



India: The Impact of Mobile Phones

The Policy Paper Series • Number 9 • January 2009



Presented at the Report Launch on 19th Jan, 2009, New Delhi

An Econometric Analysis of the Impact of Mobile

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Research questions to which we sought answers



- What is the impact of mobile penetration on state growth rates?
- Do less-developed states show a greater impact of mobile penetration? and
- What are the links through which mobile telephony affects growth and what are the constraints, if any, which limit its impact?

We subjected available data to rigorous analysis and found



- While telecom policy & regulation are uniform across the states and mobile penetration is grabbing headlines
- India is still lagging behind China, Pakistan, Sri Lanka in terms of mobile penetration
- Further mobile penetration uneven across states but less than other ICT indicators- mobile, fixed, internet and broadband
- Diversity within India encourages Econometric Analysis

Key Findings & Policy Implications



- Indian states with higher mobile penetration can be expected to grow faster
- Every 10% increase in the mobile penetration rate results in 1.2% points higher growth
- If Bihar were to enjoy the same mobile penetration rate as Punjab then, it would enjoy a growth rate that is about 4% higher
- Growth effects of mobile are more pronounced penetration exceeds a critical mass of 25%, implying network effects
- Necessary to bridge the gap between states, urban and rural areas via effective competition, efficient spectrum management and a market based policy

The Impact of Mobiles on Agricultural Productivity

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Key Takeaways



- Mobile phones and mobile enabled information services can act as **catalyst** in removing existing information asymmetry
- Bridge the gap between the **availability** and **delivery** of inputs and infrastructure
- Magnitude of economic benefits depends on **quality**, timeliness and **trustworthiness** of the information
- Fishermen- safety benefits, decreased isolation and vulnerability
- **Small farmers/** fishermen are not able to leverage the benefits as efficiently as the **large farmers/** fishermen

Binding Constraints



- Credit constraint- '*Bondedness*'
- Lack of skill and risk taking capacity
- Quality and Reliability of information
- Physical Infrastructure
- Market inefficiency

Encouragingly the research suggests



- **Social networks** - role in building the trust to influence the adoption of new mindsets and actions by small farmers
- Extension services and capacity-building efforts can **complement mobile** based information dissemination to accelerate the adoption of new techniques.
- Policy changes needed to encourage **better access** to high-quality inputs and credit for small farmers
- Public and private investment- necessary to **resolve critical infrastructure gaps**

A Survey of Usage of mobile in Poor Urban Areas

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Focus of the Study



The survey questions aimed to

- Understand the determinants of ownership and usage, Measure the perceived impacts of using a mobile and Understand how these impacts came about

Why Study Urban Slums

- Increasing Urbanization
- Increasing share of Urban sector to GDP (60%)

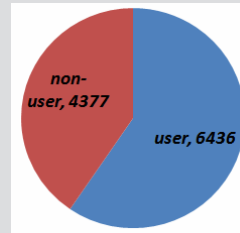
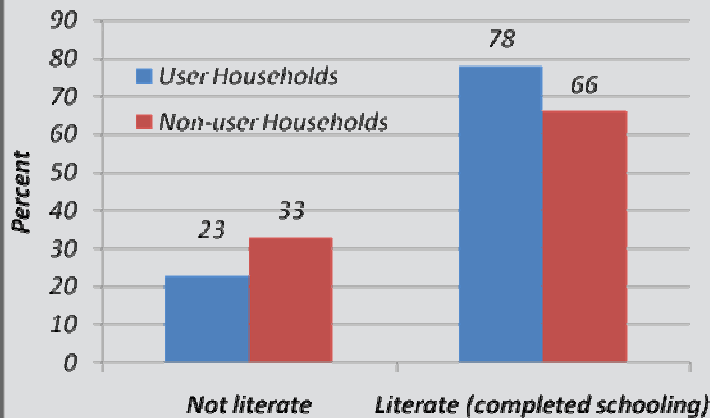
Key Findings

