The Case for BOP as a Market

Prof. Eric A. Brewer
UC Berkeley

ICT for Developing Regions
September 3, 2003

Today's Focus
- Aid is not sustainable
- It must be an investment
- (Profitable) businesses are sustainable
- Also stabilize a region
- Promote entrepreneurship and social mobility
- Prahalad:
  - the poor are a viable market
  - ICT can make a difference

Aid is temporary...

We Can Build Large and Sustainable Businesses Based on These Markets


The Poor as a Market
- Very high existing costs
- Real purchasing power
- Already purchase “luxury” items
- Able to adapt to new technology

Being poor is expensive...
- Drinking Water
  - 4-100x the cost compared to middle class
  - Lima, Peru: 20x base cost, plus transportation
- Food: 20-30% more (even in poor areas of US)
- Credit:
  - 10-15% interest/day is common (>1000% APR)
  - Grameen Bank is 50% APR
- Cell phone:
  - $1.50/minute prepaid (about 10x) in Brazil
### Suburbs of Mumbai (Bombay)

<table>
<thead>
<tr>
<th>Item</th>
<th>Dharavi (shantytown)</th>
<th>Warden Road</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit (APR)</td>
<td>600-1000%</td>
<td>12-18%</td>
<td>50-75x</td>
</tr>
<tr>
<td>Water (100 gal)</td>
<td>$0.43</td>
<td>$0.011</td>
<td>37x</td>
</tr>
<tr>
<td>Phone (cents/min)</td>
<td>4-5</td>
<td>2.5</td>
<td>2x</td>
</tr>
<tr>
<td>Diarrhea Meds</td>
<td>$20</td>
<td>$2</td>
<td>10x</td>
</tr>
<tr>
<td>Rice ($/kg)</td>
<td>$0.28</td>
<td>$0.24</td>
<td>1.2x</td>
</tr>
</tbody>
</table>

### More on Dharavi
- Represents urban poor
- 1300 cities with >1M people
- Urban ICT could reach 2B people by 2015
- Dense: 44,000 people per square mile
  - Berkeley: 9700
  - Pittsburgh: 6000
- 6 churches, 27 temples, 11 mosques
- About $450M in manufacturing revenue
- Lots of small inefficient businesses already...

### Rural Poor
- Rural areas generate about 60% of India's GDP
- Challenge is physical distribution
  - Drives the move toward urbanization...
  - ICT may be the cheapest (new) infrastructure...
- ICT could help with:
  - Education
  - Over-the-network jobs

### ICT could be adopted...
- GrameenPhone: operators use GSM phones, memorize calling codes, etc…
- Test use of palm pilots for bookkeeping (to replace paper), worked well in India
- Negotiation via internet phone in El Salvador
- NairoBits (Kenya) teaches urban poor HTML
- See Digital Dividend web site...

### Hindustan Lever (Unilever)
- Best example of products for BoP
- Candy:
  - Simple high-quality fruit centers (real sugar)
  - About $0.01/serving (not sold individually!)
  - Fastest growing product in any category
  - Profitable in 6 months
  - Low margin, but high ROI

### Hindustan Lever (2)
- Ice Cream (novel technology)
  - About $0.04/serving
  - Problem: no refrigeration at stores or vending machines
  - Solution: better packaging keeps it cold for 24 hours
- Keys: mass production, supply-chain mgmt.
- Ice cream was previously a “luxury” product
- Very high latent demand
Hindustan Lever (3)

<table>
<thead>
<tr>
<th>Detergent</th>
<th>Nirma</th>
<th>HLL (BoP)</th>
<th>HLL (ToP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Sales (M$)</td>
<td>150</td>
<td>100</td>
<td>180</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>18%</td>
<td>18%</td>
<td>25%</td>
</tr>
<tr>
<td>Return on Capital</td>
<td>121%</td>
<td>93%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Hindustan Lever (4)

- Overall: $2.6B portfolio of products
  - Zero working capital => high ROI
  - New businesses judged by capital required, volume
- Management training:
  - Requires all management (including CEO) to spend time in villages and in typical stores
  - Should lead to better products and tactics

Services for BoP

- Top three:
  - Education (20% of Digital Dividend projects)
  - Credit (micro-loans)
  - Wireless phones

TARAhaat Portal

- Portal for rural India
  - Franchised village Internet centers
  - Revenue from commissions and member fees
  - Biggest success: for-profit educational services
  - ICT: telephone, VSAT, diesel generators
  - Local content developed by franchisee
    - Mostly 2 languages, moving toward 18
  - Social goals met, financial unclear…

N-Logue (2)

- Keys:
  - Train LSPs, kiosk owners
  - Deal with (severe) regulatory issues (IIT helps here)
  - Develop local content (usually by LSP)
- Challenges:
  - Ongoing regulatory issues
  - Capital intensive business
  - Technology?

