Information, Efficiency, and Sustainability in Indian Agricultural Markets: 

e-Choupal, ITC’s Private Initiative

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Structure of Presentation

I. Background

II. e-Choupal: rationale for case study

III. e-Choupal: The IT Revolution in Indian Agricultural Markets
   - The Pre e-Choupal Supply Chain Logistics in India
   - The Post e-Choupal Supply Chain Logistics in India
   - A WIN-WIN Situation: Benefits to
     - Farmers
     - Consumers, and
     - ITC

IV. Implications for Policy
Part I
Motivation

Creating information-rich societies, especially in poverty-stricken rural economies, can be a key element for providing food security, alleviating poverty, as well as, leading to sustainable development.
Background

- Low Agricultural productivity: contributes to 15% of GDP but 60% of Employment.
- Spiraling food prices.
- Supply-chain management problems in agricultural marketing.
- With fiscal deficits high, public investments in agriculture not expected to pick up.
- Private initiatives that promote productivity and embed sustainability in business model remain important.
ICT, Efficiency and Welfare in Agricultural Markets: The Theory

Direct Channel
1. Arbitrage channel
2. Market power channel

Indirect Channel
3. Supply responses
4. Reduced transportation cost, &
5. Reduced price variability

Each of these is discussed in the context of e-Choupal.
Part II

e-Choupal: Rationale for case study

- Recipient of several awards, including IT implementation.
- Analyzed as a case study by Harvard Business School, among others.
- In 1998, competition forced ITC’s International Business Division (IBD) to explore options of sale, merger or even closure. However, it decided to retain the business, and use IT.
- It set up internet kiosks called ‘e-Choupals’ and introduced a paradigm shift in the agriculture supply chain processes (easy and low cost information access to farmers).
Part III

e-Choupal

Location, Concept and Spread

- Located in a farmer’s house
- There is a PC, Internet connectivity, printer and UPS.
- Serves 600 farmers, 10 villages, within 5 km radius.
- Started in 2000; 6,500 e-Choupals; 40,000 villages; 4 million farmers, world’s largest rural digital infrastructure by private enterprise.
- e-Choupal has been a WIN-WIN situation for stakeholders
Access of Information to Farmers

- Creates a two-way channel between ITC and the villagers/Farmers. Set of websites provides the farmers with information on best practices and prevailing prices in the local and international markets. E-mail acts as the conduit for communication between farmers and ITC.
  - Farmers access information on prices
  - Optimal time for sowing and harvesting
  - New farming techniques
  - Ordering seeds and fertilizers, and other products such as consumer goods from ITC or its partners, at prices lower than those available from village traders.
  - At harvest time, ITC offers to buy the crop (wheat, soybeans, coffee, shrimp, and pulses) directly from any farmer at the previous day’s closing price. In this way, the e-Choupal system bypasses the government-mandated trading mandis.
e-Choupal: THE IT BREAKTHROUGH
Creating Virtual Vertical Integration and
Re-engineering Value Chain

Pre e-Choupal:

- Information asymmetry (on prices); Hierarchy of intermediaries, and exploitative nature of traders due to monopsonistic power.

Post e-Choupal:

- Well informed about local and global prices, receives on-time full payment, scientific testing methods, better remuneration for better quality products, transportation expenses reimbursed, etc.
- Value chain now from ‘Farm-Gate’ to ‘Factory-Gate’.
- **Unbundled what was bundled earlier** (Information and Transaction)
- **Bundled what was unbundled earlier** (information on weather forecast, credit, farm inputs, etc.).
e-Choupal
Value Chain Pre and Post

Pre
- Inbound Logistics
- Display and Inspection
- Auction: Price is Set
- Bagging & Weighing
- Payment: Installment
- Outbound Logistics

Post
- Pricing
- Inbound Logistics
- Inspection Grading
- Weighing & Complete Payment
- Hub Logistics
Select Findings: Goyal (2010)
23 districts of Madhya Pradesh, spread over 144 mandis and 1704 kiosks

Impact on Wholesale Market Price for soybean in mandis

- Kiosk increased the monthly price of soybean in mandi by 1.7% (Enhanced Transparency and competition).
- The minimum price received increased by 3.1%, while no impact on maximum price (logical).
- Price Dispersion in different mandis (Standard Deviation and Coefficient of Variation) reduced significantly.
Select Findings: Goyal (2010)
Cont...

Impact on Acreage, Output and Yield under soybean cultivation

- Area under cultivation of soybean increased by 19%, while area under cultivation of rice significantly reduced by 12.1% (Thus, change of crop-mix to Soy to reap better earnings).
- Further, with kiosks, the output of soybean significantly increased by 18.6%.
- With respect to the yield of soybean, the presence of kiosks had a non-significant impact.
Empowering of Farmers

Price Effect: Information Asymmetries Reduced
- **Arbitrage Channel**: The procurement *price of grains increased* due to ICT, enhancing profits.
- ICT intervention *Reduced Price Variability* among *Mandi* Prices.

Output Effect/Supply Response
- ICT intervention *increased area under cultivation* leading to increased output and *change of crop-mix* to reap better earnings.

Welfare Gains: Transfer and Efficiency Gains
- **Market Power Channel**: Reduced Monopsony power and led to *re-distribution of surplus*.
- Reduction in *Dead Weight Loss*. 
Corporate Sustainability
Low Cost IT Innovation

- Equipment cost of e-Choupal recovered in first year of operation.
- **Financially lucrative**: cost of procurement reduced from industry standard of 8% to 2%.
- **Internal rate of return** (IRR) on the project: 20%.
- ITC’s **market share and profitability** in Soy processing Agri export increased.
- e-Choupal used as a **one stop** shop.
- Promoted **rural development** at large and food security of farmers in particular.
Part IV
Way Forward

- India stands at 166th position among 228 countries with tele-density of 73.09 in 2013.
- However, its rural tele-density is much lower at 41.02.
- Thus immense scope for further ICT penetration exists.
- Thereby empowering Indian citizens, reducing not just the rural-urban divide, but the rich-poor divide, as well.
Policy Implication

- Food security a cause of great concern.
- India home to the largest number of hungry people in the world.
- With fiscal deficits already high, public investments in agriculture not expected to pick up.
- In this context, private ICT initiatives in Indian agriculture that help farmers and embed sustainability in their business model remain important.
Thank you

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