

Scope of E-Commerce in Agri-Business in India: An Overview

Ranu Gupta¹ and. Pawan Kumar Sharma²

¹Research Scholar, School of Commerce & Management Vardhman Mahaveer Open University, Kota, Rajasthan-324021, India

²Director, School of Commerce and Management Vardhman Mahaveer Open University, Kota, Rajasthan-324021, India

Abstract

Agriculture is the backbone of the Indian economy. FICCI in its report says that about 65 percent of the Indian population depends directly on agriculture and it accounts for around 22 percent of India's GDP (FICCI 2007). Electronic commerce (or e-commerce) using Internet technologies helps businesses to cut costs and cycle time, raise efficiency and provide more information, choice and value to consumers. During recent years, e-commerce has found its way to the Agribusinesses in India. The internet continues to become more popular among people who deal with agricultural business of any type. While technology availability has increased and its access has become easier, the demographic transition is also characterized by greater willingness to use technology among farming community. Nevertheless, farmers on the other hand, face unprecedented challenges like unpredictable weather, non-availability of good quality seeds and fertilizers and un-reliable avenues to sell their crops after the harvest. This research article explains the scope of online shopping (or e-commerce) **to solve these inherent problems and to help agribusinesses** in rural India and describes the opportunities and challenges for online shoppers to tap the rural agriculture market in India. It also discusses scope, opportunities, challenges, benefits and adoption of online shopping in Agribusiness in India.

Keywords: Agriculture, Agri-business, E-Commerce, Online Shopping, Internet Technology

Introduction

Agriculture is always an information-intensive industry that is spatial. To be successful, farmers must have good knowledge about the latest farming technologies. Further, the globalisation affects

adversely to Indian farmers, as they have competition with the farmers of developed countries. To cope with these challenges posed by the globalisation of agribusiness, the farmers have to produce the quality product at competitive prices. Thus, the farmers need to be well trained and informed in the management of natural resources and production of agricultural commodities. E-agriculture plays a vital role in addressing these challenges and uplifting the livelihood of Indian farmers.

E-Commerce is India's most exciting and fastest growing channel for commercial transactions. Indian e-Commerce is growing at an annual rate of 51%, the highest in the world, and expected to jump from \$30 billion in 2016 to \$120 billion in 2020. In the world, India is the third largest base of internet users of around 120 million. This Growing smartphone penetration in the rural regions is encouraging the growth of m-commerce models to focus on agribusiness and can revolutionise the Indian agriculture. Almost all the farmers now own a mobile phone out of which 40% are smartphones with internet connections.

Agribusiness firms, face the challenge of changing their business model and practices to account for the rapid growth of e-commerce. E-commerce allows firms to tap new and old suppliers through innovative channels and provides firms with the ability to lure new customers and procure old customers in new ways. The ability of the Internet to reduce transaction costs through improvements in transaction, information, and negotiation functions of the supply-chain is associated with higher probabilities of e-commerce adoption amongst agribusiness firms.

Technology enabled innovations such as hyper-local logistics, digital payments, and digital

advertisements have enabled the e-commerce industry to grow fast at a much faster rate. Government initiatives such as Digital India, Skill India, Start-up India and Make in India are also contributing to the growth of the e-commerce industry.

In India, successive governments have usually made large investments in creating an IT infrastructure and promoting the application of ICTs in the agriculture field. An investment of over US\$19.8 billion has earmarked for the 'Digital India' programme to transform into a digitally empowered and knowledge economy. Under this program, the government has set a target of providing broadband connectivity to 260,000 villages. Some of the successful projects launched by the Indian government under this program include the Kisan Farmers' Portal in 2013, the Kisan Call Centre (KCC) scheme launched in 2004.

The Government is also paying attention by bringing some policy level changes to accelerate the growth of agriculture sector. Recently, the ICRISAT incubation arm announced their growth plans to set up a Rs.100cr fund to help small entrepreneurs from the agri-business. Farmers are provided with knowledge-based information through various mobile apps, toll-free numbers, internet sites, and other means. Farmers' Portal (www.farmer.gov.in), Kisan Call Centers (KCC) and Kisan Portal (www.mkisan.gov.in) are some platforms currently active in India. Farmers are open in adopting information technology, even if they have done it more slowly than the overall population or other industries.

