

Agribusiness sector in Rural India and increasing opportunities of E- Commerce

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Introduction

Agriculture and the food supply chain in general possess a history of quick adoption and assimilation of new technologies, especially cost reduction technologies. Agriculture was identified as one of the great promises of e-commerce; the high level of fragmentation present in the supply chain, large volumes traded, and homogeneous products only reinforced the expectations. Internet technology has provided the possibility for cost reduction and demand enhancement along the food supply chain through the use of e-commerce. Automation has the capacity to substantially reduce transaction and procurement costs. E-commerce can improve firm efficiency by reducing inventory levels, transportation costs, and order and delivery time. E-commerce markets are expected to be more transparent and more perfectly competitive than physical markets, conditions that should attract more consumers and thus increase demand. The contribution of Internet technology to food chains has the potential to release value that was previously locked by higher costs along the food chain. (Thompson & Eales, 2004) E-commerce's value creation along agricultural markets and the food chains will only occur to the extent that e-commerce firms exist throughout the electronic market. The problem is that e-commerce firms throughout agriculture and the food chains face a serious challenge to stay in business, many have been forced to exit the market, and only a few have survived to develop into functional web-based businesses, and even for these the future is uncertain. About two-third of Indian population is engaged in agriculture. Agriculture being the major source of livelihood in India especially in villages is ironically very backward in technology. The farmers get low price for their products because of limited number of buyers and sellers due to limitations in form of geographical and temporal barriers, lack of price information and lack of technological knowledge. The e-business breaks these barriers because trading is fast and can be done from any place and with anyone irrespective of his location. It can also provide the latest price information. This paper encapsulates the status of Information technology and agriculture in India, e-business platform for Indian agriculture market and challenges as well strategies in adoption of e-commerce in agribusiness sector in India. Paper starts with a pitching to e-commerce and agriculture along with general framework for e-commerce adoption followed by different business models supporting e-commerce adoption.

Information Technology and Agricultural Sector in India

Majority of Indian population still depends on agriculture for their livelihood, yet only few are in a position to withstand the demands of the seasonal changes. On the one hand the farmers need to be competitive to face import competition (need to be high productive low cost producers) and on the other hand it opens up avenues for them to market their produce world-wide. With the expertise of experienced farmers and the growing demand for several product categories, technical support to the sector could ensure world-class productivity. ITC has been quite successful in establishing the network through its e-Choupals across the agricultural belt in India. Its primary objective is to offer the farmers of India all the information, products and services they need to enhance farm productivity, improve farm-gate price realization and cut transaction costs. The technology road map to support this phase was to have a secure, consolidated Farmers

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database with all information pertaining to their holdings and credit worthiness to be available online. This database, along with identification provided by smart cards would enable support for online transactions through the e-Choupal leading to integration with participating financial institutions such as banks, insurance and credit agencies.

E-Commerce and Agriculture

E-business continues to be of growing importance with many organizations increasingly conducting their business activities in the electronic environment (Goodridge, 2000; Kalakota and Robinson, 1999; Cunningham and Froschl, 1999). The use of technology has been playing a major role in many strategic initiatives where attempts have been made to capitalize the benefits of e-business to strengthen customer and supplier relationships and hence to establish new markets (Hackbarth and Kettinger, 2000). Agribusiness organizations worldwide have capitalized on the many advantages of e-business to improve the marketing of their products (Allen Consulting Group, 2000). In India, the agribusiness industry is regarded as a major contributor to the economy. The high reliance on accurate and timely information (such as weather and stock information) and large physical distances between producers and customers in this country have made this sector conducive to the benefits of e-business. Developing the e-commerce framework is well accepted and initiated by different organizations in India but still there is no unanimity over the types of models available for adoption. While there is no single unique classification system for the types of B2B e-business models available (Rappa, 2001; Timmers, 1999), B2B e-business models are generally classified into four generic categories: merchant models; manufacturer models; the buy-side model; and brokerage models (Timmers, 1999; Rappa, 2001; Strauss and Frost, 2001). Each of these models offers different functional characteristics and they are more applicable to particular industries/markets. Based on these four categories, a recent study has identified 10 specific e-business models as being used for conducting B2B e-commerce in the agribusiness industry (Ng, 2002). In addition to the complexity of the models, many factors are known to influence the strategic decision making process of organizations (Eisenhardt and Martin, 2000), which are also likely to impact on the choice of B2B e-business models. Agriculture was identified by Goldman Sachs' (2000) research as one of the seven most business to business inclined industries. The high level of fragmentation in the supply chain, large volumes traded and homogeneous product all incline agriculture towards e-commerce. The agricultural supply chain was described as full of imperfections that restrict efficiency. In these areas e-commerce had great possibilities for improvements. It does certainly appear that the traditional agribusinesses are beginning to view e-commerce as a business imperative. The traditional agribusinesses have strong market share positions as incumbents and some are determined to fight to retain their customers. However, the market for talent in the e-commerce world is so hyped by the current stock option values that it may be very difficult for the traditional agrifood industry, in terms of stock market potential, to compete effectively for talented e-commerce skills, and perform as effectively as specialized intermediaries pre or post IPO.

