁱ

Small farmers suffer tremendous disadvantages when selling their produce as well as when purchasing goods. They lack accurate information on market prices, which is necessary to enable them to sell at the best prices. They are often bullied and cheated by buyers when grading and weighing produce at the point of sale (Upton and Fuller, 2003). Farmers are also handicapped when purchasing agricultural inputs and consumer goods owing to poor access and the low variety and quality of available products.

The productivity of Indian farmers lags that of many other countries. For example, India's oilseed yield per acre is only 42% of China's and 33% of that in the US. This results partly from farmers' lack of knowledge of the best agricultural techniques such as use of fertilizers and high-productivity seeds (Government of India, 2007).

ITC Limited, a diversified multinational that trades in agricultural commodities, has addressed some of the critical challenges faced by farmers. ITC uses information technology to empower small farmers by providing them with real-time market information, and has set up a direct procurement system that gives farmers an alternative channel for selling their produce. In addition, ITC began deriving economies of scope from its logistics infrastructure by moving products in the reverse direction, out to the villages, selling agricultural inputs to farmers. In a major strategic move begun in 2004, ITC has committed to a significant enhancement of its rural distribution by investing in a chain of mini-malls to sell a range of goods and services. It has succeeded by *taking cost out* and *reinventing the distribution channel* and, arguably, *invested by taking a long-term view*.

ITC's beginnings. In 2007, ITC was 44% foreign-owned (ITC, 2007). About 31% of its stock was owned by British American Tobacco and a little under 13% by foreign institutional investors. The company had started out in 1910 as the Imperial Tobacco Company of India. In the 1970s, when the Indian Government passed laws requiring multinationals to dilute foreign equity, some major companies like Coke and IBM exited India. However, others, like ITC and Ciba Geigy, remained in India and treated this as an opportunity to diversify and expand (Encarnation and Vachani, 1985). By diluting foreign equity to below 40% these companies became classified as Indian companies rather than multinationals and were as free to enter new businesses as fully locally-owned companies. Over the years, ITC diversified into businesses unrelated to tobacco. Its annual net sales (after deducting excise taxes collected) are \$3.1 billion with cigarettes around half of net turnover (ITC 2007).

Agricultural trading. ITC capitalized on its agricultural sourcing capability by setting up its International Business Division in 1990 to trade agricultural commodities, both domestically and abroad. Export of agricultural commodities has turned into one of ITC's major growth activities. In 2006-07 the International Business Division exported commodities worth about \$250 million and traded a similar amount within India. The commodities exported include feed ingredients (soya meal), food grains (rice, wheat, pulses), edible nuts (sesame seeds, groundnut), marine products (shrimp, prawns), processed fruit, coffee and spices.

Farmers' plight. Typically, small Indian farmers bring their produce, such as soya bean, to the "mandi," a state-sanctioned wholesale marketplace where traders bid for it. Each farmer is offered a price for his soya bean depending on moisture content, foreign matter and broken seeds. Farmers' bargaining position is weak. They lack accurate information on prevailing prices and trends at neighboring markets (having to rely on word of mouth), and are unable to verify if their produce is weighed and graded accurately. They are discouraged from turning down an

offer because they have already incurred the sunk cost of bringing their produce to the market and would need to spend more money to take it back and return another day. Essentially, farmers end up with lower income than would be possible if they had better information that allowed them better options on when and where to sell their produce, and there were ways to ensure their produce was accurately weighed and graded.

ITC's commodity procurement system. ITC, which previously bought produce from intermediaries (traders who procure from farmers), set up an IT-enabled procurement system that empowers farmers in two ways: by providing them with real-time information on commodity prices so that they can obtain better prices for their produce, and giving them an alternative selling channel, direct to ITC. The centerpiece of the system is the “e-Choupal,” which is a gathering place built around a computer located in the village to provide farmers with information on commodity prices, weather forecasts, farming practices and other important topics in the local language (Choupal means village gathering place in Hindi, so eChoupal stands for a computer-enabled gathering place). ITC pioneered the concept in 2000 in the Hindi-speaking state of Madhya Pradesh in Central India, where it has large soya procurement operations.

The e-Choupal is manned by a farmer who lives in the village and is recruited by ITC to serve as its representative (called “sanchalak”). ITC tries to select farmers who are open-minded and enthusiastic about trying out new ideas. These village representatives are trained by ITC to use the computer and access information via ITC's web portal. The computer is usually set up in the village representative's home. Given that many villages lack internet access, ITC sets up a satellite dish on the roof of the farmer's home to provide connectivity. Initially, it tried using telephone connectivity, but for most Choupals this was abandoned in favor of satellite connectivity because of narrow bandwidth and erratic service. While the satellite connectivity

also has bandwidth limitations, these are addressed by caching static content locally. Since electricity supply is unreliable, ITC installs a solar panel and battery to generate and store enough electricity for 2 hours of uninterrupted computer operation when power supply is unavailable. Technology is used to redefine power in the distribution channel (though not without adverse repercussions for intermediaries).

To facilitate the development of its network of village representatives and to retain the goodwill of the commission agents it previously used when procuring soya in the mandi, ITC decided to co-opt some of the commission agents in its redesigned distribution chain. It used the commission agents to identify suitable farmers to serve as its village representatives. These agents had interacted with the farmers over several years and helped ITC select representatives that were successful, open-minded and respected in the community. Instead of earning commissions on ITC's procurement via the mandi, the agents now earn some commissions on ITC's direct trade at the village level.

With the assistance of the village representative, farmers access ITC's web portal which provides information on commodity prices the previous day at each mandi in the state and at its own procurement center. It also presents information on prices in international markets such as the Chicago commodities exchange, which are precursors of local prices. Each evening, the portal announces the minimum price ITC will offer the following day at its local procurement center. Farmers are thus empowered through direct access to market information that enables them to decide when and where to sell their produce for the best price.

Should the farmers choose to sell to ITC, they have their produce graded by the village representative who gives them a tentative price based on his assessment of the produce and sends them to the nearest ITC procurement center (typically located between 3-20 miles of each e-Choupal village). The village representative earns between 0.5% and 2% commission on the

commodities thus procured (the commission varies with the commodity). Direct procurement results in a cost reduction of about 5% in the system, which is shared by the company and the farmer. The savings accrue from lower transportation as the produce moves directly from farm to ITC rather than via the mandi, and lower labor and wastage costs as handling at the mandi is eliminated). Farmers have also benefited through enhanced productivity resulting from improvements in agricultural practices disseminated via the eChoupal web portal and training provided by ITC.

By May 2007, ITC had nearly 6500 e-Choupal kiosks in nine states (Andhra Pradesh, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and Uttaranchal) covering over 38,500 villages with more than 3.5 million farmers. They grow a variety of produce – soya bean, coffee, wheat, rice, pulses and shrimp. The average investment by ITC in each e-Choupal is estimated to be \$3000 to \$4000. Thus ITC's total investment in its 6500 e-Choupals is of the order of \$20 million to \$26 million.

ITC's procurement centers. ITC's procurement centers serve multiple purposes. The primary function is to provide farmers the option of selling their produce directly to ITC instead of bringing it to the mandi. In addition to obtaining better prices for their produce, farmers are able to conduct business in a more congenial environment. The centers are large, clean and well-maintained. Farmers wait in the shade rather than in the open sun and have access to cool drinking water and bathroom facilities, which are lacking in the mandi. They use electronic weighing systems which reduce the likelihood of inaccurate readings. Farmers are given cash for their produce rather than deferred payment as sometimes happens at the mandi. If prices at the nearby mandi turn out to be higher that day, ITC raises its procurement price to match them. However, if prices at the mandi are lower, it abides by the price commitment made the previous evening on its web portal, on which the farmers based their decision to bring produce to market.

