

Developing a Rural Market e-hub

The case study of e-Choupal experience of ITC

B. Bowonder, Vinay Gupta and Amit Singh

Abstract

ICT has potential to make significant inroads in a traditional agrarian economy like India. Indian agro-sector has been exploiting the benefits to ICT. Innovative ICT application platforms are being created by private sector players in conjunction with local farmers. One such private initiative has been by ITC Ltd in the state of Madhya Pradesh. It has helped the farmers in many ways, such as developing of local leadership, shared ownership of the assets created in this initiative, access to the latest knowledge for the agro-sector, sustainable income levels and skill development for productivity improvement. This initiative from ITC[1] has become a benchmark today in the ICT initiatives in agro-sector. Several best practices can be learned from this initiative, namely:

- ease of replicability and scalability
- customization to meet the specific local needs and
- organizational commitment.

The success of e-choupal has heralded a new era in the Indian agro-sector. The work needs to be carried forward and replicated in the other untapped areas. Creating business channels that can create a win-win situation both business and farming community has enormous economies of scope. Once a channel is created it could be used for many products and services as shown in this case study. The main reasons for the success of the platform have been the involvement of local farmers and maintenance of the rural IT network by the corporate entity.

Keywords

Rural e-market, Shared Ownership, Local Leadership, Meta Market

Biographical notes

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"Internet will extend electronic marketplace and make it the ultimate go-between, the universal middleman."

- Bill Gates

Introduction

India is second most populous country in the world. Majority of its population lives in villages & earns their livelihood through farming. Agriculture is the backbone of Indian economy. It contributes around 26% of the total GDP. 65% of Indian population lives mainly in its 600,000 villages. Agriculture is the mainstay of the majority of the villagers as they are employed in agriculture or agriculture related services. Presence of diverse agro climate zones and a variety of soil and agro-climatic conditions have made possible the cultivation of almost every item from cash crops to food grains. Agriculture provides livelihood to about 65% of the labor force and accounts for 8.56% of India's exports.

After USA, India has maximum area of arable land but productivity per hectare is nowhere near the world best. India is not in the top ten countries in terms of productivity of rice and wheat. Despite green revolution Indian agriculture sector has not been able to achieve the world level productivity. Cardinal reasons behind this are highly fragmented nature of Indian farming with close to 33% of arable land held in units of less than 2 hectares per owner. It doesn't let farmers enjoy the economies of scale in operations and modern farming equipment proves very expensive for them. Because of it quality is also a problem. The fragmented farms are constraining the risk taking ability of Indian farmer locking him up into a vicious cycle of low risk taking ability > low investment > low productivity > weak market orientation > low value addition > low margin > low risk taking ability. So there is a need to look for interventions that can help the farmers realize higher level of income. This is a case study of the development of a rural market hub using a set of information communication technologies. This is the largest e-market initiative undertaken by any corporation in India and also it has been a successful experience. Many others are trying to replicate this.