Current Indian Agriculture Market Scenario

Indian Agricultural market is dominated by the existence of unregulated and unorganized agricultural mandies with the presence of a large number of middle-men and widespread prevalence of malpractices. Lack of proper transportation facilities and infrastructures such as rails and good quality all-weather roads, the absence of proper warehousing facilities in the villages, ignorance about the market prices of their products are some of the important factors for exploitation of farmers from middle-men. They are forced to sell their products to these middle-men at the farm gate at throwaway prices.

Agricultural business activity starts from initial production and goes on until it reaches to hands of end consumers, all the business activities are done in the market, and the performance of these activities are called marketing (Kohls and Downey, 1972). Consumers always want to purchase products at lower costs while farmers are interested in gaining the highest possible returns from their products' sale. All the concerns like shippers, wholesalers, jobbers,

and retailers are doing their task in the markets for their interests.

Farmers grow their products for domestic and commercial purposes. Commercially the farmers sell their products in four ways; to dealers, to retailers, directly to the markets and to the consumers. Similarly, in the product purchasing model farmers or producers purchase their required goods through three ways; from retailers who purchase from direct market, from retailers who purchase from the dealer and the farmer purchases from direct markets. As many parties involved in the selling or purchasing of goods, there may increase in the expenses because the Middlemen (brokers) also take their marks upon each sale and purchase.

During the recent years, e-commerce has found its way to the agricultural sector in India. Where technology availability has increased, and its access has become easier, the demographic transition is also characterized by greater willingness to use technology among the farming community. E-commerce is considerable with timely distribution of agriculture information, consultation, and monitoring, a response from experts, training, and education, early forecasting of price, early warning, and improvement measures, information about marketing of various commodities, expansion of the use of e-commerce, and farm business and management.

However, the scene of agriculture in developing nations is characterized by involvement of several mediators, fragile infrastructure; lack the knowledge of ICT in farmers. Even though the country becomes self-sufficient and exports agricultural products, the majority of the farmers remain in poverty. This shows that although there is the increase in production of agricultural products, the farmers are not benefiting.

Empowering farmers through e-commerce can prove beneficial in aspects such as-

- a. Exchange information will reach larger masses in spite of larger limitations, literacy level and local languages.
- b. Promoting agricultural products to larger masses.
- c. Improved farming techniques and best practices that reduce the cost of inefficiency and enhance the yield.

Using e-commerce effectively in promoting agricultural products, the gap between the farmer and the customer is reduced. The fact that agricultural products require Accurate, well-timed information and the distribution of the producer (farmer) and buyers (Traders and consumers) over a large geographical area has made agricultural sector lucrative field for e-commerce intervention. There is

a potential need for developing an e-commerce framework, and is well initiated by many organizations.

E-commerce Platforms in Agriculture in India

Ministry of Agriculture had formulated a model law on agricultural marketing to bring about marketing reforms in line with emerging trends. This model act enables the establishment of private markets/yards, direct purchase centres, consumers/farmers markets for direct sale, and the promotion of public-private partnership (PPP) in the management and development of agricultural markets in the country. It also provides exclusive markets for onion, fruits, vegetables, and flowers. There is provision for constitution of State Agricultural Produce Standard Bureau for promotion of grading, standardization, and quality certification of agricultural produce. So far, 15 States and 5 Union Territories have amended their Agricultural Produce Marketing Committee (APMC) Act to derive the benefits of market reforms.

1. **e-National Agriculture Market** - National Agriculture Market (NAM) is a pan-India electronic trading portal, networks the existing APMC mandis to create a unified national market for agricultural commodities. This Portal provides a single window service for all APMC related information and services and includes commodity arrivals & prices, buy & sell trade offers, provision to respond to trade offers, among other services.
2. **Destamart and Destatalk**-Destamart provides Agri-inputs to agri storeowners, Destatalk targets the farmers by providing information related to the agriculture sector. Destamart, an e-commerce platform, the company aims to provide agri-input supplies, seeds, pesticides and fertilizers to the rural market.
3. **E-Chaupal**-E-Chaupal is a business platform consisting of a set of organisational subsystems and interfaces connecting farmers to global markets. It has been initiated by International Tobacco Company (ITC). It consists of three layers each of different level of geographic aggregation and characterised by three key elements-
 - a. The infrastructure (physical or organisational) through which transaction takes place.
 - b. The entity (person or organization) orchestrating the transactions, and,
 - c. The geographical coverage of the layer. The first layer consists of the village level kiosks with internet access (e-chaupals), managed by an ITC trained local farmer and within walking distance (15kilometers) of each target farmer.