- ***User households differ significantly from non user households: earnings, literacy***
- ***Users report positive changes in social and economic situation***
- ***Mobiles affect work practices and provide economic benefits: decrease transaction costs, increase geographical coverage***

Sample Characteristics

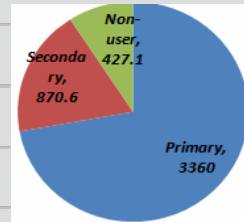
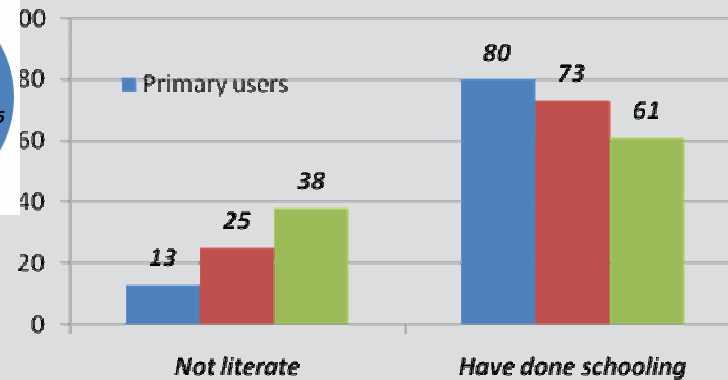