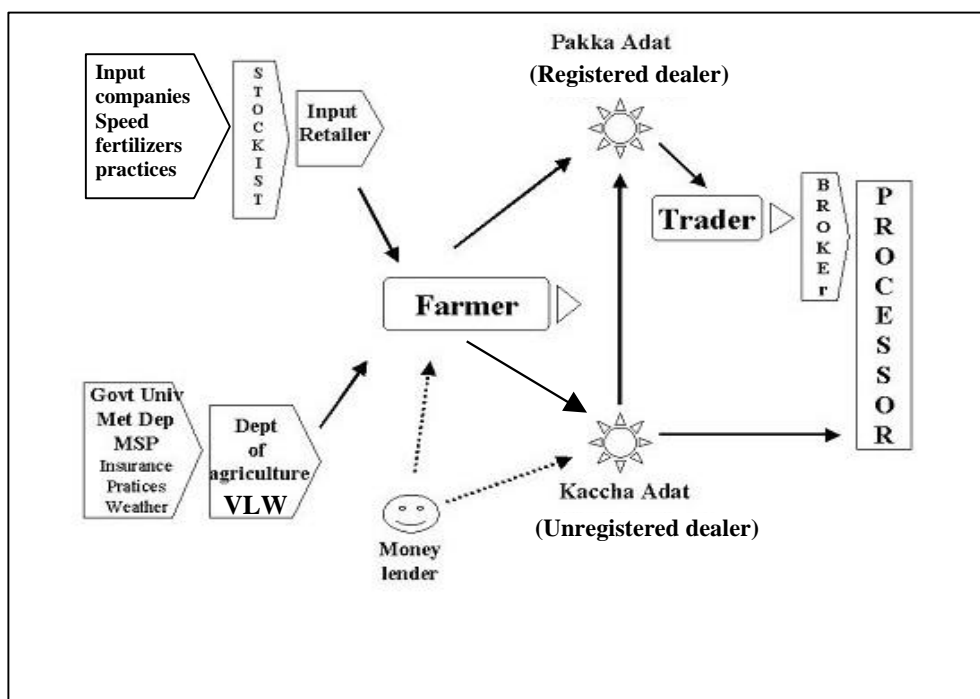


Figure 1: Conventional value chain

Background

Indian farmers rely on Department of Agriculture for various inputs such as weather, modern and scientific farming practices and insurance cover. All these are accumulated by the VLW of Department of Agriculture from various sources like Government Universities, Meteorological department, insurance companies' etc. For seeds, fertilizers etc. farmers approach input retailer who source them from wholesalers who are in direct contact with the manufacturers. After harvest, farmers bring their produce to Mandis (regional market yards) in small multiple lots throughout the year, where the beans are auctioned to the traders and agents of the processing companies in an open outcry method. The Government, to facilitate fair price discovery and enable aggregation of goods, regulates these market yards. Successful bidders then bag the beans, weigh them, pay cash to the farmers, and transport the cargo to the processing units (to whom it would have been sold through a broker). Many intermediaries carry out this whole activity, each one acting as a principal with the next leg in the transaction chain as shown in **Fig 1**. But with every intermediary the cost of produce increases to the processor as intermediary adds his profit margin to the cost although the farmers get the lowest price and margin in the whole value chain. Apart from this, intermediaries also block the flow of market information to the farmers and use that information for their own good. Here poor farmers are squeezed to the maximum without the benefits of their labor accruing to them but to the intermediaries. International Business Division of ITC started the new initiative namely e-choupal (village meeting place on an electronic platform).

About ITC-Inter Business

ITC Limited with an annual sale of US\$ 2 billion from its diversified businesses is one of India's largest corporations with its presence in tobacco, hotels, paper boards, foods fashion retailing and commodity export. International Business Division (IBD) started in 1990, a division of ITC is engaged in exports of a range of agricultural commodities. It contributes over 60% of ITC Group's total foreign exchange earnings. ITC-IBD has a focused approach on strengthening its core competencies in select commodities. Today, IBD continues to deliver agri-commodities like **Feed Ingredients** - Soyameal, Rapeseed Meal; **Foodgrains** - Rice (Basmati & Non Basmati), Wheat & Wheat Products, Pulses; **Coffee**, Black Pepper; **Edible Nuts** - Sesame Seeds, HPS Groundnuts, & **Marine products** like Shrimps and Prawns. ITC IBD's largest item for exports is soybean meal (a rich source of protein) which are exported to the animal feed mills around the world, competing with several transnational trading companies, mainly from the USA, Brazil, and Argentina.

e-choupal concept

e-choupal is a Hindi word which means "**village meeting place**". Market is a meeting place where vendors and customers come together to do transactions. e-choupal is a **virtual** market place where farmers can transact directly with a processor and can realize better price for their produce. e-choupal has the advantages of the market but spans very large varieties of vendors and customers. Geographical distances do not restrict participation in the e-choupal. The main disadvantage of conventional market is that information asymmetry is inherent in the market where as e-choupal provides for transparent transactions. This enables the participation of smaller as well as larger players. Elimination of some layers of intermediaries allows for larger share of profits to reach the lower end of value chain. The main attractiveness of e-choupal is that it can be used for connecting large producers/small producers and small users/large users, thereby eliminating the need for hierarchy of brokers. Internet is used as a low transaction cost backbone for communication. Physical delivery of produce to the processor is still done through the existing intermediaries. e-choupal does not attempt total elimination of intermediaries, as intermediaries are indispensable in economy like India where intermediaries are adding value to the every step of value chain at a low cost. Intermediaries have the expertise in storage, transportation, quality assessment and counter party risk reduction, which are difficult to replicate. e-Choupal provides farmers with all the market information and this helps them to become market oriented. In e-choupal intermediaries are leveraged but they are disintermediated from the market information flowing to the farmers.

Idea Generation

The idea of creating and leveraging an electronic market place came from the brainstorming session done by senior executives of ITC-IBD. ITC believes in using a business model that does good to society and helps in improving the standard of living of stakeholders as well as add value to the shareholder wealth. He also believed that to tap the Indian rural market opportunity, and to reach across a wide range in rural India, the leaders have to understand and unleash the power of the small-scale entrepreneur in village communities.

Idea Initiation

The challenge of servicing the changing needs of global customers, competing with the aggressive transnational trading behemoths in a low margin agri-commodity business, operating from a high cost economy like India and looking for alternative markets in the period of recession were the basic business driver behind the new business model. Apart from this ITC was increasingly looking to introduce service element in its activities and improve the customer centricity. Service element was never tried in commodity business in India before. ITC was aiming to introduce new lots, new varieties, new packaging and non-standardized orders through the new model.

ITC is the major exporter of soya bean. It used to buy soya bean mainly from the local markets. This created the problem of poor quality produce; need to handle a large variety and high cost of intermediation. Indian market has inadequate physical, social and institutional infrastructure that is substituted by intermediaries and they also add value to the chain on every step. ITC was looking for a solution that doesn't eliminate the intermediaries entirely but at the same time leverage their strengths. Apart from this

Conceptualization of the Project

ITC-IBD's top executives had a major brainstorming session. ITC was looking for a business model that is customer centric but uses existing infrastructure. Questions like the following were pondered upon:

- What's the best corporate business model for rural India?
- Does it require a new breed of leaders?
- What are the challenges that these leaders are facing?
- Will they have to work within new organizational structures?