Before it launched the e-Choupal initiative ITC had just five locations in Madhya Pradesh state where farmers could bring their produce. As it developed the network it increased the number of procurement centers to 48 by 2006. Many of these are on leased premises.

Political issues. Historically, Indian Laws prohibited companies from purchasing grain directly from farmers and required that trade be conducted exclusively in the government-sanctioned mandi. However, ITC lobbied the Government to amend the law and allow direct purchase as this would benefit farmers. One of the challenges to the implementation of the e-Choupal network was resistance from middlemen who purchased grain in the mandi and supplied it to processors like ITC. In October 2004, grain merchants in Madhya Pradesh shut down their businesses for a day to protest direct farm purchases. However, they lacked support from farmers and the Government allowed the alternative channels to develop (Bhagat 2004).

Convincing the government. ITC had to convince the bureaucrats it could be trusted to provide farmers accurate information on market prices delivered via the eChoupals. It gave the government real-time access to the information made available to farmers so that prices could be monitored by the government at any time. It also agreed to pay local governments the same taxes on its direct commodity procurement as would be levied on mandi transactions.

Problems in setting up the e-Choupal network. ITC faced a number of problems in setting up the e-Choupal network. The main hurdles were infrastructural –unstable electricity supply, inadequate telecommunications connectivity and bandwidth. It also had to train its representatives to use and maintain the equipment with support from ITC supervisors and technicians. The challenges were magnified in areas that were relatively remote and inaccessible. ITC has found that an effective way to train new recruits is to involve its more experienced village representatives in imparting training to newer recruits.

Initially, farmers were suspicious of ITC, wondering why the company would be willing to invest in the equipment at the farmer's home. ITC staff explained how the whole value chain would work, what the village representative's role was in the system, and how the company, the village representative and the farmer selling produce to ITC stood to gain. Once it had signed on the initial set of representatives and they saw how the system worked, they were convinced of its value and it became easier to sell it to others.

Selling to farmers. ITC has enhanced the value of its procurement system by turning it into a two-way distribution channel. In addition to assisting procurement of agricultural produce from farmers, its village representatives sell a variety of products and services to villagers, earning a commission on sales. These range all the way from salt to motorcycles. Some of these products are ITC brands; for example, Ashirwaad flour and Candyman candy. While some are bought from other companies; for example, Philips light bulbs, Eveready batteries and Colgate toothpaste.

ITC has broadened the scope of products distributed to rural areas by building mini-malls (called Choupal Saagars), at some of its commodity procurement centers, to sell a wide variety of products and services, including packaged consumer goods, white goods, agricultural inputs, diesel, and health, insurance and banking services. It has entered into partnerships for these; for example, Apollo Hospital, which has a chain of hospitals around India, is a partner in providing health services at these mini-malls. An Apollo-affiliated general physician is available for consultation and to conduct basic diagnostic tests. The general physician can access specialists via the internet and telephone as necessary.

The mini-malls are located on the highway, 10-15 miles outside a small town with a population of about 100,000, and aim to draw customers from 100-200 villages close by as well as from the town. By May 2007, ITC had 18 Choupal Saagars in 3 states. The investment in each

of these mini-malls, built on about 7 acres of land, is around \$1-1.5 million. The company maintains a centralized organization to provide systems, management, training and logistical support for its rural activities built around the integrated eChoupal and Saagar network.

Marketing adaptation. ITC had to make significant changes to other aspects of marketing to meet the needs of the rural market. Prices of some products, such as apparel, sold at the mini-mall are sometimes as low as 30-40% of comparable products in large cities. In such cases, manufacturers gave them different brand names to facilitate price differentiation. The company had to make a special effort to convince villagers to switch from low-priced products made by the cottage industry to the branded products carried by ITC. For example, its iodized salt was priced 150% higher than cottage-industry products, which did not always contain adequate iodine levels despite promises on the package. ITC developed a special marketing campaign that it ran only in its eChoupal markets to convey the benefits of iodine and complemented that with demonstrations by its village representatives who used WHO iodine-test kits to establish the superior iodine content of ITC's product compared to that of competitors.

Expansion plans. ITC has plans to extend the e-Choupal network to 15 of India's 29 states and reach 10 million farmers in 100,000 villages by 2012. This will require the addition of 10,000 eChoupals and an estimated investment of about \$30 million. It also plans to increase the number of mini-malls to 100 by 2010 for an additional investment of about \$100 million.

Gyan Shala

Illiteracy is a significant barrier to enhancing welfare at the bottom of the pyramid. The reach of public education programs is severely limited by paucity of resources, and thousands of children forgo the opportunity to attend school because the closest public school is too far. Average distance to the nearest primary school is much higher for the poor than the rich in many developing countries. (See table 3.)

Insert table 3 here

Gyan Shala (“school for knowledge/wisdom”) is an example of a non-profit entrepreneurial start-up that has developed a scalable model to provide low-cost consistent-quality education to poor rural and urban children who are inadequately served by existing public education programs. Its model provides basic education using especially-developed high-quality materials delivered by low-wage but well-trained teachers at locations close to the homes of under-privileged children. In short, Gyan Shala addresses access to education by redefining its goals (to focus on very-low cost basic education) and the delivery model (being conveniently located in the community), thereby both *reinventing the distribution channel* and *lowering costs*.

Gyan Shala is an Ahmedabad-based NGO that was set up in 1999 to create a radical low-cost design for delivering effective education for poor children in grades 1 to 3. In order to provide highly accessible education at low cost in a scalable format, Gyan Shala relies on several key design elements:

- (i) Classes are located in the village, or in the urban slum, so that young children can easily walk to them. The children in these classes would otherwise not be attending school because their parents are unable to bring them to school and there is no affordable transportation.
- (ii) Costs are contained by hiring teachers who live in the community, or close by, have a tenth-grade high school education, and are willing to work at low wages because they are either unemployed or are looking for supplementary income from part-time employment. Gyan Shala’s teachers earn between \$20 to \$40 per month depending on whether they teach one or two classes. (A single class meets for 3 hours a day, 6 days a week, for 220 days in a year.) School teachers in government-run schools, who have a much higher level of education, earn \$200 or more per month.

- (iii) Teachers are given solid training and are continually and closely monitored and assisted to ensure that they deliver quality instruction. Teachers lose wages for unauthorized absence. This checks absenteeism, which is a serious problem in some government schools. Gyan Shala also maintains a 20% surplus teacher population to ensure classes are rarely cancelled owing to teacher absence.
- (iv) High-quality materials are developed and used, and detailed teaching plans guide delivery of each class session in the year to ensure consistent high-quality education.

Gyan Shala's objective is to develop a total system solution for delivering good quality basic primary education on a large scale, as per the curriculum norms specified by the government. Gyan Shala is not only interested in providing a solid education to underprivileged children, but wants to convince the Government to adopt its model widely in the government school system. Since Gyan Shala's annual cost per student is about a quarter of that in government schools, if its model were adopted the Government might use its scarce resources to dramatically enhance coverage of primary education, while also meeting its own quality norms.

In order to ensure the robustness of its model, Gyan Shala is testing it in the most adverse conditions – in rural areas and urban slums, where children come from very low income households in which one or both parents are illiterate. Nearly 70%-80% of the mothers of Gyan Shala's students are illiterate. If it can demonstrate the effectiveness of its model in these conditions, the chances of success in other settings are higher.

Curriculum. In designing the educational experience for its students, Gyan Shala's design team studied primary school education programs in the UK and in some leading Indian private schools. Gyan Shala attempts to provide students with a comparable educational experience by exposing them to similar learning exercises and taking them through similar mental processes and activities. However, there was an important difference in program

implementation. If the Gyan Shala model is to be replicable on a large scale at acceptable cost, it cannot depend on teachers with the same level of qualifications as in the west or leading Indian schools; they are too expensive and difficult to find. Gyan Shala has therefore re-engineered the role of the teacher, by transferring selected tasks of traditional teachers, such as design of lesson plans, to others in the education delivery chain. This has limited the role of teachers to tasks they can comfortably perform with their limited educational background.