E-Commerce as a Catalyst of Growth and Development

All countries whether developed or developing, are striving for fast economic development. The most productive and fastest growing economies are developing innovative capabilities as core corporate and public-sector strategies to continue their existing levels of long-term economic growth with new and dynamic competitors. Almost all countries became firmly convinced that the world economy is benefiting from the enormous investment in e-commerce and they are prioritizing their policy framework for e-commerce development. At the same time, potential capability of economic development of developing countries such as technological innovation and its effective management, effective usage and creation of online products and services, competitive capability under the global knowledge economy, and extensive experience in a range

of firms has become ever widening. Without the proper policy initiative for e-commerce and innovation, the possibility of leapfrogging of developing countries to catch up the developed counterpart would decrease. In this emerging knowledge economy, proper strategy and effective implementation of the innovation and e-commerce development policies and the creation and diffusion of knowledge in these areas would be increasingly important factors in economic competitiveness. India is a predominantly rural, agro-based country with about two thirds of its population based in villages. A Knowledge Revolution coupled with e-commerce can bring about the next step phase of rural transformation. Some examples to Promote Sustainable development in Agribusiness sector in India are (Mathur, 2007): Agricultural Marketing Information Network (AGMARK-NET) ensures the farmers with prompt and reliable information about what is happening in the market, what quantities are arriving and what prices are quoted for different commodities considerably improve the decision making capability of the farmers and strengthens their bargaining power. The improved communication system enables the producers to know about probable markets where they can dispose of their produce more profitably. The traders and consumers can also derive maximum advantage out of their purchases at low communication cost. The modernization of market information system, lead to the efficiency in the markets and increased participation of the farmers. This efficiency of the markets and farmers participation in the markets is increased. This increases the income of the farmers, which in turn, activate them to increase the agricultural production. The Warana Wired Village Project in Maharashtra is a very recent experiment that provides Internet connections using satellite communication to rural India. This experiment leverages the relative prosperity gained by the region over the past few decades through a Sugar Factory. Spreading over 70 villages, the project attempts to use Web technology for self-improvement through skills development and employment generation. The Warana Group of Co-operatives (WGC) is using ICT to streamline operations connected with sugar cane growing and harvesting. It also intended to simplify other business operations of the co-operative. Moving on to a much sustainable model is the “e-Choupal.” Launched in June 2000, it has already become the largest initiative among all Internet-based interventions in rural India. “e-Choupal” services today reach out to more than 3.5 million farmers growing a range of crops in over 31,000 villages through 5,200 kiosks across six states (Madhya Pradesh, Karnataka, Andhra Pradesh, Uttar Pradesh, Maharashtra and Rajasthan). ITC’s “e-Choupal” empowers over 3.1 million farmers by enabling them to access crop-specific, customized and comprehensive information in their native village habitat and language. Vernacular web sites, relating to each agricultural crop that ITC deals in, provide even marginal farmers with ready and real-time information on the prevailing Indian and international prices and price trends for their crops, expert knowledge on best farming practices, and micro-level weather forecasts. The “e-Choupal” model and movement has helped aggregate demand by creating a virtual producers’ cooperative, thus facilitating access to higher quality farm inputs at lower costs for farmers. Gyandoot is a program that uses information technology for development in rural areas of Madhya Pradesh. Computers in several village centres in one of the districts of the state were wired for the Internet that made several government services available to the people to establish better relationships between the rural people and traders of agricultural commodities. One of the most widely cited problems in Indian agriculture is the lack of technology and credit availability. The farming community does not have adequate information regarding agricultural techniques, market prices, and supply and demand of commodities. Several efforts to deal with this information asymmetry have been launched in India, which are cooperative relationships with local universities, businesses and government. An example is a project called Indiagrilline, the AgriPortal, created in collaboration with an agricultural university, the National Horticulture Board, and the Indian Institute of Technology, Chennai. An online information database assisted in the dissemination of information regarding the latest developments in agricultural science and technology. The content is in the local language Tamil.