The answers pointed towards an electronic market with low transaction cost. There are numerous intermediaries' in the value chain of the commodity business. But their total elimination from the value chain would not be prudent for any business model as they makeup for weak infrastructure, and deliver critical value in each leg at very low cost. But their aggregate cost makes the chain uncompetitive. And many times, by blocking information flow and market signals, they are able to extract abnormal profits for themselves than the value they are adding. A more effective business model must be able to leverage the physical transmission capabilities of these intermediaries, yet must disintermediate them from the flow of information and market signals. Answer to this question was found in virtual vertical integration in the value chain.

Creative use of information technology through e-Choupal have strengthened the basic business by enabling reduction of costs in the supply chain and deliver superior products /services to the customers like real time information on monsoon, prices, better farming practices while it has facilitated the interaction between company and village community. Apart from this, IT also gave the opportunity to build a unique model of 'rural distribution' on the same platform.

Identifying the Project Goals

The project was initiated with the objective of achieving a win-win situation for both farmers and the company. So on the one hand more profits and larger share of commodity exports were ensured for the company and on the other hand farmers realized better prices for their produce and improved the productivity of their farms. Initial goals were following:

Helps enhance farm productivity by

- Disseminating latest information on district level weather forecasts for short & medium terms
- Best practices in farming (generic as well as specific)
- Supply of quality inputs (seed, herbicide, fertilizer, pesticides etc) in the village itself

Helps improve price realization for farm produce by

- Making available live data on markets viz. Location / Buyer wise prices offered
- International market prices of relevant agri-commodities
- Historical & Up-to-date information on supply & demand
- Expert opinion on expected future price movements

Helps minimize transaction costs in marketing farm produce by

- Buying output at the farmers' doorstep
- Through transparent pricing & weight management practices

Unique Business Model: e-Choupal

The e-Choupal model has been specifically designed to tackle the challenges posed by the unique features of Indian agriculture, characterized by fragmented farms, weak infrastructure and the involvement of numerous intermediaries, who block critical market information from passing to the farmers and use that information for getting a big margin for themselves. The intermediaries capitalized on the economies of information and economies of physical things, which are tied together in a bundle. Due to this, the farmers does not get the proper price of its product & they continue to live below the poverty line. But e-Choupal sets things in order as it smoothens the flow of information to the farmers by disintermediating intermediaries from the chain of information flow and at the same time leverages the physical transmission capabilities of the them as they deliver critical value at every link for a very low cost in a weak infrastructure environment. The structure of e-choupal is shown in **Fig 2**.