Gyan Shala's design team puts together the curriculum and the schedule for daily classroom activities to translate its goals into the educational program and class experience. The team creates daily lesson plans for teachers, with detailed worksheets and small group-activities for students. This is done for each of the three subjects taught daily – language, mathematics and environmental science, which involves rudimentary project work. The team tells the teachers exactly what to do in each 15-minute segment of the 3-hour class. Though 18 hours of classes per week is significantly less than that in other Indian schools and in western countries, Gyan Shala achieves its academic objectives by ensuring that students spend a significant proportion of their time on tasks that focus on teaching them reading, writing and basic arithmetic.

The design team is also responsible for recruiting and training teachers and overall program implementation. Gyan Shala believes that the integration of the design and management functions in this core team is important for ensuring accountability and maintaining high quality. Gyan Shala pays its design team members about \$130 per month. Of its six members, three have graduate degrees in the social sciences and the remaining in science or technology. The team worked for nine months putting together the program and preparing materials before the first class was launched. It continually revises and upgrades the program based on class feedback.

Typical class. The typical class consists of about 30 children, all at the same learning level – grade 1, 2 or 3. The grade 1 class usually has six-year-old children. However, initially,

when a class is set up at a new location, the grade 1 class might have older children who have not attended school previously. During each three-hour class, time is provided for three types of interaction between teacher and children. The teacher interacts with the whole class for around 60 minutes, with groups of 7 or 8 for around 45 minutes, and spends the rest of her time in individual supervision of each student's work for a couple of minutes. The activities include story telling, instruction on reading, writing and mathematics, cultural activities such as singing, individual time to complete work-sheets for language and mathematics, and project work.

Physical setting. A unique aspect of Gyan Shala classes is that they are physically located within the village or slum where children live so that they can easily, and safely, walk from home to class. This gives Gyan Shala a geographically decentralized structure – classes are not physically clustered as in a normal school campus. Classes are held in rooms of around 150 square feet, typically rented in a home in the village or slum for about \$25 per month. The room is available to Gyan Shala only for the time it holds the class and is used by the family that lives in the home for the rest of the time. Classrooms are chosen so that they have adequate lighting and ventilation. Gyan Shala equips them with relatively attractive, colorful, furniture, and an electric fan for every 15 children, making them physically superior to the environment in many of the children's homes.

Paving the way. The decision to establish a class in a community results from surveys conducted by field staff who visit various communities to assess their needs. When a community is identified as a potential class location, staff take time to explain their proposal to community leaders and enlist their support. This is helpful in generating interest among parents and also in ensuring that the teacher is accepted and supported by the community.

Teacher selection & supervision. The typical teacher lives in the neighborhood where the class is located. During investigation and groundwork prior to setting up a class, Gyan Shala

staff inquire about young people living in the area who are unemployed and might wish to work with the NGO. They are hired only if they pass a test of language and math skills, and feel comfortable working with Gyan Shala's modest compensation. Most of the teachers and supervisors are women and Gyan Shala takes great care to ensure their safety and wellbeing by investing time and effort in building relationships in the community while setting up a class.

Teachers are given two weeks of initial training that is carefully designed to convey a high level of organization and professionalism. The quality of the food and facilities during training is kept high to create a positive ambiance and generate a sense of well-being. Many trainees have never experienced high-quality service, attended a good school or spent time in a middle-class neighborhood. The training they receive is their first experience with a high-quality program. In addition, they return for a two-week training program in the summer, a day of training the last Saturday of each month, and three days during the holiday period around Diwali (a Hindu festival in mid-late fall) or Christmas. Gyan Shala's training expenses are unusually high - about 30% of the wages of teachers. During training, teachers get to understand students' learning schedule, how classroom sessions are to be organized, and the nature and sequence of tasks in different subjects. They are trained to explain the tasks to students and provide guidance and support. As background, they are exposed to theories of children's learning processes.

Organization. An important consideration in terms of scalability is to design an organization and systems to ensure quality at large scale. This calls for systems to assess quality, provide supervision and ensure accountability. One day each week a teacher-supervisor visits each class, for the entire 3-hour class session. Supervisors review teachers and students' work, demonstrate effective class practices, and help teachers in dealing with children who are falling behind in learning. The supervisors also maintain contact with the community and families to ensure that children attend school regularly. They provide feedback to the design team about

what part of the program is progressing well and where teachers or students need help. This input, along with class visits by the design team, contributes to the adaptation of learning material and schedule to local context and development of supplementary class work and material as needed. Between the design team and supervisors, there is another organizational level, that of senior supervisors who assist the design team and handle school level issues that supervisors cannot tackle on their own. The different tiers in the organization provide a career growth path for junior staff.

Financing. Gyan Shala started with \$18,500 from the Ratan Tata Trust (affiliated with the Tata group, one of India's largest conglomerates). It began operations with five program designers and then hired eleven teachers to launch classes in nine Ahmedabad slums in June 2000. Following the massive 2001 Gujarat earthquake, Gyan Shala began setting up classes in hard-hit rural areas. In 2001, it ran forty-five classes, twenty urban classes with funds from the Tata Trust and twenty-five rural classes funded by VIDE, a USA based non-profit organization. Gyan Shala's budget in 2005-06 was \$250,000.

One of Gyan Shala's major new donors is ICICI Bank, India's second-largest bank with assets of \$79 billion. ICICI's mandate includes provision of a portion of its funds for social causes. One of its conditions is that the recipient works with the government in its programs. So Gyan Shala stepped up efforts to engage the government. It was uncommon for the Indian Government to provide funds to non-government schools, but in recognition of the value of Gyan Shala's model, the Gujarat State Government provided it with \$45,000 in 2004.

Impact. The net effect of Gyan Shala's programs is that at the end of a 3-year education young children can read, write and perform basic arithmetic functions, and have developed the habit of reading the daily newspaper. Gyan Shala tests its students' performance twice a year on language, mathematics and environment studies. Tests indicate that Gyan Shala's third grade

students achieve a high level of competence on multiple dimensions of language and mathematics. This is achieved at an annual cost of \$40 per child, which is a third or less of the typical cost in government schools. Moreover, given the teacher profile there is a large potential pool of teachers, which helps the model's scalability.

Problems. There are two types of problems Gyan Shala has had to address: paucity of financing, which was a bigger problem at early stages, and finding enough supervisors, which became a challenge at later stages as it scaled up. Gyan Shala had trouble raising initial funding owing to the unusual nature of its model. Government agencies and some NGOs believed it was impossible to provide quality education using teachers with the modest qualifications that Gyan Shala planned. The traditional system of primary education gave the teacher a more prominent role in curriculum design and implementation, consistent with western thinking. Teachers typically had greater autonomy and received less supervision than envisaged by Gyan Shala. The wages Gyan Shala planned to pay seemed too low to get the kind of teacher that was normally seen as necessary to provide quality education. Gyan Shala's experience illustrates that innovative solutions are often unconventional and, therefore, may be difficult to get funded.

One of the strengths of Gyan Shala's model is its scalability. As the number of students increases, the design team does not need expansion. While more teachers are needed, since the model is designed to employ individuals with modest qualifications, scalability is not hampered. However, this is less true of supervisors, who are more skilled and more difficult to find.

Department of Posts

The rural population's ability to benefit from India's growth, industrialization and development is seriously compromised by poor communications links. The Indian Postal System provides the widest communications reach into rural India. It has 155,516 post offices (POs) of which 89%, or 139,120, serve rural areas, giving it the widest physical reach of any Indian organization. At

independence, in 1947, India had 23,344 post offices, of which 82% were rural. The postal system has relied on collaboration with private entrepreneurs to build this large network. In order to enhance its economic feasibility and derive greater benefits for consumers it offers a wider range of services than is typical of postal systems. Access has been increased through *reinventing the distribution channel*.

