Creating Access, Value and Profits with Rural ICT Services

Hypothesis: The Internet is POWER

Hypothesis is largely untested in rural context
Development Community is slow/ineffective
Private sector is still unconvincing/unable

Opportunity knocks:
Cable
STD/PCO
SMS/wireless
Prepaid
Need: Assessments and Best-Practice

Hypothesis: The Internet is *POWER*

But need to do for the Internet what others have done for voice telephony, e.g. rigorous evidence of:

- micro- and macro-economics
- consumer surplus
- productivity gains
- earnings, wages, employment
- women’s empowerment
- health and wellness
- education and literacy
- peace and security….
SARI: Sustainable Access in Rural India

SARI is a project of

- MIT
- IIT Madras
- Harvard University
- iGyan Foundation
- n-Logue Communications Pvt. Ltd.
WLL Village Tele-kiosks

- Provide Internet (via WLL/CorDECT), PC, and application suite (an Internet tele-kiosk) to villages - many off the phone grid

- Village Internet tele-kiosks are locally owned and operated (franchise model)
corDECT

- Internet provision at rates that can handle applications such as video chat
- Toll-quality voice services and simple connectivity to the PSTN
- Affordability and robust performance more important than unnecessary new features
Pilot Project Scope

- Cover all the villages and small towns in Madurai District, Tamil Nadu, South India
- Madurai city not included
- Pilot project undertaken in the Taluk of Melur covering the two Panchayat Unions of Melur and Kottampatti
- Service area 2,000 KM², 32,000 people
Pilot Status

- 80 connections in over 50 villages
- Average village size of 1,000 households; smallest is 300 households
- Will extend to over 200 villages
- Highest density of rural Internet kiosks anywhere
- 23% of catchment area population has used the Internet (national average 1.5%, world 9%)
- Kiosks with local entrepreneurs as well as in government offices, schools, etc.
Connected Villages

- Padinetankudi
- Karungalakudi
- Keelavalavu
- Vellalur
- Urranganpatti
- Thaniamangalam
- Alagarkovil
- Neaythanpatti
- T.Ulapitchanpatti
- Sengarampatti
- Othakadai
- Attapatti
- Kottampatti
- Chittampatti
- Pudhutamaraiapatti
- Pulimalaipatti
- Mankulam
- Karpuooravahini
- A.Vellalapatti
- Navinipatti
- Kelaivur
- Kallampatti
- Arittapatti
- Narasingampatti
- Therkutheru
- Kottakudi
- T.Vellalapatti
- Thiruvadavur
- Arasappanpatti
- Vellaripatti
- Andipattipudur
- Thumbaipatti
- Melur- Kalanjiyam Tr Centre
- Palayasukkampatti
- Kuthapanpatti
- Kidaripatti
- Kattayampatti
- Pullipatti
Current Research Inputs Include

- household surveys
- operator surveys
- user surveys
- instrumented PC’s
- ISP meter reads
- maintenance logs
- daily usage reports
- government usage reports
- baseline surveys
- payment reports
Micro Business Model

- Capital costs:
  - wiring, furniture $300
  - kiosk equipment $1,000
  - other $300

- Recurrent costs (monthly):
  - rent, elec., maintenance $25
  - Internet $15
  - Interest and depreciation $28

- Break-even revenue (no labor)
  $68 (monthly), $2.70 (daily)
Micro Business Model

- Break-even revenue $2.70 per day
- Today average revenue $2.27 per day
- Average number visitors 25 per day
- Note: phone still not available (will drive substantial foot traffic)

- Substantial under-reporting
  - meter readings and monitoring software to help understand usage (average under-reported Internet usage at 1/13 minutes).

- Tensions between research and business efforts, cultural issues
  - More minutes might mean more ISP charges
  - Accurate minutes count helps test hypothesis
## Costs of Entry

<table>
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<tr>
<th>Item</th>
<th>Average</th>
<th>Min</th>
<th>Max</th>
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<tbody>
<tr>
<td>System and Wallset</td>
<td>$465</td>
<td>$30</td>
<td>$1640</td>
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<tr>
<td>Electrical Expenses</td>
<td>25</td>
<td>4</td>
<td>140</td>
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<tr>
<td>Marketing</td>
<td>32</td>
<td>4</td>
<td>300</td>
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<tr>
<td>Rent (advance)</td>
<td>140</td>
<td>40</td>
<td>1920</td>
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<tr>
<td>Design/appearance</td>
<td>160</td>
<td>13</td>
<td>500</td>
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<tr>
<td>Furniture</td>
<td>82</td>
<td>20</td>
<td>500</td>
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<tr>
<td>Total observed</td>
<td>$750</td>
<td>$0</td>
<td>$3530</td>
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Scaling the Results

- TN’s rural population density is 297 per KM²
- Most of rural TN is within 50 KM of fiber
- Adequate electricity in Madurai district (~6-8 hr/day)
- Physical terrain of Madurai district okay for terrestrial wireless
- Communities are poor (incomes average under $1/day, highly variable) and agriculture based, ICT awareness and sensitization helps drive interest Internet
- Fairly supportive/enlightened government
- Lower Illiteracy, fairly equal male/female balance
Scaling the Results

Recall current break-even point is $2.70 per day

- $300 Internet appliance $2.10
- 100 KM Microwave backhaul $2.95
- Population density of 100/KM² $4.31
- VSAT $4.68
- PV Solar Cells $5.06
Assorted Tales

- Educational booklets
- Local sourcing
- Egov efforts
- Health, Medicine, Prices
Randomly Assorted Lessons

- Training, buy-in, ongoing support for KOs
- Local, local, local
- Maintain self-awareness
- Buy decent equipment
- Choose partners wisely
- Financing
- Beware attention
- Patience
Thank You

http://edevlopment.media.mit.edu/SARI/mainsari.html

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Berkman Center for Internet and Society
Harvard Law School
http://cyber.law.harvard.edu/
http://www.tenet.res.in/
http://web.media.mit.edu/~mikeb/

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