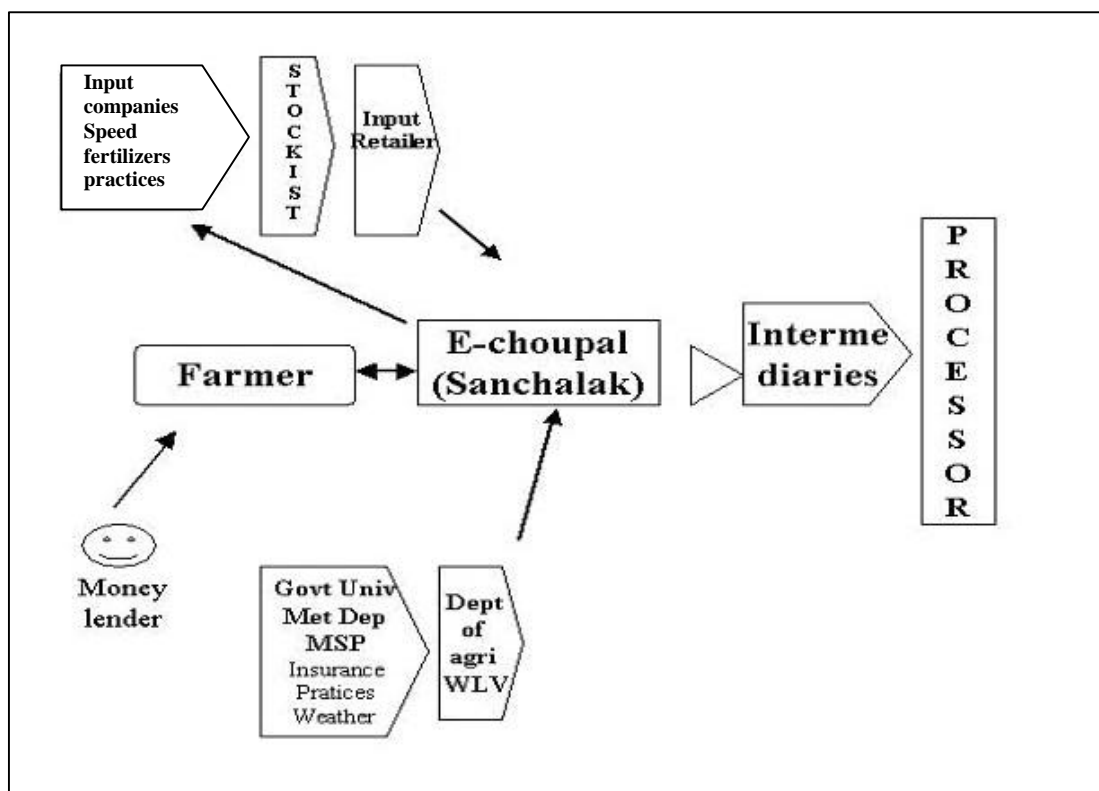


Figure 2: e-Choupal, a new business model

The project e-Choupal is ITC's unique click & mortar initiative e-Choupal is an ICT platform for carrying out trade at a number of locations. In this, ITC sets up a back-up physical service support at the village level, called Choupal, through Sanchalak: a lead farmer, who acts as the interface between computer and the farmer. ITC accumulates information regarding weather, modern farming practices, and market prices from sources like Meteorological Department, Agri-universities, mandis (regional market) etc., and uploads all information on to e-Choupal web site. All information is customized according to local farmers requirements and provided into the local language through computer set up by ITC in Sanchalak's house. Sanchalak access this information and facilitates its dissemination to farmers. Information regarding weather and scientific farming helps farmers to select the right crop and improve the productivity of their farms. Availability of market information helps farmers to become market oriented. They know what price ITC is quoting and the price prevalent in the local market, thereby helping better price realization for farmers. If farmer decides to sell to ITC, Sanchalak works as the aggregator of small farmers produce to sell them to ITC. Sanchalak also aggregates farmers input purchase orders for various items like seeds, pesticides and places them directly with the suppliers through internet and facilitate supply of high quality farm inputs as well as purchase of farm produce at farmers doorstep with the help of intermediaries as shown in **Fig 2**.

It can be deciphered that e-Choupal has added critical value to the existing supply chain through innovative application of information technology. ITC-IBD has successfully reached the vastly scattered farming villages of India and facilitated the smooth flow of rich information to them by disintermediating the intermediaries in flow of information. Power of information is working as the catalyst of transformation of the life of farmers by helping them to get improved yields from their farms and better price realization. Usually it is tough to maintain the expanding scale of reach and richness into the products or services but e-Choupal is achieving it easily and we find that overall value chain has been shifted horizontally on the scale of reach and richness.

e-Choupal is an ICT platform that facilitates flow of information and knowledge, and supports market transactions on line.

- It transmits **Information** (weather, prices, news),
- It transfers **Knowledge** (farm management, risk management)
- It facilitates sales of **Farm Inputs** (screened for quality) and
- It offers the choice of an alternative **Output**-marketing channel (convenience, lower transaction costs) to the farmer right at his doorstep

- It is an interlocking network of partnerships (ITC + Met Dept + Universities + Input COs + Sanyojaks, the erstwhile Commission Agents) bringing the “best-in-class” in information, knowledge and inputs.

e-choupal is, thus, distributed transaction platform that brings together sellers, buyers along with information and service providers. e-choupal is a model with a number of non-conventional characteristics namely:

- customer centric
- capable of being used for many commodities and multiple transactions
- easily scalable once it is verified
- uses local talent and local people and develops local leaders
- can be extended to local as well as global procurers
- stimulates local entrepreneurs to extend their innovativeness
- uses all the existing institutions and legal frameworks and
- many others can join the market as transaction time is low.

Role of ITC-IBD In The Innovative Process

An ICT transaction platform has to be created, rules have to be set for transactions and platform has to be maintained. ITC, thus, acted as a platform creator, platform co-ordinator and platform rule setter. A unique synthesis of concurrent top-down & bottom-up approach is the hallmark of this platform. What started as a top-down approach, when senior management conceptualized the new model at strategic level, soon became a bottom-up approach with the operating team generating several new ideas. Having resourced the project in its initial phase with a strong belief in the model's potential rather than the short-term pay-off, the Chairman of ITC continuously provided the inspirational leadership by challenging assumptions and flushing out alternative solutions. The senior executives of IBD brings thought leadership to the project, conceptualizes experiences, refines / articulates & communicates the business model / purpose constantly, besides extracting the value out of ideas generated by the operations team to continuously broaden the scope of the project. While the operating team, sweating it out in the rural hinterland executing the strategies and expanding the network brings backfield experiences as innovative inputs to be incorporated into the strategies.

The project is surging ahead through a well-coordinated team effort driven passionately by every member, each one playing the leadership role at different point of time depending on the context. Literally each one energizes the others.