As the postal network penetrates deeper into rural areas, transportation cost increases and population scarcity reduces revenue potential, making it necessary to subsidize rural post offices. The Department of Posts subsidizes up to two-thirds of the operating cost of post offices in “normal” rural areas. In “hilly, tribal, desert and remote areas” the subsidy can be as high as 85% (Department of Posts, 2007). The Department of Posts has population, distance and income norms for setting up new post offices. The urban population is expected to have a post office within 1.5 to 2 kms, and normal rural areas with population exceeding 3000, within 3 kms. In hilly, tribal and desert rural areas, clusters of villages with a population exceeding 1000 are eligible for a post office within 3 kms. The income norm restricts the permissible loss per post office to about \$50 per year in normal rural areas and \$100 per year in the remote, rural areas. By contrast, new urban post offices are expected to start out breaking even and earn 5% on revenues after a year.

Private entrepreneurs. Given the difficulty in ensuring break-even operations in rural areas the Department of Posts has extended the reach of its network by relying on private entrepreneurs who serve as its representatives and offer a range of postal services from their own, private, premises; for example, from a small shop they might run in the village. They are paid an allowance for managing these “Extra Departmental Post Offices.” Nearly 130,000 (83%) of India’s post offices are managed by such entrepreneurs. The Department tries to recruit these representatives from the village where the post office (PO) is located and prefers individuals who

enjoy a social standing locally so that they will be trusted. The investment in these POs is quite modest (usually less than \$200 per PO) since the only assets required are a table, chair, office supplies and either a box or a cupboard for storage. These post offices are open three-five hours per day.

Financial and Other Services. The Department has a strategy of enhancing the economic viability of its investment in the postal network by offering a wide range of services. In addition to normal services such as delivering mail and money orders, it offers basic financial services such as savings accounts and life insurance, some of which are also available in other countries, like Japan. The Post Office Savings Bank is the largest and oldest Indian banking institution. In 2006, it had 162 million accounts with \$80 billion on deposit (Department of Posts, 2007). The 154,000 POs that handle basic banking transactions are twice the number of all other bank branches put together, giving the postal system by far the broadest reach of any financial institution in India. By contrast, the largest commercial bank, the State Bank of India, has only 9500 branches.

Some of the financial products the POs carry are provided by the private sector; for example, mutual funds and bonds are offered by ICICI-Prudential and general (non-life) insurance products by the Oriental Insurance Company (OIC). A popular insurance product in rural areas is OIC's Accidental Death Insurance, which was launched in 2006. It provides coverage of \$2500 for an annual premium of 38 cents and is especially valuable for villagers since most of them have no insurance coverage. In addition, the Department offers retail services for the non-profit sector, such as application forms for universities, and for other government agencies; for example, bill payment for utilities, and distribution of passport application forms. The postal network is also used for gathering valuable information - for

example, data for the Election Commission - and accepts applications from the public for Government organizations under the Right to Information Act, 2005.

Technology is used to enhance service. With the advent of the internet the Department of Posts has introduced services to bridge the digital divide. The postal system enables customers to send e-mail messages to recipients who lack internet access. The messages arrive at a post office close to the recipient, are printed at the post office, and delivered to the recipient. Similarly, messages may be sent in reverse direction with the assistance of the post office for 25 cents a page.

A service that is proving to be extremely valuable in rural areas is mobile telephone calls, introduced in 2002. Referred to as the Gramin Sanchar Sewa (Rural Communications Service), this program brings telephone service to areas not covered by conventional land-line or cellular service. It uses Wireless Local Loop (WLL) technology, which relies on radio signals to connect with the wider Public Switched Telephone Network (PSTN), thus bridging the infrastructure gap (sometimes referred to as radio in the loop, RITL, or fixed-radio access, FRA).

About 2700 rural communications agents provide the telephone service, with each covering several villages. The mobile telephone service provider shares 25% of the revenue from phone calls; the agent gets 20% and the Department of Posts retains 5%. While information on average revenue is not available, initial reports suggested that some agents had little trouble generating monthly revenues of \$100. This translates into an incremental income of \$20 per month for the extra departmental postal agent and a return of \$60 per year on equipment investment of \$250 for the Department of Posts (Sanyal, 2003).

STRATEGIES

As the cases illustrate, challenges to socially responsible distribution have been addressed by all three sectors - government, civil society and private companies. Below, we discuss some

of the learning about specific strategies that can enable organizations to design and implement socially responsible distribution

Selectively bridge the infrastructure gap

Managers who are used to taking infrastructure for granted may shy away from entering the rural bottom of the pyramid. Organizations such as the Department of Posts and ITC that are willing to bridge the infrastructure gaps, such as lack of internet access and reliable electric power, have successfully extended distribution channels into the BOP. An important feature in enhancing feasibility is selectivity in bridging the infrastructure gaps. They did not begin to build roads or set up poles to hook up power or telephone lines, which would have called for prohibitive levels of investment. They carefully chose technologies that were appropriate to the specific narrow objectives of providing chosen services, such as delivering information via a web portal, and that contained cost. ITC chose satellite connectivity because even when telephone connectivity was available there were severe bandwidth limitations. Satellite connectivity had limitations as well, but these could be compensated for by caching static content locally. ITC expects (and is prepared for) the higher bandwidth options that will emerge with time.

Aggressively control cost through differential, or layered, distribution

As organizations extend distribution networks outward to remote areas, transportation cost rises and population becomes sparse, rapidly inflating distribution cost. In order to extend reach, it becomes necessary to design differential distribution systems with lower-cost distribution layers penetrating the remote extremities of the network.

All the organizations we examined aggressively restrict costs of rural distribution. As indicated in table 4, where we present five components of investment and operating costs for rural distribution, the organizations invested heavily in the central system to design, set up,

manage and control the distribution system. They then incur only moderate levels of operating costs in keeping the central system functioning.

Insert table 4 here

At the same time, incremental investment in setting up each rural distribution location at the village level is low. The organizations restrict capital outlay by foregoing investment in real estate, choosing instead to let their agents operate from home, or by setting up operations in inexpensive rented facilities as Gyan Shala does. All three organizations run village-level operations with low fixed operating costs and very low variable operating costs.

Outsource the “last mile” to BOP entrepreneurs. Differential distribution requires examination of the distribution chain to select activities that can be outsourced to drastically reduce distribution costs. By outsourcing the “last mile” (in reality, the last several miles) to small private BOP entrepreneurs, ITC and the Department of Posts take advantage of talented and motivated local entrepreneurs at much lower cost than employees. This results from their low opportunity cost and negligible overhead, given that they live in the target market and operate from existing premises. So while the transportation cost of delivering the product or service to the outer reaches of the network is higher than delivering it to urban locations, the fixed local overhead is contained by outsourcing the promotion, selling and collections tasks to franchisees.

Organizations treat urban and rural distribution channels differentially in terms of economic benchmarks to evaluate feasibility. Unlike urban channels, companies treat rural channels as longer term investments that lay the foundation for larger future markets while making a social contribution today. Government departments and NGOs use them to maximize the reach of services with limited deployment of resources. With the burden of retail distribution

shifted partly onto BOP entrepreneurs, scarce public resources can be redeployed to provide a wider span at wholesale distribution to serve a larger array of conduits into rural areas.

Leverage distribution

Challenges of physical access and fragmented demand deter investment in distribution infrastructure reaching into the rural parts of the bottom of the pyramid. For many organizations the task of extending access into the outer extremities of the BOP may seem simply too expensive to undertake. Both the private sector (e.g., ITC) and the government (e.g., the Department of Posts) provide examples of enhancing the value of investment in rural distribution and improving its economic feasibility by, first, converting it into a bidirectional network and, second, by broadening the distribution network's scope by sharing it. (See figure 2.)