Challenges in the Adoption of E-Commerce in Indian Agribusiness and Suggested Remedies

The basic purpose of Electronics Commerce (E-Commerce) is to help business to cut cost and cycle times, raise efficiency and provide more information, choice and value to consumers. Agriculture sector in India can avoid isolation from mainstream business by deploying E-Commerce and thus can gain competitive advantage. But implementation of e-commerce in India is not so easy. There are some challenges which need addressal before moving to e-commerce in agricultural sector in India. Some of the prominent challenges to becoming e-commerce enabled are :

- Technical (limited infrastructure for internet access)
- Government policy related (bandwidth, free movement of goods across states, market and trade policies)
- Legal Framework etc.

There were initiatives taken for addressing many of these challenges through public and private initiatives. Some are specific to agribusiness: for example, relating to scope, regional specificity, the multidisciplinary nature of agricultural services and trade restrictions on agro products. The socio-cultural diversity, low literacy rate, and so many regional languages make this task slightly more difficult. A two stage strategy is suggested for agribusiness, one for improving operational efficiencies within business by using internet technologies in back office operations and the other for delivering both knowledge and products to farmers (Rao, 2003). The first requires developing new generic and cost effective Internet technologies with open standards and protocols. The second requires using Internet technologies for strategic positioning of products and services to gain long-term competitive advantage. The later would mean persisting with conventional business strategy while using the Internet as an effective front end.

Reference

- Allen Consulting Group (2000), *E-commerce beyond 2000, The Commonwealth Department of Communications, Information Technology and the Arts, Canberra.*
- Cunningham, P. & Froschl, F. (1999), *Electronic Business Revolution: Opportunities and Challenges in the 21st Century*, Springer-Verlag, Berlin
- Eisenhardt, K.M. & Martin, J.A. (2000), "Dynamic capabilities: what are they?" *Strategic Management Journal*, Vol. 21 No.10/11, pp. 1105-21.
- Goldman Sachs, 2000. *Report on IT Global Services (September 2000).*
- Goodridge, E. (2000), "E-business grows amid market turmoil", *Information Week*, No. 811, June 11, p. 256.
- Hackbarth, G. & Kettinger, W. J. (2000), "Building an e-business strategy", *Information Systems Management*, Vol. 17, Summer, pp. 78-95.
- Kalakota, R. and Robinson, M. (1999), *E-business: Road-map for Success*, Addison-Wesley, Reading, MA.
- Mathur, Somesh Kumar (2007) *Indian IT Industry: A Performance Analysis and a model for possible adoption*, Online at <http://mpr.ub.uni-muenchen.de/2368> Retrieved on 5/7/2007.
- Rao, N.H., *Electronic Commerce and Opportunities for Agribusiness in India, Outlook on Agriculture*, Vol.32, No.1, pp 29-35
- Rappa, M. (2001), "Business models on the web", available at: <http://ecommerce.ncsu.edu/topics/models/models.html>
- Sarahelen, Thompson & Eales, Jim, *An empirical analysis of the determinants of success of food and agribusiness e-commerce firms*, 2004 IAMA Forum and Symposium
- Strauss, J. & Frost, R. (2001), *E-Marketing, 2nd ed.*, Prentice-Hall, Englewood Cliffs, NJ. 13.
- Timmers, P. (1999), *Electronic Commerce: Strategies and Models for Business-to-Business Trading*, John Wiley & Sons, Singapore.
- www.govdatabase.gov.in, Retrieved on 5/7/