Evolution of the ICT Platform

The e-choupal evolved slowly as a transaction platform and through learning it continuously evolved. Knowledge management was one of the crucial elements of e-choupal in which operations, concepts from other locations were continuously fed in to the system. The problems encountered while setting up and managing these 'e-choupals' are primarily of infrastructure inadequacies, including power supply, telecom connectivity and bandwidth. Several alternative and innovative solutions – some of them expensive – are being deployed to overcome these challenges of lack telecom and electricity connectivity in the villages e.g. Power back-up through batteries charged by Solar panels, upgrading BSNL exchanges with RNS kits, installation of VSAT equipment, Mobile Choupals, local caching of static content on website to stream in the dynamic content more efficiently, 24x7 helpdesk etc. apart from technological inadequacies a big challenge was to impart skills to the first time internet users in remote and inaccessible areas of rural India.

Creating a local language portal, which provided the required information to farmers such as local weather, market prices and best practices, was the major task. Content creation was also a major element of the model. This goal was supported by creating a B2B site, which integrated the transactions directly to the backend ERP and ensured that there was no latency in processing any of the procurement by the processing units. A key challenge at this stage was personalization of content for the fragmented and heterogeneous farmer groups.

At the operational level the technology and operational protocols evolved. One thing that the project has learnt in the beginning itself is that there are no off-the-shelf technology solutions for deployment in rural India. State-of-the-art technology requires localization to overcome the challenges of poor infrastructure and the digital divide that exists in rural India. Accordingly, the following innovations in technology was envisaged and these became the major elements of the ICT platform: namely

- Managing the vagaries of local power availability, more of non-availability, through UPS and renewable power sources
- User interfaces in the local language, and as far as possible are iconic and intuitive to support first-time computer users.

- Connecting the Last Mile, as the Internet is the primary backbone of e-choupal operated through local public telecom infrastructure or VSAT/Wireless connectivity solutions and
- Smart card technology to uniquely identify a choupal user and offer personalized content delivery based on the preferences of the user.

The challenge was to customize each of these, since where skill sets are limited and service facilities are poor. By careful planning they have been able to convert e-choupal into a E-hub that could be used for many commodities and many inputs. e-choupal is an expanding platform that increases its scope as it operates. E-hub facilitates other operators like inputs providers and rural distributors to work effectively through the “e-choupal” to deliver and procure goods from every participating village. This will be supported by direct feeds in to rural produce buyers and rural produce distributors, integration with their ERP’s / backend systems and a live Meta market with no inherent inefficiencies[2]. The technology roadmap to support this phase will be to have a secure, consolidated farmers database with all information pertaining to their holdings and credit worthiness to be available on-line. This database, along with identification provided by smart cards will enable support for on-line transactions through the “e-choupal” leading to integration with participating financial institutions such as banks, insurance and credit agencies to support the farmer transaction with procurers and distributors.

Initially e-choupal came up, as an experimental business model as such model had not been implemented before in India by anyone. So it was imperative that company itself created knowledge about the rural market and tried various things. The implementation is characterized by ‘rational experimentation’, internally called ‘Roll Out, Fix It and Scale Up’. Such an approach was adopted because many lessons can be learnt only by implementation, since there are no precedents and textbooks. As envisaged the platform allowed scalability and distributed operation[3].

It had rolled out e-choupal in different states like Madhya Pradesh, Andhra Pradesh, Karnataka and Uttar Pradesh and in different commodities like soyabean, wheat, coffee, aquaculture etc. ITC firstly launches e-choupal at the pilot stage in a state, this amounts to 50 to 100 e-choupals. If pilot stage is successful, company aims for critical mass scale 300 e-choupals. Saturation stage consists of more than 1500 e-choupals. The e-choupals for various commodities are in different stage of operation as shown in **Table 1**.

Table 1 : Stages in product life cycle stages

Commodity	Stage
Soyabean	Saturation stage
Coffee & aquaculture	Pilot stage
Wheat	Critical mass stage

The e-choupals for each commodity is conceptualized to meet the specific operational requirement of that business.

Users of the Platform and the Benefits Derived

The new technology initiative primarily meant changes in inter-personal dynamics at an extended organization level, viz.

- Greater interface with farmers, needing skills to be culturally sensitive, and open to generate ideas from the routine daily interactions with Sanchalak and villagers and collaborative effort across organizations as well as within the enterprise vs the traditional competitive approach.
- Employee required understanding villagers and their activities. Employee had to be conversant with villagers' language so as to facilitate easy communication and understanding of their problems. Employee must have the commitment to work in most far-flung areas to achieve the objective of the project.
- Hierarchical and traditional management techniques had to be unlearned and the managers had to adopt a whole new way of creating distributed leadership in the organization. It was essential that a close collaboration and cooperation be developed between employee working in the hinterland and Sanchalak. For it ITC have been conducting a series of employee & Sanchalak focused programs / events to develop these new skills sets:
 - farmer relationship management workshops for field teams
 - outbound training program for senior management team including leadership style inventory workshop for improving collaborative management skills
 - strategy workshops for communicating purpose and generating ideas continuously

- training programs for quality testing and entrepreneurial development of the sanchalaks and
- creating trust among the contributing farmers as it is the only aspect that can facilitate sustainable working relationships.

