Presented by Colin Scott

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Community Internet Access in Rural Areas: Solving the Economic Sustainability Puzzle

Michael L Best
Colin M Maclay

Is rural Internet sustainable?

What factors determine its financial sustainability?

Financial Sustainability:

"Meeting the [financial] needs of the present without compromising the ability of future generations to meet their own [financial] needs"

How does they answer their question?

- Two perspectives:
  - They survey others' answers
  - They make predictions about what factors *will* determine sustainability

Perspective: Survey Paper

- Authors outline 6 overarching factors:
  - Costs
  - Revenue
  - Networks (Userbase)
  - Business Models
  - Policy
  - Local Capacity (Skills of adopters)

	Costs	Revenue	Networks	Business Models	Policy
Capacity	LOW: Unless access to computer maintenance is limited	HIGH: Business, IT and outreach skills key for new industry	MEDIUM: More users ease awareness raising and training	MED/HI: Capacity suggests limits of model	MED/HI: Education, training opportunities
Policy	HIGH: Competition, taxes and tariffs, requirements for entry, spectrum, interconnection	HIGH: VoIP alone is significant	MEDIUM: Policy broadly affects Readiness, users become political constituency	HIGH: Decides potential for RSP and franchisees, public sector as network client	
Business Models	MEDIUM: Appropriate models reduce costs	LOW: Location guides clientele and applications	LOW: Little direct connection		
Networks	HIGH: Metcalfe Effect costly to leverage (or else it would be done), scale economies grow with network size	HIGH: Size and scope drive content, utility of medium			
Revenue	LOW: Except specialized services requiring extra investment (copier, camera), assuming always on connection				