Insert figure 2 here

Bidirectional distribution. The feasibility of distribution can be improved by creating two-way flow of products and services. The distribution strategy of the Department of Posts and ITC creatively enhances the value of its logistics system by turning it into a two-way distribution chain. The extra-departmental postal representatives not only deliver mail and sell insurance to customers, but also accept cash for the savings bank and petitions under the Freedom of Information Act to forward to other government departments. ITC's village representatives stimulate soya bean purchases from farmers as well as sell branded products to them. Commodities flow into the companies' procurement centers while a variety of products is sold to farmers at the mini-malls located on the same premises.

Bidirectional distribution has some similarities to the concept of "reverse distribution" (or "reverse logistics"). Reverse distribution systems typically are focused on the return of end-of-life products or the recall of faulty products. These systems often stem from regulatory requirements around recycling, but can provide additional value to manufacturers through, for

example, remanufacturing using the returned product and information that can be ascertained on product performance (Blackburn et al. 2004; Toffel 2004). Reverse distribution systems ease the challenges around product recalls (Smith et al. 1996). In contrast, our concept of bidirectional distribution refers to the two-way flow of different products using the same logistics. Bidirectional distribution also has an information component, not about returned products but about information on the consumer's needs for a wider range of products and services.

Shared distribution. Once a distribution channel is in place and can carry additional products at low incremental cost, contribution earnings can be raised by widening product range to derive greater economies of scope. ITC has aggressively pursued alliances with a broad range of vendors, which allows it to offer a full range of goods and services in its rural mini-malls and spread recovery of its large fixed cost on that distribution platform across larger sales volume. Similarly, the Department of Posts is delivering greater value to the public and helping cover the cost of its Extra Departmental POs by carrying products of companies and educational institutions. The network of the Department of Posts is the most complex, carrying products of multiple organizations in both directions. The shared distribution strategy is similar to that of Amazon.com. Having established a powerful internet distribution channel for books, Amazon expanded contributions at low incremental cost by carrying a much wider range of products.

Empower the BOP with education & information

Gyan Shala directly addresses a key determinant of poverty, illiteracy arising from inaccessibility of basic education. By teaching children to read, write and perform basic arithmetic functions by the end of grade 3, all at a very low annual cost of \$40 per child, it presents a viable model for lifting future generations out of poverty. At a different level, more focused adult education that teaches techniques to improve farm productivity, and the timely

provision of relevant market information, can improve agricultural yields and enhance farmers' bargaining power in dealing with traders, as ITC has done.

Governments can enhance rural incomes through stronger market institutions; for example, through regulation that discourages adulteration, tampering of weights and market-rigging, and enables the rural poor to acquire superior inputs and better prices for their produce (IFAD 2001). But governments are not always able to develop institutions adequately and provide education and information, creating opportunities for civil society and the private sector to contribute. Their role in knowledge dissemination is especially powerful in places where public rural extension services are inadequate, as in some African countries. IFAD (2001: 10) notes: "New market routes or other mechanisms to reduce the time-lag before the poor adopt better technologies are badly needed if the poor are not to miss out on new opportunities."

ITC provides valuable information on products and practices, supplementing government extension services. NGOs play a key role not only in addressing illiteracy, as Gyan Shala is doing, but also in organizing entrepreneurs at the BOP so that they can leverage information into knowledge and bargaining power (evident from the thriving self-help group movement in India).

Harness advantages of technology

The poorest segments of rural populations may not benefit from technology that is embodied in expensive equipment (such as mechanized farm equipment). However, they can benefit a great deal from knowledge of other kinds of technology, such as agricultural practices, which may be applied without significant additional capital. The challenge is to find ways to bring these to the attention of potential users. By using technology, companies like ITC have set up channels to bring a wide array of useful information to rural users. Technology also allows them to make information accessible to the weaker segments, such as the illiterate. This service builds social

capital that helps further companies' objectives of selling products on which they can earn contributions today and set the foundation for future profits.

Collaborate across sectors

Each organization we studied drew value from cross-sectoral collaboration. Gyan Shala receives some of its funds from the private sector and government, and is working with the government to disseminate its model as a public good. The Department of Posts is providing private companies, universities and government agencies access to its vast rural network. ITC is using information feeds from government agencies to provide focused knowledge, such as agricultural methods, and also assists NGOs in providing services to rural cooperatives.

Government flexibility The government, recognizing the value that poor farmers could derive from greater competition among traders, showed considerable flexibility in allowing ITC to set up a direct channel for commodity procurement, which essentially competes with the channel that the government itself oversees. The Gyan Shala and ITC cases demonstrate that the government is willing to trust and facilitate initiatives by civil society and the private sector that appear to be carefully designed to enhance welfare at the bottom of the pyramid. They also show that government intervention to assist the BOP does not always entail massive financial investments.

Ensure scalability

The challenge of socially responsible distribution is to serve an enormous population at the bottom of the pyramid in need of goods and services. This calls for solutions that can be fueled with less rich, but more abundant, resources than normally used. A remarkable aspect of Gyan Shala's model to bring basic education to the poorest children in villages and urban slums is that instead of striving to provide a rich educational environment using college graduates, it decided to strip out non-essential aspects of education and focus on providing high-quality essential

education, which meant it could use widely-available basic resources, facilitating scalability while making education highly accessible to the target population by bringing school closer to home.

In their decision to use BOP entrepreneurs to manage distribution's last mile, the Departments of Posts, Gyan Shala and ITC have all opted for scalable models as these human resources are abundantly available. The use of technology platforms also helps in this regard. Having invested a fixed cost in developing or appropriating information and knowledge, organizations, using technology, are able to disseminate it widely at negligible marginal cost. They are also able to expand village-level operations at low incremental costs, setting the stage for rapid network ramp-up.

SETTING UP RURAL DISTRIBUTION: PROCEDURES AND PRECAUTIONS

The following set of procedures for setting up rural operations is suggested by our observations of the three very different organizations studied.

- 1. Develop a scalable delivery system.** Facilitate scalability by having:
 - a. low investment per additional village location; for example, rent facilities by the hour rather than purchasing real estate to set up a school; and,
 - b. low fixed costs and variable operating costs at the village level; for example, set up shop in the franchisee's home rather than paying rent, and compensate representatives with commissions and allowances rather than hiring full-time staff.
- 2. Set up strong centralized service design, supervisory and control systems.** Keep village-level costs low by utilizing abundant low-qualified manpower. Invest heavily in designing fool-proof systems so they can be used by this low-cost labor, and create strong systems for supervision and control. The post office has a system for daily accounting of funds that applies to each post office. Each Gyan Shala class is visited once a week by a supervisor.

There are enough surplus teachers on hand so that class is rarely cancelled. This may require high up front investment in designing systems and building alliances. ITC has an organization staffed by a couple of hundred people who support and supervise its rural network.

- 3. Cluster retail locations** Cluster village-level locations in a way that the infrastructural and supervisory backbone is efficiently and economically utilized. This limits and defines regional spread. Gyan Shala initially focused on slums that could be easily reached from its Ahmedabad base, and then spread into nearby clusters of Gujarat villages. It would have been too ambitious to begin setting up in villages in different Indian states all at once. ITC carefully chose to operate in the state of Madhya Pradesh where it had a high concentration of soya bean procurement and, hence, adequate potential volume for efficient utilization of procurement centers. The locations of the eChoupals and mini-malls are carefully chosen to form economically viable clusters.
- 4. Develop benchmarks for retail locations.** Ensure that proposed village-level operations meet benchmarks for activity level and financial performance. Organizations from all three sectors use benchmarks to evaluate potential retail locations before setting up operations. For example, the Department of Posts has population norms for “normal” rural locations and those in hilly, tribal and desert areas that have to be met to justify setting up a new post office. Gyan Shala’s staff evaluate villages and slums to see if there are enough children of the appropriate age who are not in school. ITC checks to see how many farmers in a geographically clustered group of villages can be serviced from a specific village. The benchmarks help ensure there is adequate potential demand for services to justify investing scarce resources at locations.