Each cluster of five villages gets an e-Chaupal, which is justified by sparse population in rural India. The second layer consists of brick and mortar infrastructure called hubs managed by the traditional intermediary who has local knowledge/skills called a Samayojak and within the tractorable distance (25-30kilometer) of the targeted farmer.

AGMARKET was the first e-governance project, which was set up in the year 2000 to strengthen India's agricultural marketing system. It has emerged to be a key national portal. It maintains and publishes from its well-maintained database, information relating to daily minimum and maximum modal prices for about 300 commodities and their over 2,000 varieties in many regional languages.

4. **Agricultural Commodities Exchanges** - To introduce future trading in agricultural commodities in India, in 2003 two-commodity exchanges have been introduced for future trading. They are, National Commodity & Derivatives Exchange Limited (NCDEX) and Multi Commodity Exchange of India Limited (MCX). These exchanges are majorly dealing in agricultural commodities. They are involved in forward trading to mitigate price risks of the farmer.
5. **Big-Haat** an agri-commerce start-ups aims to help farmers reap the benefits of e-commerce and save time, money in the process. It was started in January 2015 by Sachin Nandwana, S Kumar and Raj Kancham. They aim to empower farmers by providing them with quality agro-inputs and accessories through a marketplace platform.
6. **Indian Farmers Fertilizer Cooperative Limited (IFFCO)** is world's largest fertilizer cooperative federation with over 40,000-member cooperatives, has announced its plans to garner massive cooperative market via the creation of e-commerce platform.
7. **RML free Mobile application** provides highly engaging content formats like podcasts, imagery, videos in the form of advisory and innovative features like the chat with agri experts and lead farmers to build a social community on the app and to be the pre-eminent digital platform to engage agri-communities and agri-stakeholders. This application has features like 6 Day Taluka level weather forecast, historical updates on 6crop market combinations, warning/alerts protection from unpredictable weather, direct connect with traders at the district level. Also, understand the demand-supply trend, timely inputs from sowing to harvesting, increased productivity, policies, subsidies, schemes, health and financial information, key agricultural related

updates, actionable agri-information, improved standard of living, interaction with farmers at the district level, share and gain knowledge about different agriculture practices.

8. **“I Say Organic” (ISO)** portal set up in 2012; a Delhi based organic food retailer envisages making organic produce a norm rather than an exception in the country. The Stock is sold through the ISO website on a daily-basis. Orders are taken over the mobiles or online, and deliveries are made within a few hours. Customers may choose on delivery either by cash or card or to pay online.

Established e-commerce platforms such as amazon, AskmeGrocery.com, Iorderfresh endeavours to bring natural and delicious food, handpicked from farms and local producers around the city. They focus on offering seasonal rather than unsafe and chemically ripened produce. Each month they are collaborating with vendors, artisans and brands to bring a curated selection of preservative-free products – mostly local and organic. Snapdeal, the sale of fresh fruits and vegetables is a logical extension. Freshfalsabzi, peppertap, localbanya and big basket have jumped into the bandwagon although their operations are restricted to a few cities only. Bigbasket also launched BB Express its express delivery service to customers in Hyderabad. Freshfalsabzi accepts orders online or through calls at any time of the day for delivery on the following day in three-time slots. Numerous initiatives have been taken throughout the country, includes the establishments of Kisan call centres, Gyandoot project, Village knowledge centers, AGMARKNET, eSagu system, etc., Kisan call centers (KCCs) were launched on 21 January 2004 by the Department of Agricultural and Cooperation with the aim to deliver the extension services to the farming community in the local languages. The farmer dials a toll-free number 1551, and the agricultural scientists provide the initial enquiry. The cost to the farmers is almost zero, and they get the response in their local languages.

