

Information, Efficiency, and Sustainability in Indian Agricultural Markets: e-Choupal, ITC's Private Initiative

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Structure of Presentation

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- **II.** e-Choupal: rationale for case study
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 - ❖ 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).
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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

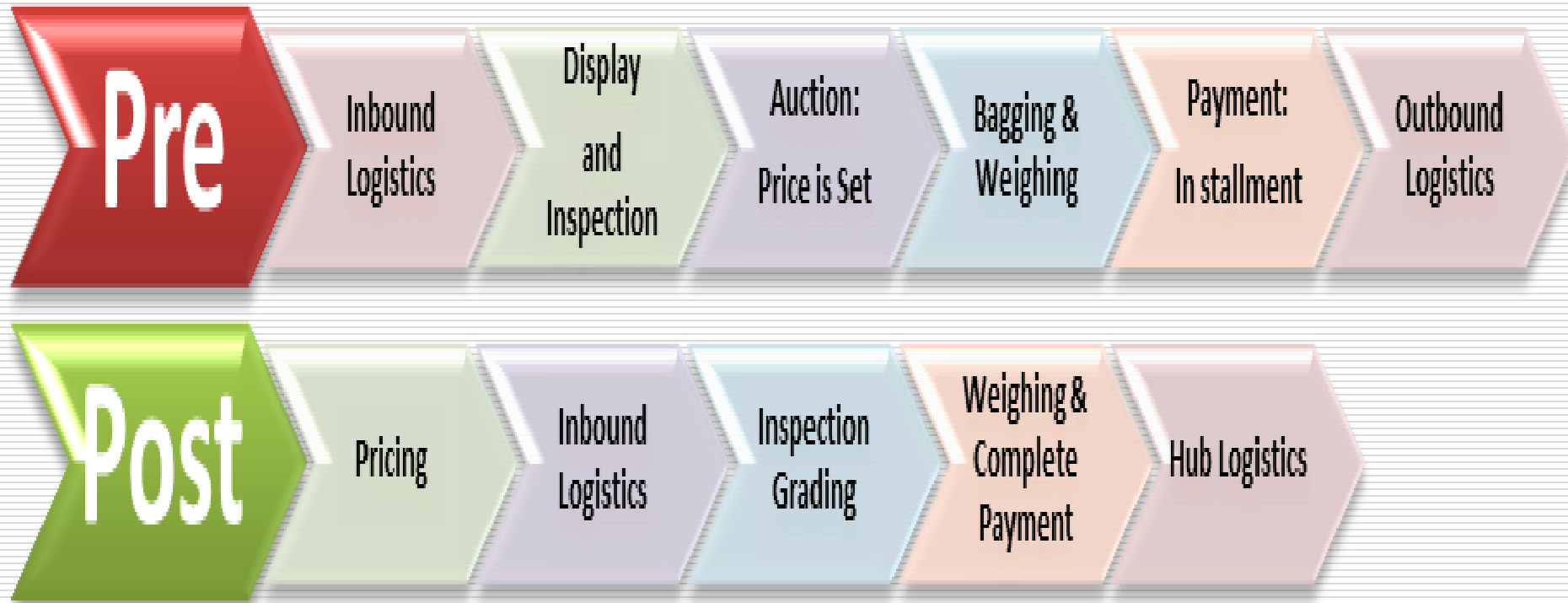
Pre e-Choupal:

- ❖ 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.).
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e-Choupal Value Chain Pre and Post



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.
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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 Asymetries 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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