- 5. Derive higher volume by shared distribution.** As illustrated by the Department of Posts and ITC, if the distribution infrastructure can be shared and made bidirectional, costs can be pushed lower, increasing scalability and also deterring competitive entry.

Precautions

There are some precautions that are suggested by our cases as being especially important:

- a. Engage the community to facilitate entry.** Preempt local suspicion when entering a new community by getting to know the environment, building relations with local leaders, sharing plans and getting buy-in for them.
- b. Select trustworthy retail representatives.** A critical element in success is to recruit village representatives who are respected by the community. So take care to identify people who are seen as successful and trustworthy.
- c. Carefully adjust price and features.** Large companies have faced off against small “cottage firms” in developing-country cities for decades (Vachani, 1990). Cottage firms typically compete by selectively enhancing the perceived value of their products while pricing at a fraction of large companies’ prices so as to woo customers of differentiated products. Now large companies are entering cottage firms’ turf and they have to win over customers from cottage firms by convincing them their products are worth switching to. But the game is essentially similar – a combination of lower prices and careful selection of product features that are valued by targeted customers.

PAYOFF

Our analysis suggests that involvement in rural distribution helps players from all three sectors, private companies, NGOs and government, achieve various objectives while benefiting those living at the bottom of the pyramid.

What's in it for the private sector?

The ITC case illustrates the potential benefits for companies that creatively invest in scaling distribution barriers. Since the distribution economics is unlikely to accommodate multiple networks, companies that succeed in creating the initial networks are positioned to build sustainable competitive advantage, which can be strengthened by providing incentives for other companies to join the network. As product volume in the distribution system grows it improves operating economics and deters competitive replication of the network. ITC benefits in a number of ways – through lower procurement costs, future profits, valuable publicity, competitive preemption and creation of dynamic competitive advantage.

Lower Procurement Costs. The commodity procurement activity through eChoupals results in cost savings of about 2%. However, this, in itself, does not appear to provide economic returns that are especially compelling. During 2006-07 the total value of soya seeds consumed by ITC was about \$170m. If all of this had been routed through eChoupals the savings would have amounted to around \$3m, which translates into about 10% return on investment. (In reality the network is not equipped to procure the entire amount at this time.) However, if one factors in the contributions earned on products sold by the eChoupals (on which margins range from 2-20%) the economics improve dramatically. If the average village representative sold goods worth \$10,000 a year, and ITC earned a margin of 6% (after paying its representatives), its earnings from 6500 eChoupals would amount to around \$4 million, raising returns from the distribution infrastructure from 10% to over 20%. ITC's plans to broaden the services delivered via the network to include micro-credit, healthcare and education, should further bolster the economics.

Future profits. ITC has committed a very significant investment in its rural mini-malls. Its current investment of around \$20-25 million will rise to over \$100 million by 2010. ITC is aware that it will take time to build sales at these mini-malls. In one of its older locations, which

had operated for 18 months by spring 2006, sales in 2005-06 were estimated at around half a million dollars. Sales are seasonal, with three months accounting for half the annual sales. Margins vary considerably across products. For apparel, they could be as high as 20%, while for fertilizer, they are as low as 2-3%. If one assumes an average margin of about 10% it is clear that the gross margin, which we estimate at around \$50,000, was too small to deliver a significant net margin after deduction of operating expenses. However, this format is in its early stages and the company is aggressively adding products and services, which will increase revenues substantially with little increase in overhead, resulting in higher returns. There is a rural population of 100,000-200,000 and a town with 100,000 people close to each mini-mall. If 20,000 of these potential customers spend \$100 annually at the ITC mini-mall they would generate enough contribution to provide a 15% return on investment. (The company is reported to have projected a payback period of seven years on its investment.)

Corporate image. ITC's innovative use of technology to empower farmers has won considerable recognition. The company has received a number of international awards including the Stockholm Challenge, 2006. In a speech in May 2007, the President of India, Dr. Abdul Kalam, praised ITC's e-Choupal initiative as a sustainable model for raising farmers' incomes and productivity. The Government of India's 2007 annual Economic Survey recognizes ITC's eChoupal initiative as an example of "novel private sector initiatives to improve the marketing channels in agriculture," which are seen as important for the overall development of India's agricultural sector (Government of India, 2007: 175).

Preemptive distribution. ITC and some other companies are racing to preempt future competition from distribution heavy-weights. The Indian Government is under pressure from foreign governments to open its retail sector to new foreign competitors, and giants such as Wal-Mart are poised to enter the "last frontier for hyper-markets" (Jain, 2006; 4). Large local

companies, such as Reliance, have committed substantial resources to enter the retail sector. Reliance intends to invest \$5.6 billion to grab a share of the rapidly-growing organized retail sector, which is expected to triple in size to \$15 billion by 2010 (Merchant, 2006).

The new players will provide formidable competition that will begin in urban areas and roll out into rural markets. Reliance has announced plans to create 50-acre “rural business hubs” in each district of India in the third phase of its strategy, after it begins setting up 200,000 sq ft hypermarkets and 2,000 sq ft supermarkets in urban areas (Jain, 2006). By moving early to blanket rural markets, whose fragmented nature provides logistical advantages to first-movers, ITC can hope to create entry barriers for some of the followers, or at least strengthen its position against the onslaught of giants like Reliance, much as Wal-Mart shut out competitors like K-Mart in US rural markets during its initial years (Ghemawat, 1986). By enhancing farmers’ bargaining power and helping them improve agricultural methods, ITC is also creating goodwill and building social capital which will help secure its future in rural India.

Dynamic competitive advantage. ITC is striving to develop a platform that will allow it to adapt to the needs of the rural areas as technology, access and competition evolves. It is putting in place the infrastructure to engage the population, win its trust, communicate with it and address its multiple needs. It is providing open access to this network to numerous companies so that they help it build volume, which in turn delivers economies of scope while deterring competitive moves to imitate the core strategy.

Companies that control the last mile of the distribution chain stand to gain from developing proprietary databases with valuable consumer information that can be used to sell market research services to new entrants, as well as to influence product and brand choices.

NGOs enhance impact

NGOs seek to deliver maximum impact for the scarce resources deployed. The payoff for Gyan Shala is success in achieving two important objectives.

Low cost delivery of services. NGOs struggle to drive up effectiveness and efficiency just as companies. Gyan Shala's innovative model has cut the cost of quality education by two-thirds compared to government-funded schools.

Scalability. Gyan Shala's potential impact is significantly enhanced by the scalability of its model. By designing its delivery system so that it relies on teachers with relatively low levels of education it has sidestepped the challenge posed by insufficient numbers of college graduates willing to serve as school teachers at the BOP. The value generated by Gyan Shala is enhanced further as it has begun to transfer its methods and expertise to government schools. The knowledge it has developed has the nature of a public good and while transfer is not frictionless, by implementing its methods in existing schools it can assist the government in getting more mileage from its current outlays.

The Government achieves social goals

Developing-country governments are struggling to alleviate poverty. The Department of Posts helps serve the poorest people by offering a broad range of valuable services at low cost while helping acquire savings that the commercial banking sector cannot access.

Enhanced services. By developing flexible models for service delivery the Department of Posts provides the rural population with services such as insurance, mobile telephones and access to information about universities.

Low cost delivery. The low cost structure of extra-departmental post offices enhances the reach of the postal system without requiring scarce investment funds. By using part-time franchisees compensated with an allowance instead of employees who are paid a salary, and structuring some services, such as mobile phone service, so that the delivery agent is paid a

commission rather than fixed compensation, the Department of Posts keeps costs low and extends the reach of its network.