User HHs vs. Non-User HHs



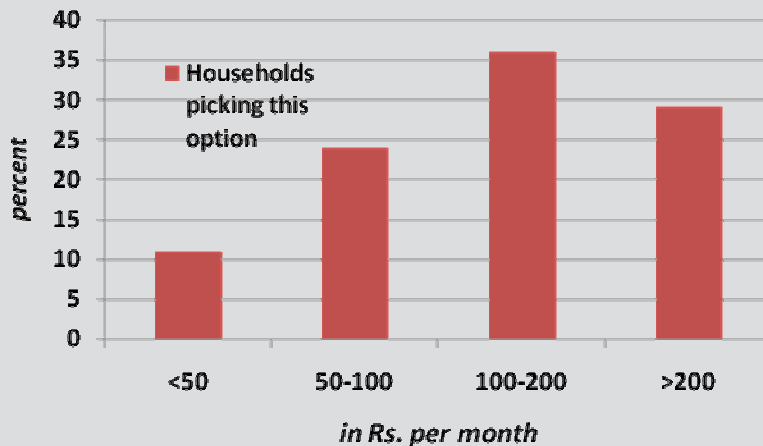
Distribution of HHs Earnings

Users vs. Non Users

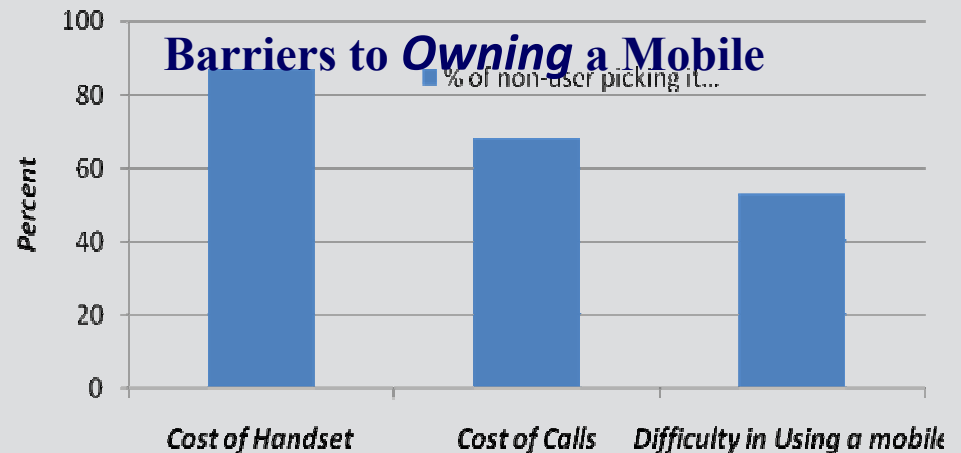


Distribution of average Earnings

Expenditure on Mobiles



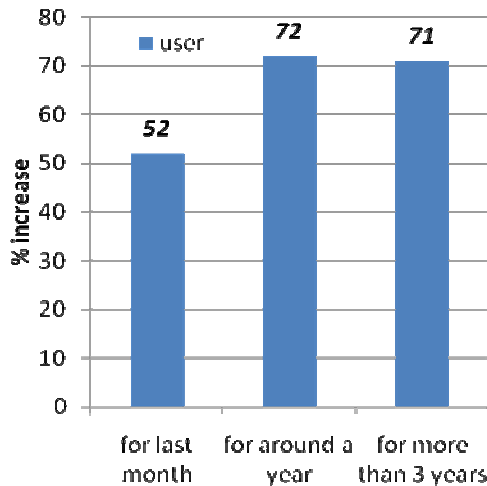
Barriers to Owning a Mobile



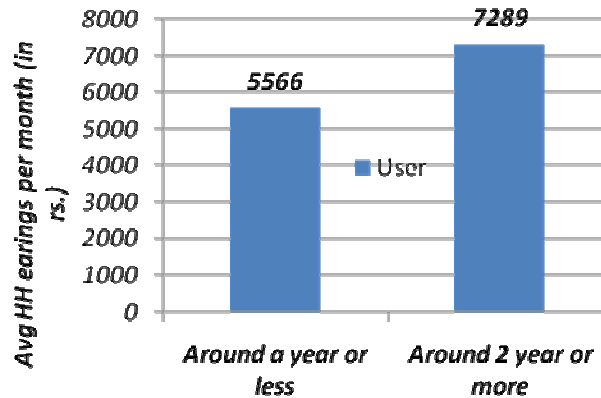