Benefits of E-commerce and Information Technology

The benefits of e-commerce and Information technology for the improvement and strengthening of agriculture sector in India are-

- ✓ Timely information on weather forecasts and calamities,
- ✓ Better marketing exposure, awareness & information, pricing, and spontaneous agricultural practices,
- ✓ Reduction of agricultural risks and enhanced incomes,
- ✓ Improved networking and communication,
- ✓ Facility of online trading and e-commerce,

Challenges to Agriculture Sector in India

The major challenges to “Agriculture Sector in India” are-

- ✓ Insufficient agricultural infrastructure and support facilities,
- ✓ Insufficient institutional capacity to deliver farmers specific services,
- ✓ Lack of awareness regarding suitable agricultural methods among the farmers,
- ✓ Agricultural content development and its upgradations,
- ✓ Ownership issues of the public and government generated data,
- ✓ Inadequate use of Public-Private Partnerships in India,
- ✓ Lack of “Common Platforms” for the farmers in India,
- ✓ Absence of an “Agricultural Think-Tank” in India,
- ✓ Insufficient use of ICT for agricultural purposes, etc.

India is facing a rising demand for food grains and may not be met by the supply side. The situation is becoming more and more alarming due to alternative uses of food crops for biofuels. The rising oil prices led to exploring alternatives like biofuels that are seen in many quarters as an attractive substitute for imported hydrocarbon fuels. India needs to shift at a higher pedestal of Green Revolution. It needs new technologies, new institutional responses, new organizational structures, collective-expertise and an ideal public-private partnership base in India. India needs initiatives like creative and imaginative solutions that increase agricultural productivity, farm incomes, and food production, etc. Institution and capacity building, empowering farmers through investment in their capabilities, etc. The pressure of population dependent on agriculture should be reduced and minimise the concept of “Disguised Unemployment.

Conclusion

About 58 percent of the total population is dependent on agriculture in India and among them about 80 percent are marginal and small farmers’ category. They have regular demand of Agri-inputs, but they are buying forcefully from the retailers due to credits or loan. There is an inefficient and unreliable delivery of farm inputs and Agri-services. Online retailing of Agri-inputs is futuristic and very much relevant. The farmers are facing serious problems related to agricultural marketing and supply of inputs and services. The main problems reported are: There is still the inadequate supply of quality seeds, pesticides, farm implements and other services at right time and reasonable price by Agricultural

Department and other agencies of State Government are not ensure.

- ✓ There is lack of adequate and timely credit to farmers, guidance and support from agriculture department on agri inputs and their prices.
- ✓ Lack of publicity of Governmental Subsidy schemes related to farm inputs among rural poor, particularly illiterate farmers.
- ✓ There is lack of sufficient number of Agribusiness and Agriclinc centres in the country thereby farmers cannot access farm-input timely at reasonable prices.
- ✓ Farmers are not getting inputs like bio-fertilizers, improved seeds, organic certificates etc.
- ✓ Inadequate transportation facilities and high costs.
- ✓ Price variation of farm inputs and lack of storage facilities and problem of security of farm inputs.

Suggestions

Agriculture, the backbone of India, is fast losing its hold, and quick adequate measures need to be implemented. In this sector, constant application of latest ideas and better technologies is essential to enhance the economic well-being of the farmer. The bane of Indian agriculture is not lack of technology, R&D effort; but the inefficiencies and inadequacy in the dissemination of relevant information to the farming sector.

The implementation of these following recommendations can help to realize the full potential of ICT in agriculture and improve rural livelihoods.

- ✓ Research and Innovation: Technical information systems in agriculture need to incorporate local knowledge integrate into regional and international systems and maintain links to policy makers. More investment in infrastructure and skilled human resources needed for such systems.
- ✓ Foster awareness to use and maintain e-commerce into formats and languages relevant for rural areas.
- ✓ Support technical innovations for rural connectivity such as wireless broadband connections or solar powered systems.
- ✓ Existing channels for technical information (e.g. extension services, radio stations) should be integrated with new communication technologies, which are accessible to farmers.
- ✓ Agriculture and computer education should be a subject in school curriculum.
- ✓ Development of digital libraries in rural areas can provide adequate learning environment, imparting literacy and agricultural technologies to rural communities.

✓ Governments should formulate clear policy, the public and private sectors, can use to engage in e-commerce. Since women's access to e-commerce is very limited in rural area, so it should include gender-specific considerations. Youth are often ICT savvy and their input should be included in strategies and projects.

✓ In India, it is necessary to change the attitude and mind-set of the farmers and need to win their confidence and make them aware of the benefits of e-commerce in agriculture.

✓ Farmers, transporters, buyers, traders, etc. should support e-commerce in order to ensure more equitable, timely and collaborative access to markets for small holders.

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