



www.soed.in

Impact of Growing E-Commerce on Indian Farmers

Surjeet Singh Dhaka*

Institute of Agri Business Management (IABM), Swami Keshwanand Rajasthan Agricultural University, Bikaner-334006

*Corresponding author's email: surjeetdhaka.iabm@gmail.com

Received: December 24, 2016

Accepted: March 10, 2017

ABSTRACT

In spite of the fact, agriculture is the largest livelihood provider in our country, the small farmers gains are not enough compared to the efforts put in and agriculture cost inputs which can affect the agricultural productivity and food security of the nation. As the Internet continues to become more popular, with the application of e-commerce, many transactions through the supply chain are eliminated or simplified. In this way, transaction costs are drastically reduced or even eliminated. Reports show that farmers are slightly behind the general population in adoption of e-commerce but adopters are getting astonishing benefits.

Keywords

E-commerce, e-tailing, farmers' income, internet, information technologies

JEL Codes

L10, L81, M21, Q12, Q13, Q19

INTRODUCTION

While e-commerce is a very recent phenomenon of the late 1990s, it already has a brief, churning history. The e-commerce sector has seen unprecedented growth in 2014. The growth driven by rapid technology adoption led by the increasing use of devices such as smart phones and tablets, and access to the internet through broadband, 3G, etc., which led to an increased online consumer base. E-commerce is a process of modern agri business which addresses the need of organizations, intermediaries and farmers to ease the agri business reduce cost and improve the quality services while increasing the speed and timely delivery. E-commerce is a paperless and supports to the environment. Cathle *et al.* (2009) mentioned e-commerce has many differences with many advantages over traditional commerce system (Table 1).

Features of e-commerce

There is a rising awareness among the agriculture community in India about the opportunities offered by e-commerce. Ease of internet access and navigation are the critical factors that will result in rapid adoption of e-commerce. Some important features of e-commerce are mentioned below:

- Omnipresence: It is available just about everywhere, at all times.
- Global reach

- Worldwide standards
- Multidimensional communication
- Personalization and customization
- Inventory management
- 24x7 Service availability

Different types of e-commerce

- Business to Consumer (B2C)
- Business to Business (B2B)
- Business to Government (B2G)
- Consumer to Consumer (C2C)
- Consumer to Business (C2B)
- Peer to Peer (P2P)
- Mobile commerce or m-commerce

THE IMPACT OF E-COMMERCE

Figure 1 shows the growing trend of Gross Domestic Production (GDP) with 3.23 per cent compound annual growth rate. On other hand, e-commerce in India is also showing an increasing trend with 53.41 per cent compound annual growth rate, which is higher and was almost double in the year 2012, which further indicates a boom period because of rise in the number of service providers of e-commerce.

Impact of e-commerce on economic growth

- Reducing cost of information and communication technologies
- Firms' cost structure

Table 1: Difference between traditional commerce and e-commerce

Traditional commerce	E-Commerce
Large dependence on information exchange from person to person.	Little dependency
Manual intervention	Electronic or automatic system intervention
Difficult to establish and maintain standards	Easily established and maintained
Communication depends upon individual skills	No human intervention
Difficult to provide all information at one place	Very easy
Product must be available at multiple store locations to maximize purchasing opportunities.	Multiple inventory ownership options, -just-in-time and a hybrid of two.



Figure 1: E-commerce sales and GDP in India

- c) Consumer support and hand holding
- d) Purchase order and procurement
- e) Firms' inventories and distribution
- f) Changing the supply chain
- g) Online payment and prices

According to a recent India@Digital.Bharat (The Boston Consulting Group and Internet and Mobile Association of India) report, with the growing internet users, this will comprise 580 million users by 2018 (Figure 2). Online shopping can grow more than hundred-fold in the next 9 years, to reach \$ 76 billion by 2021. Indian internet users have played a significant role in growing the business markets. The Internet is being used as an instrument for: explore new markets, maintain

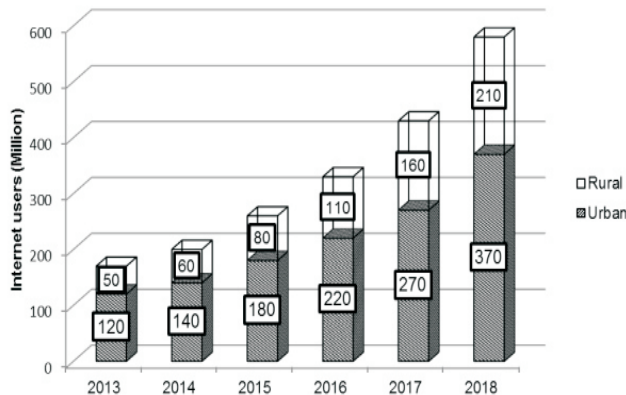


Figure 2: India's internet population

consumer relationships, improving cost efficiency, and delivering customized products and services.

As the Table 2 shows, internet by 2018 will be more mature and mobile will be more predominant. Rural users, as a percentage of the Internet population, will rise from 29 percent in 2013 to between 40 and 50 percent in 2018.

This sector will open up significant growth opportunities for manufacturers and service providers, which can leverage the wider, targeted and more cost optimal online channels effectively to cater to internet customer base in the villages. India will likely see the golden period of the Internet sector between 2013 to 2018 with incredible growth opportunities and secular growth adoption for E-commerce, internet advertising, social media, search, online content, and services relating to E-commerce and internet advertising. Boateng *et al.* (2008) conducted research and found a few common critical success factors for e-commerce. These authors stated that for e-commerce initiatives to succeed, the first and foremost condition must be customer readiness, or propensity for e-commerce.