ITC-IBD set up “Manthan”, Enterprise Knowledge Portal as the central repository of knowledge, facilitating knowledge sharing & learning. A structural change was done to enable and foster the integrated interdependence for frontline entrepreneurship and cross-unit learning. Free standing and self-sufficient product groups (silos) morphed into inter-dependent collaborative units of specialization (named, Operations Resource Clusters). A system is evolved that enforces collaboration on its own by requiring each group to co-operate and share in order to achieve its own interests. The new enterprise architecture, now getting shaped, brought home certain requirements such as, specialization in shared collaboration, and collective problem solving with individual accountabilities for implementation. Team dynamics, inter-personal issues, organizational beliefs and individual anxieties fundamental to the rural market setting were addressed by the senior management team with continuous recognition, communication and counseling. There are certain minimum competences that is needed for operating the platform and the success will come from the ability of ITC to develop the skills quickly and this helped in making the platform operational in a short time. The spirit behind this skill acquisition was the total commitment on the part of ITC staff[4].

Local Leadership Development

e-Choupal's objective was to be achieved through the application of technology, so Internet was used as main component for implementation of project. But the biggest bottleneck was the lack of telecom connectivity in rural areas and illiteracy of the beneficiaries. Even if the first problem is solved through setting up VSAT connection the second problem will still persist. It was impractical and unrealistic to think that farmers would be able to browse the net and make use of facilities provided by the e-choupal. So it was imperative that e-choupal set up its own hub into villages with their representative, called Sanchalak, handling all the activities and working as an intermediary between ITC and farmers.

For building trust among the farmers towards the activities of ITC it was essential the interface between farmers and company is from the village community itself and not somebody from outside. In future, when competitors of ITC also use this model ITC success would depend on trust and sense of belonging is cultivated into the villagers towards ITC with the assistance of Sanchalak. Sanchalak is identified from within the

village. Sanchalak was selected on the basis of their education, age, family size, caste, political lineage and other affiliation. Sanchalak is made to take a public oath in which he swears to perform his job without any bias with full honesty and commitment. It makes him feel responsible towards his personal deeds and village community. Sanchalak encourages farmers to become the member of e-choupal by explaining to the farmers various benefits, e-choupal can provide. ITC employees are constantly available to his assistance during this time[5].

An Internet kiosk is established in the house of Sanchalak. ITC employees impart operational knowledge of computer and Internet to him so that he can perform his task efficiently and effectively. Sanchalak surfs the website of e-choupal and provides the farmers with latest weather forecast, market prices and productivity enhancing advice. Sanchalak works as the aggregator for the produce of small farmers which is to be sold to ITC and also aggregates the input orders of farmers to be directly placed with the manufacturers. In return, Sanchalak has a transaction-based income stream (inputs & output). Some of the Sanchalaks are making close to Rs. 100,000 as income from solely their e-choupal operations. The best Sanchalaks are also awards given in the meeting of Sachalaks. This encourages other Sanchalaks to work efficiently and committed. The delivery mechanism of e-Choupal, in addition to being a low cost option, is also effective because the sanchalak is from within the community, and motivation becomes intrinsic because of this internalization. The most critical aspect here is the selection and acceptance of Sanchalak. ITC used a transparent mechanism and it is driven on performance criteria and public testimony.

Encouraging Local Participation

The market-led business enhances the competitiveness and triggers a virtuous cycle of higher productivity, higher incomes, enlarged capacity for farmer risk management, larger investments and higher quality and productivity. This is the reverse of vicious cycle operating in Indian agriculture. Further, a growth in rural incomes will also unleash the latent demand for industrial goods, which are necessary for the continued growth of the Indian economy. This will create another virtuous cycle propelling the economy into a higher growth. For realization of these goals it is essential that the participation of rural community be ensured.

ITC uses inputs from farmers to create the content for website. Involvement of farmers in content creation helps to easily customize the information as per the local requirements[6]. Farmers at ITC do the focus group discussion to identify the information required by the farmers in village. Layout of website, language of

information, contents all are decided on the advise of the farmers. Participation of local farmers ensures provision of adequate and decipherable information to e-choupal, which can be employed into the farming, or pricing of the produce. The increased participation in e-choupal has been due to the creation of win-win situation in which both the firm and the farmer benefits equally. The farmer gets attracted towards e-choupal due to increased profits, added services that he could get, saving in time, and the ability to use the e-choupal for many transactions.

e-choupal operation has been successful. It has reduced the cost of procurement and the cost of transit and the material handling cost. Procurement transaction costs are reduced from the industry standard of 8% (farmer incurs 3% and the processor incurs 5%) to 2% (with farmer saving all his 3%, and the processor – ITC – saving 3%) as shown in **Table 2.**

Table 2: Conventional transaction vs e-choupal costs

Cost element	Conventional market	e-Choupal
Trolley Freight to Mandi	100	Nil
Filling & Weighing Labor	70	Nil
Labor Khadi Karai	50	Nil
Handling Loss	50	Nil
Sub Total	270	Nil
Processor Incurs		
Commission to Agent	100	50
Cost of Gunny Bags	75	Nil
Labor (Stitching & Loading)	35	Nil
Labor at Factory (Unloading)	35	35
Freight to Factory	250	100
Transit Losses	10	Nil
Sub Total	505	185
Grand Total	775	185
As % of Beans Value	8%	2%

The total cost incurred on the initiative so far has been Rs 50 Mn (Rs 35 Mn capital cost towards computers and other hardware at the kiosks as well as central servers + Rs 15 Mn revenue expenditure incurred towards portal development, people overhead etc). But ITC has accrued a benefit Rs. 20 Mn, which is the equivalent of full investment on 40% of the choupals (kiosks). This came from the procurement of 60,000 tonnes of soyabean.