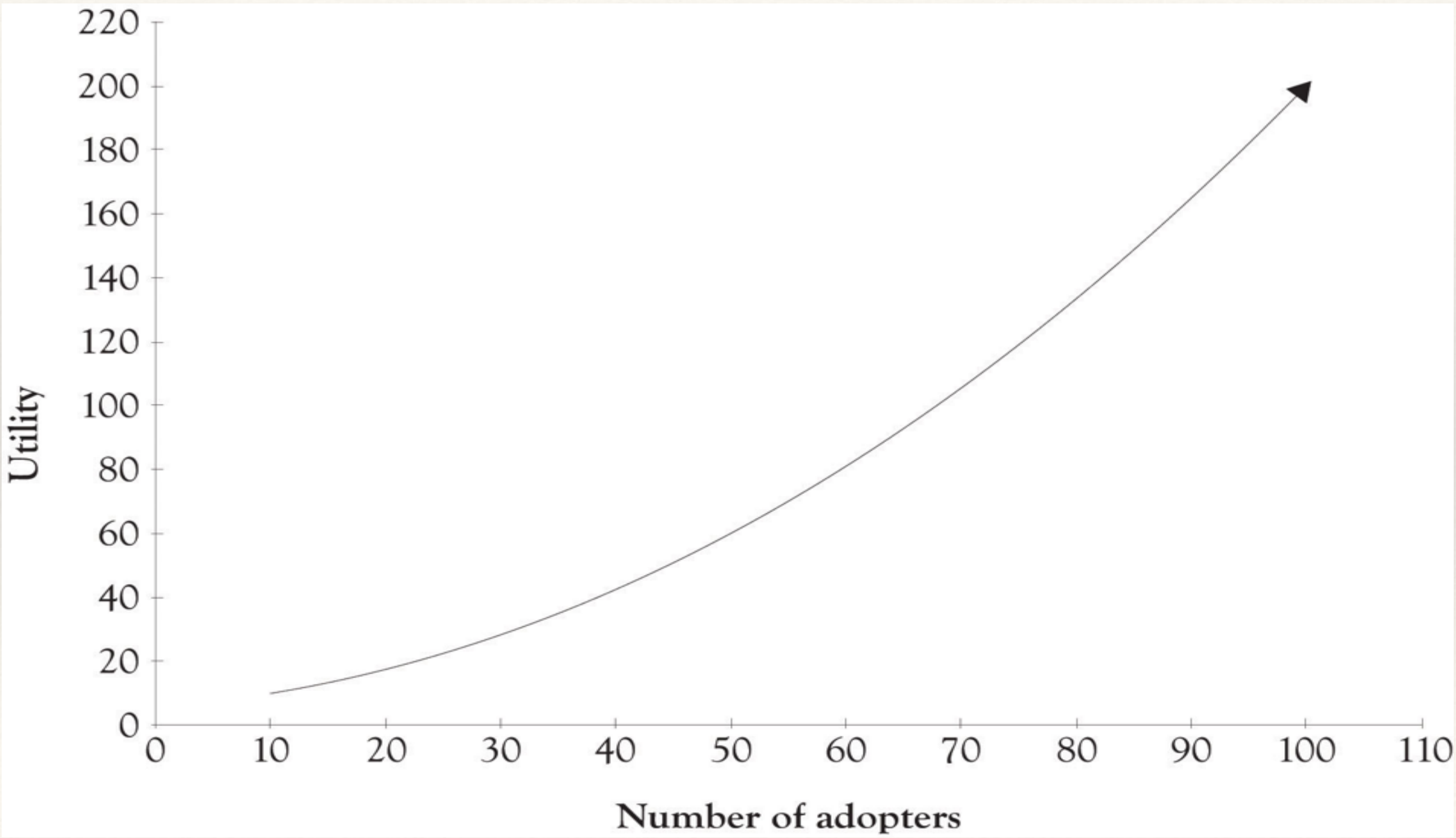
Costs

- Overview of cheapest technologies (of 2002!)
  - Key argument: shared telecenters
- To lower costs:
  - Provide service within existing businesses
  - Offer free Internet access as renumeration
  - Hire part time, low pay workers (e.g. students)

Revenue

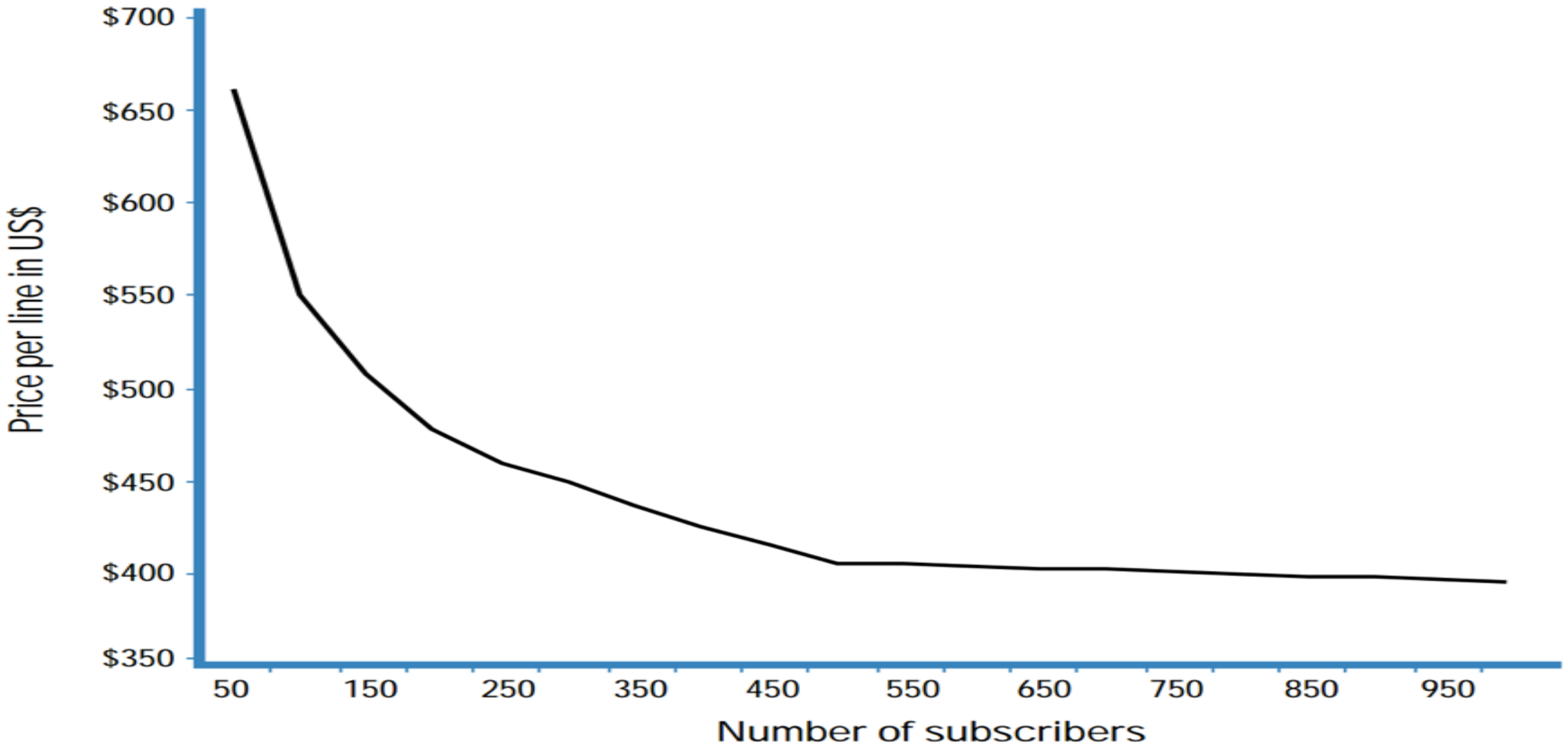
- User fees are main source of revenue. Sometimes problematic.
- Argues that:
  - Core communication is “killer app”; ~50% of revenue
  - Other apps (e-commerce, agribusiness, e-government) play a secondary role
  - Entertainment apps drive initial adoption of ICTs