Channel rural savings. For millions of poor villagers the only source for basic banking services is the Post Office. Not only does the postal network serve these people with valuable services it helps the government channel rural savings into the formal economy. (Funds are channeled from the formal economy into rural areas through institutions such as rural development banks and microfinance organizations.)

Payoff for the bottom of the pyramid

Socially responsible distribution by organizations in all three sectors can deliver valuable payoff for the people at the BOP. They are better informed and, with assistance on how to use information, can raise their incomes and derive higher value from purchases of agricultural inputs and consumer goods. Some of these benefits are the direct result of entrepreneurial opportunities, services and products provided by organizations. Part of the welfare enhancement results from strengthening bargaining power, which depends on availability of information and its transformation into knowledge, all of which is affected by the quality and state of the infrastructure.

Knowledge of better agricultural practices raises productivity and income, and appreciation of health and hygiene factors improves quality of life. Entrepreneurship opportunities build self-esteem and loosen cultural constraints. Better communications with urban areas create stronger awareness of rights and opportunities. Education provides children with greater career opportunities.

Risks. As companies extend their reach into the BOP, bringing goods and services to areas inadequately served by the majority of their competitors, there is risk of monopoly power leading to exploitation of consumers and labor, as institutional mechanisms and government

oversight are weak at the BOP, especially in rural areas. These concerns are already being raised by NGOs. Thus, it is important to concurrently create governance mechanisms, perhaps using tri-sector coalitions of government, civil society and companies that have demonstrated their commitment to enhance the welfare of the BOP.

CONCLUSION

Management scholars and development economists have provided a compelling case for greater attention to the bottom of the pyramid. However, few contributions have examined specific strategies for reaching the bottom of the pyramid or given much attention to the BOP as producers (Karnani 2007). We have introduced the term socially responsible distribution to describe initiatives that provide poor producers and consumers with market access for goods and services that they can benefit from buying or selling, by helping neutralize the disadvantages they suffer from inadequate physical links to markets, information asymmetries, and weak bargaining power. This has been illustrated by three case studies. In doing so, we have identified the role the private sector, governments and NGOs can play in promoting socially responsible distribution, the different kinds of intervention strategies they use, and the benefits for various parties, including the people at the bottom of the pyramid.

The paper highlighted the obstacles to higher earning potential and access to cheaper goods for poor consumers. Organizations tackled these obstacles by bridging the infrastructure gap, aggressively controlling costs, leveraging distribution, empowering the BOP with education & information, harnessing technological advantages, collaborating across sectors and ensuring scalability. Managers who are interested in reaching into the BOP could well learn from the strategies adopted by the organizations discussed here, which are in many respects at the forefront of efforts to serve and engage with the BOP.

Given that the cases were drawn from a single country, India, one must naturally be cautious in extending the lessons to other countries. However, there are strong similarities in the conditions surrounding rural poverty across developing countries. Illiteracy, lack of market access, asymmetric information and weak bargaining power serve to perpetuate rural poverty across countries in Africa, South America and Asia. So, perhaps, the lessons drawn in this article will help organizations in other countries enhance the income of people at the bottom of the pyramid and present them with wider and more valuable alternatives for accessing goods and services.