The net savings will come down gradually, because the standard benchmark costs will be lower once competition catches up with some of the new business processes. After factoring in such reduction in savings, and considering the investments in expansion of the number of choupals (which could mean coverage of some villages with lower potential therefore a lower penetration rate), the likely revenue streams have been worked out. The details are shown in **Table 3**.

Table 3: Future Revenues

Rupees in Million						
	2001-02	2002-03	2003-04	2004-05	2005-06	Total
Total Outflows	52.1	123.7	3.9	3.9	3.9	187.5
Total Inflows	15.3	32.5	47.5	60.0	65.0	220.3
Tax Add backs on Depreciation	2.6	5.9	9.3	9.3	9.3	36.4
Net Inflow (Outflow)	(34.2)	(85.3)	52.9	65.4	70.4	69.2
Cumulative Inflow (Outflow)	(34.2)	(119.5)	(66.6)	(1.2)	69.2	

[8]

The internal rate of return (IRR) on the Project works out to be 21.55%

Further, the whole platform is available literally cost free for the rural distribution business, which showed promise of even more significant margins based on the sales done on pilot scale during the current year. This income is not included in the above IRR calculations. Further ITC's market share in soybean processing industry increased in one year from 8% to 12%, reducing the difference with the market leader (20%). Before e-choupal was launched, its market share was a constant 8% throughout the prior five years. Special transactions on the finished products side (export markets for soybean meal), like identity preserved cargo flow and product traceability back to farm stage,

though small in volume currently, are facilitating attraction of niche customers. While the normal gross trading margins are about 4% in the soya business, niche sales have the potential to earn up to 10%, given the demand for GMO free & organic products from certain markets. Above all, the knowledge-bundled-sale of farm inputs has contributed to increase in farm yields by over 10% (from 1.1 MT / Ha to over 1.2 MT / Ha on an average), which increased the farmer loyalty towards ITC on one hand, and demonstrated the new business model's capability to be a unique rural distribution channel with relatively unlimited scope on the other hand [9].

Critical Success Factors

The e-Choupal experience highlights that ICT platforms can provide rural connectivity and e-commerce support. These platforms have enormous potential provided they are conceptualized for the specific needs of the community and business. Some of the elements that helped the e-choupal to work successfully are discussed below:

- **Comprehensive knowledge of rural markets:** Rural markets are both economic and social networks and there is a strong connection between the operation of social and economic transactions. Understanding the operations is vital before the systems are conceptualized. Use of local population, as much as possible helped the network to get the acceptance closely.
- **Designing a Win-Win transaction model:** The success of e-choupal comes from the condition in which both the farmer and the processor share the benefits coming out of the elimination of middle men and due to timely information availability.
- **Leveraging the logistics channels:** The existing logistics of the rural markets are leveraged but they are not able to exploit the information asymmetry (unlike that in a conventional market). In that sense e-choupal uses the local institutions but eliminates the information asymmetry that they used previously.
- **Selection of Sanchalak:** Both the selection of Sanchalak and the acceptance of Sanchalak by the community are very critical for the success of e-choupal. ITC used a trial and error method for developing the procedure for selecting Sanchalaks. In the platform terminology Sanchalak is the interface for maintaining the platform. For the farmer the Sanchalak is the e-choupal. Training and sensitizing him for the crucial role has been the main reason for the acceptance of the Sanchalak by the farmers. Sanchalak, thus, acts as the

coordinator of the knowledge community, and a representative of farming community.

- **Evolving an appropriate user interface:** Technology interface used in rural areas have to be very simple. Interface has to be tried for rural settings and only after its validation it has to be used. Firstly, one has to understand the user pattern and secondly, it has to be tried, tested and validated. For example, farmers do not understand the concept of insurance. e-Choupal evolved a simple interfacing arrangement that a farmer can understand.
- **Bottom-up model for entrepreneurship:** e-Choupal encourages enormous amount of creativity at the local level along with local entrepreneurship stimulation. The farmer and Sanchalak are free to use the e-choupal and develop new uses. e-choupal unleashes the creative spirit in the rural India.

e-choupal concept helped in the creation of skilled personnel in rural communities. This has a positive spillover effect[10].