Network Effects: Metcalfe's Law



Network Effects: Economy of Scale

Figure 2: **Price per Subscriber for the corDECT Wireless Local Loop System**



Source: Midas Communications Technologies Private Limited, "CorDECT Wireless Access System," December 2000

Business Models

- Good for sustainability:
  - Local Service Providers (“Community Wireless”)
  - Anchor tenants
  - Localized services
  - Cooperation from urban supply-side

Policy

- Competition >> Monopolies
- Regulatory barriers:
  - Cash deposits, universal service requirements, wireless spectrum allocations
- Reluctance to interconnect possibly solved with policy
- VoIP as a powerful tool for creating competition

Local Capacity

- Skills needed for success:
  - Business
  - Technical
  - Management
  - Marketing

Perspective: Predictions

- Paper was written in 2002
- Contains many speculative claims
- Fruitful to look at whether the speculations came true!

Main prediction

- Sustainability of shared telecenters!
- 2008 paper by the same author (Michael L Best):
  - Sustainability Failures of Rural Telecenters: Challenges from the Sustainable Access in Rural India (SARI) Project

Technological Predictions

- Argues that the pervasive rural technologies will be:
  - Shared telecenters
  - Built from small, battery-powered devices
  - VoIP services (vs. telephony)
  - Mixture of wireless / VSAT / microwave, not wireline
  - Solar power

Business Predictions

- Market-based approaches most effective
- Core communication apps generating >50% of revenue
- New forms of e-commerce needed
- Argues that agribusiness not sustainable
- Local Service Providers will become pervasive

Social Predictions

- Shared (vs. individual) resources as a good culture fit
- Disparities in who benefits from ICTs
- “Diverse interests of all stakeholders converge around sustainable rural ICT”

Discussion

- Lack of methodology: is it an issue for anyone else besides me? How should we evaluate their claims?

Discussion

- Is it possible that financial sustainability is **at odds** with social sustainability?

Discussion

- Authors seem to assume that financial sustainability is more important than social, political, technological, environmental sustainability. Do we believe this?

Discussion

- Is all top-down funding bad?
- What about subsidies to “kick-start” sustainability?

Quips

- "**New** low-cost network **technologies** are **fundamentally rewriting equations** of economic self-sustainability"
- "…can help sustainability with **powerful** public/ private collaborations"
- "It is important for development organizations to **remain vigilant** in order to stem increased disparities"
- And the run-on, inscrutable sentences…