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Figure 1

Factors affecting the rural population’s income and quality of life

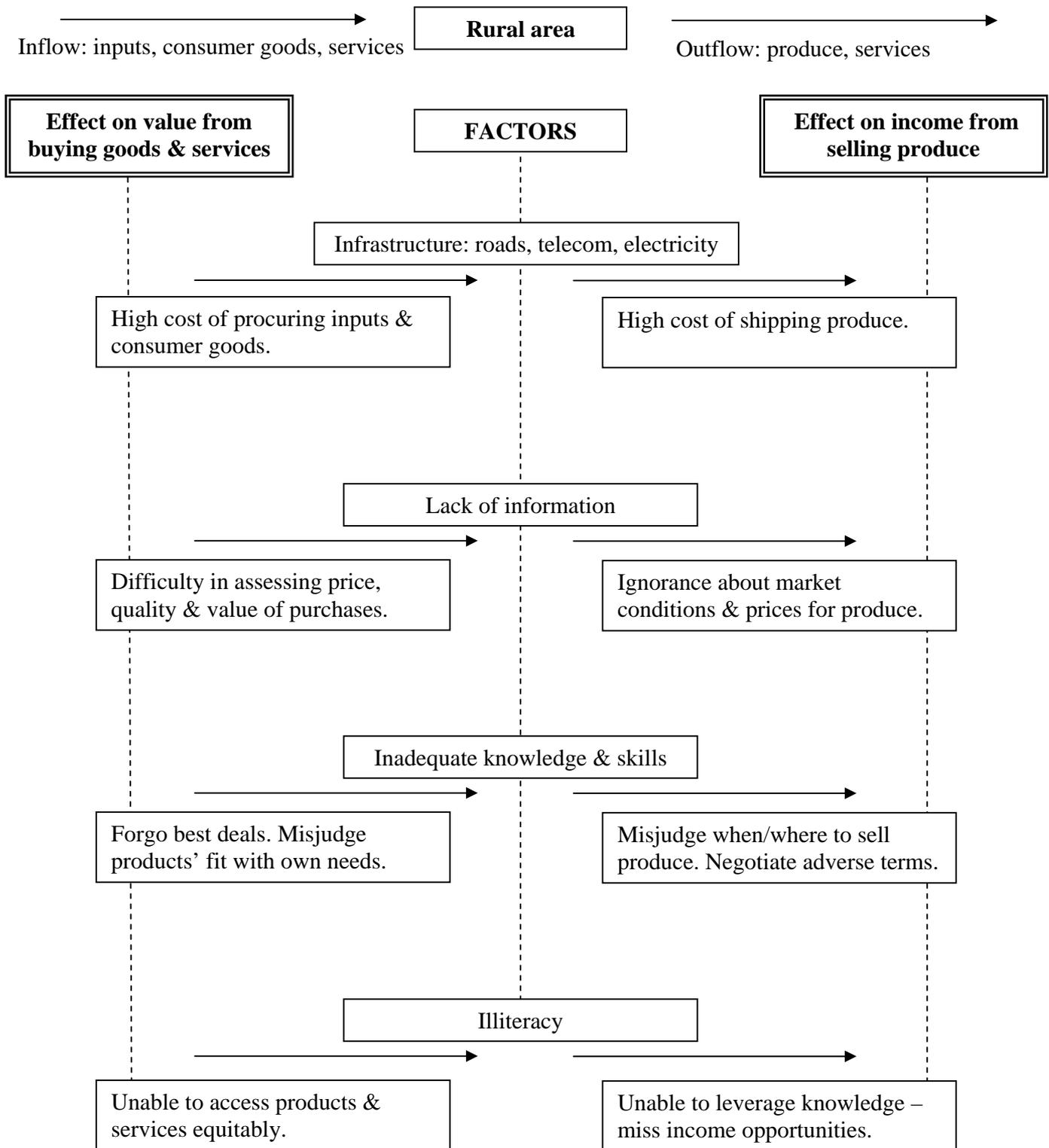


Figure 2
Degrees of leveraged distribution

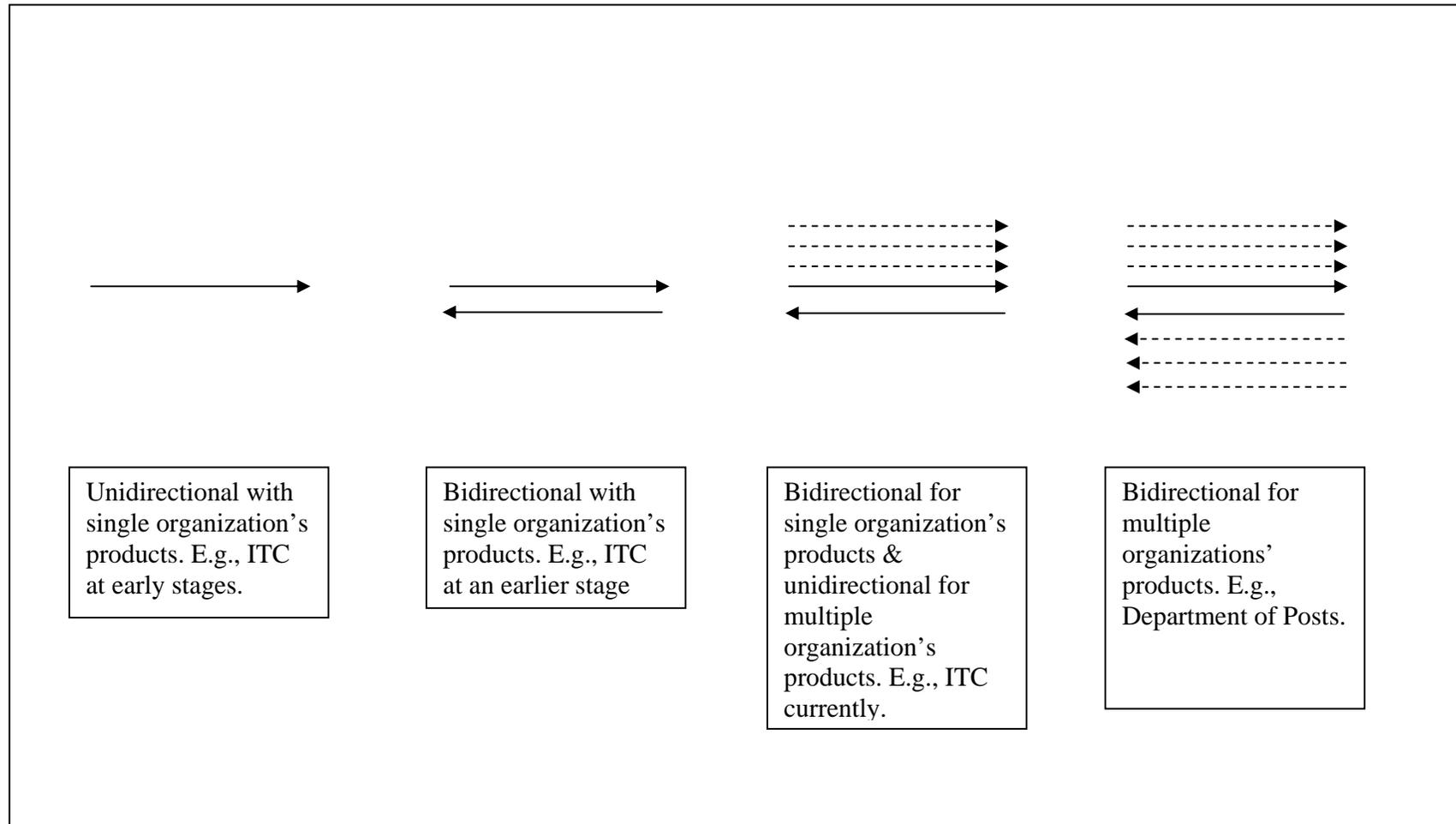


Table 1
Population living below \$1 and \$2 per day, 2001* (million)

Region	Region's below-\$1 pop. (m)	% of region's pop. living below \$1	Region's below-\$1 pop. as ratio of total below-\$1 pop. (%)	Region's below-\$2 pop. (m)	% of region's pop. living below \$2	Region's below-\$2 pop. as ratio of total below- \$2 pop. (%)
Column #	(1)	(2)	(3)	(4)	(5)	(6)
East Asia	271.3	14.9	24.8	864.3	47.4	31.6
Of which China	211.6	16.6	19.4	593.6	46.7	21.7
Eastern Europe & Central Asia	17.6	3.7	1.6	93.5	19.7	3.4
Latin America & Caribbean	49.8	9.5	4.6	128.2	24.5	4.7
Middle East & North America	7.1	2.4	0.6	69.8	23.2	2.6
South Asia	431.1	31.3	39.5	1063.7	77.2	38.9
Of which, India	358.6	34.7	32.8	826.0	79.9	30.2
Rural India	303.9	40.8	27.8	652.5	87.7	23.8
Urban India	54.7	18.9	5.0	173.5	60.0	6.3
Sub-Saharan Africa	315.8	46.9	28.9	516.0	76.6	18.9
Total	1092.7	21.1	100.0	2735.5	52.9	100.0

* the precise income used is \$1.08 and \$2.15 per day at 1993 PPP.

Notes

Numbers in column 2 are the ratio of the region's total population that lives on less than \$1. For example, 14.9% of all East Asians live on less than \$1 – so 271.3m is 14.9% of total East Asian population.

Numbers in column 3 indicate what percentage of the world's population of people living on less than \$1 is accounted for by people in that region. For example, 24.8% of the world's population living on less than \$1 (which is 1092.7m) are East Asians; i.e., 271.3m is 24.8% of 1092.7m.

Numbers in columns 5 and 6 are similar to those in columns 2 and 3 with \$2 being the benchmark instead of \$1.

Source: Chen and Ravallion, 2004 and World Bank Povcal data source. Some numbers have been calculated using downloaded data.

Table 2**Rural share in sales of selected products in India**

Product	Average annual growth, '92-99	Rural share '98-99
Cooking oil	5.7%	66%
Electric bulb	10.6%	42%
Bicycle	6.6%	78%
Motor cycle	22.9%	51%
Radio	4.5%	81%
Color TV	29.3%	37%

Source: National Council for Applied Economic Research. *Indian Market Demographics Report, 2002.*

Table 3
Distance to primary school

Country	Distance to the nearest primary school (km)		
	Poorest fifth	Richest fifth	Ratio*
Bangladesh 96-97	0.2	0.1	1.6
Chad 1998	9.9	1.3	7.6
India 1998-99	0.5	0.2	2.3
Mali 1995-96	7.9	5.2	1.5
Nigeria 1999	1.8	0.3	5.5
Uganda 1995	1.4	0.9	1.5
Zimbabwe 1994	3.0	3.5	0.8

* Ratio of distance for poorest fifth to distance for richest fifth.

Source: World Bank, 2003, p. 22.

Table 4
Cost structure for rural distribution

	Central design, processing & control system		Network of rural retail locations		
	Investment	Running cost	Incremental investment per location	Fixed operating cost (per location)	Variable operating cost (as activity increases at locations)
Post office	High.	Moderate.	Very low. Investment at each location is about \$200 and \$500.	Low. Small allowance for representative. Cost of servicing location depends on remoteness.	Very low.
Gyan Shala	Moderate.	Moderate.	Low. Small investment in furniture and fans.	Low. Low teacher salary & rent. High training cost as ratio of salary – but low overall cost.	Very low. Inexpensive supplies.
ITC eChoupal	High.	Moderate.	Low. Low investment in technology.	Low. Low supervision cost.	Very low. Small commissions.
ITC mini- malls	High.	Moderate.	High. \$1-1.5 million.	Moderate. Not high given potential volume.	Very low. Small commissions.

ⁱ 1993 dollars at purchasing power parity

ⁱⁱ Prahalad and his colleagues count a much larger number (four billion) in their definition of the bottom of the pyramid; that is people earning below \$1500 per year at purchasing power parity (Prahalad and Hart, 2002, Prahalad, 2005). We choose to work with this more widely-accepted number of poor people.

ⁱⁱⁱ For other case data on ITC Limited see: Upton and Fuller, 2003, and Prahalad, 2005. Our case captures important strategic moves made by ITC in the last two years that are too recent to have been included in earlier cases of ITC; for example, ITC's significantly enhanced \$100 million commitment to rural retailing through its mini-malls called Choupal Saagars. ITC began experimenting with this format in late 2004, just before Prahalad's book was released.

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