Replicating The Experience

The concept of e-choupal is applicable to any agricultural & allied activity in rural India. The basic character of agriculture is the same across India, but value chains of different crops have their own intricate dynamics. So are the socio economic characteristics of different regions. These complexities must be factored in, while making e-choupal operational. Consequently the supply chain efficiencies/revenue models vary across commodities & geographies. ITC has identified e-choupal as its major corporate initiative and making substantial investments[7]

The e-choupal project is already being scaled up for use for business such as coffee, aquaculture and wheat in other states of India, after successfully crossing the pilot stage this season. In case of wheat, for example, the transformation in the industry will be led by e-choupal's ability to bridge the disconnect between the way wheat is bought (physical properties), is processed (chemical properties) and the way the final product is bought by the consumer (rheological properties & organoleptic tests) which ensures the quality consistency in different forms of Atta (Indian flour). This was just not possible – or too expensive – in the system where wheat is sold currently.

Apart from original utility of e-choupal for procurement of farm produce it is gradually tested for effectiveness into distribution of range of goods and service those rural communities. This business model has opened up an entirely new and more effective channel for distribution and marketing of a range of goods & services into rural India. e-choupal is also being tested marketed for new services these include selling home appliances, consumer goods etc apart from farm inputs like pesticides, seeds and fertilizers. It would not only facilitate consumer and insurance company's entry into unexplored and complex Indian rural markets but also simultaneously improve the living standard of people. Sanchalak or an intermediary from the village would take orders from the farmers and villagers for all the above-mentioned items. He would aggregate the orders into a big order and this order would directly be placed through network with the manufacturer of goods or services. All the products and services would directly delivered to the village [11].

Observing the success of e-choupal and its huge potential for setting up a electronic market, several other players are also contemplating building portals and setting up of kiosks and operating e-choupal kind of business model. Ruchi, the largest player in soyabean exports, has made a beginning with 15 villages. The Tata group too has stepped in with its own plans, and that too with dual foray, one by the Tata Chemicals the other by Rallis India. Both these Tata group companies have their own set of Kisan Kendras, which total to around 200-plus across various villages. Tata Kisan Kendras (TKK) set up earlier, have roped in the National Remote Sensing Agency (NRSA) for using its satellite imagery service, to be known as 'precision farming'. The service combines the use of information technology along with satellite mapping techniques to advice farms to adopt farming practices that maximizes agricultural yields. NRSA will supply to the TKK satellite images for soil patterns and crop distribution while the TKK's will in turn interpret the data and superimpose it on the digitized image of the village maps. Tata group has also taken up farm management services at Chitradurga in Karnataka to support pomegranate growers and according sources, plans are in the pipeline to undertake contract farming for fruits and vegetables in Andhra Pradesh, wheat in Madhya Pradesh and Basmati rice in the northern states.

Conclusion

e-Choupal has been most successful initiative to wire rural India and to involve the farmers in learning. ITC has envisaged on various plans to replicate the success achieved to other states and expand the services offered to other commodities like spices. ITC has also identified e-Choupal as an important driver for exports, which are targeted at \$ 400 million by 2005. e-Choupal has also attracted attention from the renowned academicians, since e-Choupal has managed to innovate the supply-chain, and model applied by ITC has enough potential to be replicated in the under-developed and developing countries [12].

ITC has been successful in making the farmer feel the sense of ownership and enthuse him to generate additional revenue by eliminating middleman. ITC through e-Choupal has bought various accolades such as “Golden Star Trading House” for showing impressive track record in exports of agricultural commodities. Participating farmers have been able to enhance their income and eliminate the delay in getting the payment once the product is sold. It has helped in reducing debt burden of the farmers.

The success of e-Choupal has given new lessons to the corporates in the India and abroad. The gains from the novel initiative are manifold to ITC, the farmers and other companies. e-Choupal has helped the farmers to improve their productivity and get better prices, whereas ITC has benefited by better sourcing of raw materials and building a backbone to market the end products which is vital for the FMCG companies like ITC.

The case study of e-choupal helps in identifying the factors that contributed to the success of the ICT platform in many states:

- E-choupal has been one of the best ICT application platforms that has been scaled replicated and sustained. This is due to the fact that it was specifically designed for that specific business.
- The Sanchalaks are selected carefully and they have been able to work as non-partisan coordinators. Sanchalaks have been able to induce the feeling of involvement. This participative style helped ICT to build trust at the local level. Trust is essential in sustaining relationships at the community level.
- E-choupal was customized and then validated and then expanded to the operational phase. E-choupal has found acceptance in all three businesses they have ventured into. The model of validating and then rolling it out has been an effective way of implementing a new business model.

- E-choupal has provided economic benefits even for the small farmers. Every beneficiary gets benefit and the equitable benefits makes the adoption very rapid.
- Intensive training and distributed leadership concept facilitated the acceptance of the platform concept. The empowerment of people through local action and training reduces the disparities. The ability of the choupals to deal with many inputs provides for economies of scope.

e-choupal has been heralded as the attempt at making ICT platforms enhance the market access, by eliminating the use of middlemen. ITC had the vision to conceptualize and implement this procurement cum marketing platform. It is a low cost/multi business model operated by the farmer representative. It has been validated, scaled and sustained for many businesses by ITC. By embarking on this initiative, ITC has shown that ICT platforms can benefit even if the marginal farmers.

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