Wireless Phone

- Direct models (one per user)
  - Prepaid cellular
    - $10-20 cards in Latin America
    - Very profitable ($1.50/minute)
    - Very high demand
  - Ericsson MiniGSM
    - 5000 users in 35km radius
    - Ships in single container
    - (Relatively) easy to set up
Shared Wireless

- Shared use is the easiest way to reduce cost...
- GrameenPhone
  - Regular GSM phones and basestations (Nokia)
  - Bid on and won a national GSM license
  - Regular customers paid for early basestations
- GrameenTelecom
  - The social enterprise
  - Works with rural franchisees (who get micro-loans)
  - Shared use model

GrameenPhone (2)

- Rural phones: $93 per phone per month
  - > Twice as much as urban phones (not shared)
  - Some phones > $1000/month
  - But only 2% of total phones (but 8% of revenue)
- Monopoly phone company is a real problem
  - Anti-competitive, outdated laws
  - Limiting factor for the number of villages reached
  - 4200 out of 65,000 so far
- Room for better technology (for the rural users)

N-Logue Rural Internet Access

- Spun out of IIT Madras
- Rural connectivity is very low, but demand high
- Three groups:
  - "Foundation" – HW/SW partners
  - LSPs – Local service providers (one per region)
  - Kiosk owners – individual entrepreneurs
  - Capital is about $400 per "line"
- Custom Technology (but obsolete!)
  - 25km line-of-sight wireless to LSP
  - Should be able to move to newer networks

Prahalad's Suggestions

- ICT is a tool for regular business
  - Larger reach at lower costs
  - Lower transaction costs
  - Better pricing, planning, supply chains...
- Enlightened management
  - Focus on ROI, not margin (or product cost)
  - Solve the whole problem (e.g. ice cream packaging)
  - Local content, local adaptation, local training

Prahalad Suggestions (2)

- Role for R&D
  - HP Labs in India, China
  - Hindustan Level has full-scale R&D for BoP market
  - Challenges are different than first world
    - Power, cost, literacy...
- BoP is early (risks)… So share risks
  - NGO or government help
  - Global Digital Opportunity Initiative (Markle & UNDP)
  - Consortia
    - TARHAaat member companies share the risk

Rough Summary

- Potential for large high-growth markets
  - Current systems are very inefficient
  - Opportunities to create income/jobs as well
  - Focus on ROI (use of capital)
- There is a role for technology
  - Simple (like ice cream)
  - Complex (new wireless for rural areas)
  - Users happy to adapt (and able!)
- Franchising seems to be a key to scalability
Backup

Growth in Megacities—An Urban Future

Concentrated Population can be Addressed More Efficiently

Example: An Emerging Market—India

Traditional MNC Business Model
Some MNCs?
Local Firms
Future Opportunity?

PPP $2-3,000, 150 m
PPP $2-3,000, 150 m
PPP < $2000, 50-60 m
PPP: $10,000, 50-60 m
5-10 million, Rich

http://www.wri.org/mek/economics/apart.pdf

The ‘Yes, But…’s

- Corporate cost structures are a given...
  “The poor cannot be our target customers because, with our current cost structures, we cannot compete in that market profitably.”
- Our focus is on products, not functionality. We worry about ‘detergents’ not ‘cleanliness’
  “The poor cannot afford, nor can they have any use for, the products and services sold in developed markets”
- Our emphasis is product and process innovation, not business innovation
  “Only the developed markets appreciate and will pay for new technology—the poor should adapt and use the last generation for themselves.”


Wrong!

Wrong!

Wrong!

The ‘Yes, But…’s

- We do not see the Bottom of the Pyramid forcing us to innovate around sustainable development
  “The Bottom of the Pyramid is not important to the long term viability of our business. It should be served by governments and non-profits.”
- Managers do not get excited about business challenges that have a humanitarian element to them
  “Intellectual excitement is in the developed markets—it would be hard and expensive to recruit, train and motivate managers to tackle such a challenge.”
- If this was a viable and important marketplace, someone would have already tackled it successfully


“Bad Tech”: Nestle

- Starting in the 1970’s, Nestle pushed infant formula to third-world mothers:
  Mistaken belief that it is was better (in US)
  Assumed sterile water and bottles!!
  Assumed mother would not dilute (saving money)
  Results 25x more likely to die of diarrhea
  Worse: use of formula for a while stopped lactation (causing an addiction)