Effects of Mobiles



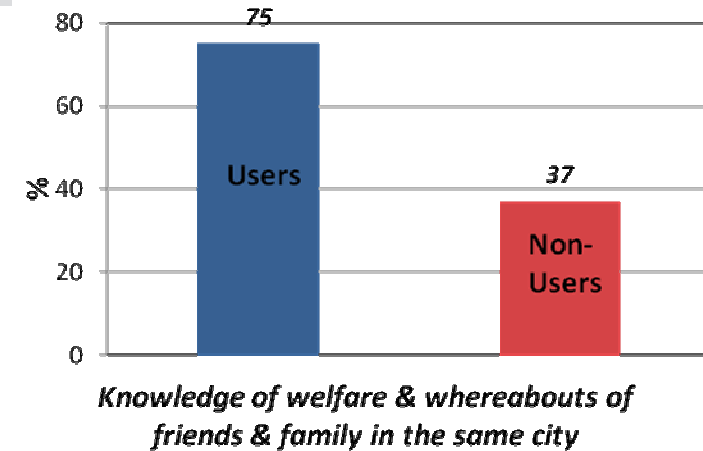
Change in Value Derived Over Time



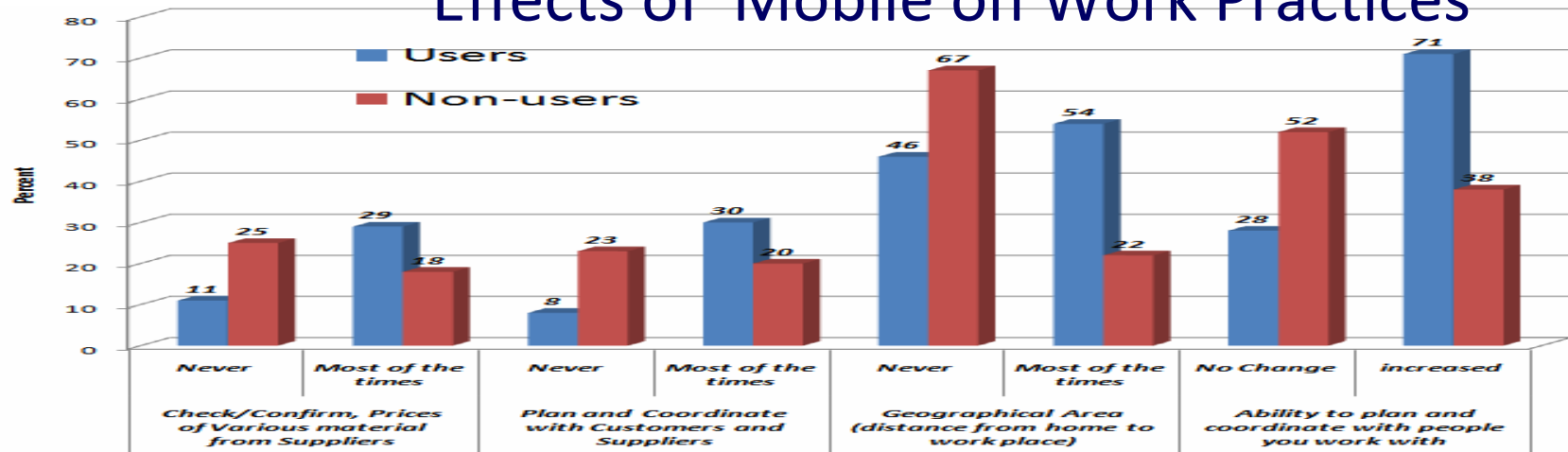
Relationship Between Earnings & Duration of Ownership



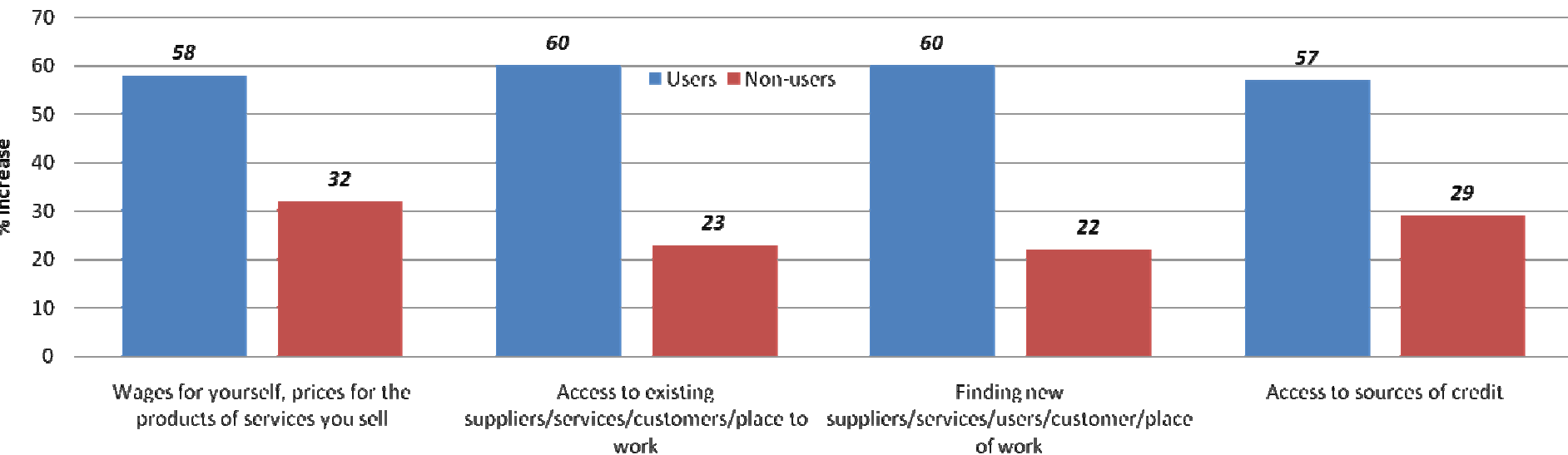
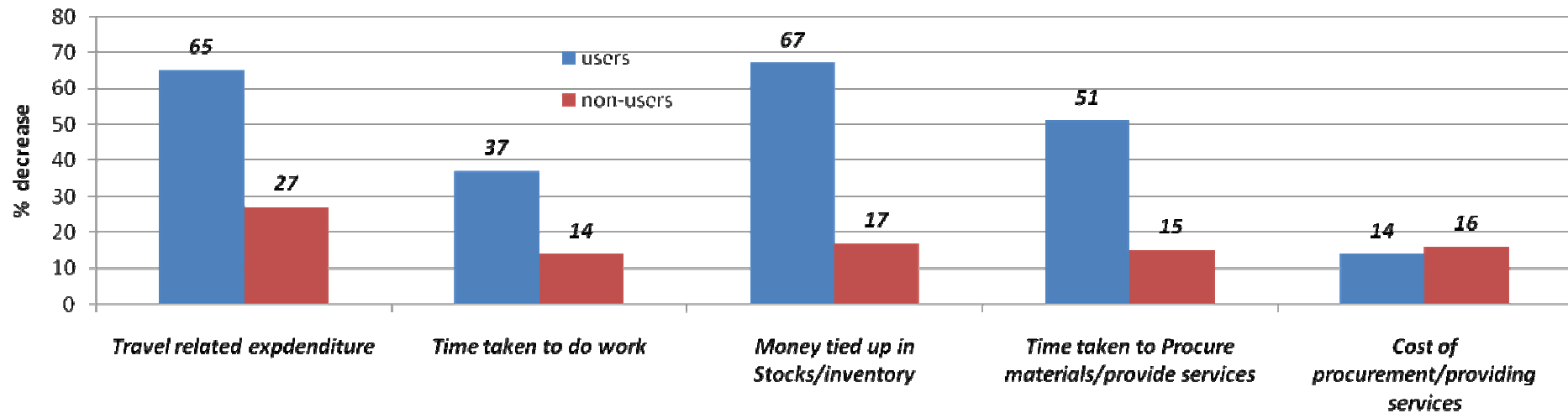
Social Impacts



Effects of Mobile on Work Practices



Work Benefits



The Impact of Mobiles in the SME Sector

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The Context



- Over 90% of India's businesses are small and medium enterprises (SMEs) with investments of less than Rs.500,000 (\$10,000)
- 343 million workers employed in SME sector
- 70% involved in manufacturing and trading; 22% in professional and other services
- Approx. 80% of SMEs are unregistered
- Face crippling constraints e.g. limited resources, uncertain cash flows, insecure work places, informal businesses, scaling & quality challenges posed by need to combine multiple roles

What are SMEs Doing with Mobile Phones?



- **SMSOne** helps youths with 10 year's education make Rs 5000 (US \$100) per month by sending SMS messages
- Construction workers with a mobile phone can find more work, higher incomes, insurance, training by registering with **Labournet**
- **Pashmina shawl trader** expands customer base, controls costs, quality and inventory, work effectively with international clients
- Pavement **Henna Artist** expands work, serves more lucrative clients and trains new recruits from his village.
- **Vegetable vendors** offers personalized services, expands customer base, procures more efficiently, expands work options
- **Veterinary Doctor** provides service by dealing directly with owners instead of intermediaries like domestic staff
- **Taxi Companies** offer superior service, improve efficiency & security
- **Power Backup** provider offers 24/7 service to more lucrative clients

Conclusion



- Mobile phones are especially powerful tools for SMEs
- SMEs use mobiles creatively and shrewdly to mitigate constraints of size, scale, resources, training, credit, cash flows, security, etc.
- Mobile phones offer:
 - Greater income from higher value to customers
 - Improved quality through better monitoring and staff retention
 - Efficiencies due to reduced travel, better procurement, scheduling,
 - More effective multi-tasking
 - Access to new customers and removal of “middlemen”
 - Greater security for work away from their own premises
 - Better co-ordination of home and work

Thank you...

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