Impact on Agriculture

The open access of the Internet, declining information technology costs, and high volume have resulted in progressive steps forward for the entire marketing system. Parallel changes in the structure of agriculture have also contributed to the popularity of the current generation of information technology. Chief among the changes is the need for closer coordination of the supply chain - both upstream and downstream from the producer - and stretching from seed, fertilizers, and machinery suppliers, to food processors and retailers. Thus, technologies like electronic commerce have forced new relationships between and among the buyers of agribusiness to form a complex web interaction (Ehmake *et al.*, 2001).

Various studies show that there is much about the potential success of e-commerce in agriculture. Common agribusiness business-to-business transactions such as buying, selling, trading, delivering and contracting seem to be natural targets for conversion to e-commerce (Shapiro and Varian, 1999). Many theoretical benefits of e-commerce in agriculture have been identified such as:

Table 2: Description of internet users in India

	2013	2018
Older	60 per cent under 25 years old	54 per cent over 25 years old
Rural	29 per cent rural	40 - 50 per cent rural
Gender Balance	2.9 men online for every woman online	1.9 men online for every woman online
Mobile	60 - 70 per cent of users	70 - 80 per cent of users

Source: <http://techcircle.vccircle.com/2013/02/01/2013-ecommerceindia-internet-outlook>

(1) promotion of information flow, market transparency and price discovery; (2) facilitation of industry coordination (Nicolaisen, 2001); and (3) reduction or elimination of transaction costs (Porter, 2001; Thompson, 1996). Internet based e-commerce also offers tremendous opportunities to create collaborative marketplaces in a low-cost, effective way (Nicolaisen, 2001). E-commerce can also change the situation of hard bargains caused by scattered farmers and lack of information. At the same time, the fast and convenient electronic bargain manner can accelerate the circulation of commodities, lessen the risk, and increase the competition of agricultural products in the international market. These theoretical benefits appear to be undisputed. However, they have yet to materialise into profitability and productivity (Cathle and Grazi, 2009).

Goldman (2000) discussed the general barriers cited by business to Internet based e-commerce adoption and explained that these barriers also apply to agribusiness. They include: (1) unclear return on investment; (2) lack of budget; (3) lack of stakeholders support and (4) complicated technology. Added to these, there may be factors slowing down e-commerce adoption in agriculture. No doubt e-commerce has huge opportunities for the agricultural sector, but adoption of e-commerce in agriculture is not an easy task. And at this point in time the impact of e-commerce on farms, agribusiness firms, markets, and rural communities is not very clear. Are there only winners or are losers too? If so, who are they? What will governments do, will they be with or against e-commerce in agriculture? Since e-commerce is still evolving, it is too early to be able to obtain a definitive answer (Mueller, 2000). An inspection of current practices; however, suggests that success of e-commerce in agribusiness is undeniable. Factors specific to agriculture will create additional challenges, which must be overcome before success can be attained. The ability of each player to work through these challenges will determine the speed of implication of e-commerce in agriculture.

Impact on income of farmers

Prime Minister Shri Narendra Modi launched a new mobile APP-Kisan Suvidha. Given that India has the world's second largest smart phone market, with 87 million rural mobile Internet users, and agriculture is the mainstay of Indian economy, with more than 60 per cent of the workforce employed in it, it is presumed that this

app is likely to have many takers and is poised to change the face of Indian agriculture. However, there are some worrying factors. First, a smart phone is required to operate this app. Secondly, at present, the information is available only in Hindi and English. Both these factors are currently proving detrimental to the large-scale impact this app set out to create. According to IAMAI, the Active Internet User (AIU) base in rural India was 6.7 per cent of the overall rural population of 905 million and accounted for 61 million as per verified 2014 data, which is projected to be 109 million by mid-2016. However most of these users use the same for messaging service WhatsApp only. Farm advisories need to be customized and given in a method that farmers can understand and execute on their fields. Many organizations and start-ups in the agriculture domain are working towards addressing the issues faced by Indian agriculture. Government of India is proactively working towards addressing the unmet needs of the farmers across the agri-value chain through multiple initiatives like Soil Health card scheme, Paramparagat Krishi Vikas Yojana, National e-Governance Plan (NeGP), m-Kisan, etc. (TATA, 2016).

Case study of Ekgaon Technologies

Ekgaon Technologies tackles the issue of agriculture at two-levels – first, farmers join Ekgaon's 'One Village One World Network,' in which they have access to farm advisory and other services through their mobile phone – all of which helps in increased and better productivity, while reducing total cost of cultivation. Secondly, the organisation has established ekgaon.com, a 'direct from farm' platform that connects the farmers to customers who are looking for healthy, natural and organic food. Ekgaon's delivery model is based on 'when I need', which essentially means hand-holding the farmers during the cropping season, with smart advisory that is aimed at increasing farm productive and reducing cultivation costs. For ₹ 150 per cropping season, Ekgaon's farm advisory service for small farmers, provides customised information on soil and its nutrient management, crop and weather conditions, disease alerts and market prices, as well as critical information on how much water will be released by the local authorities and when it would reach their respective fields. All the information is delivered via SMS in the local language as well as an outbound-call on the farmer's phone at planned intervals as per each farmer's crop cycle. When a farmer confirms the usage of advice by sending SMS or pressing buttons by calling the

Ekgaon number, the company understands the trend of best practices and continually refines them. Last year, Ekgaon conducted an impact survey and the results have been exciting. Survey included a sample of 10,000 farmers and the average production increase per farmer went up from 12.05 quintal per acre to 24.91 quintal per acre. Last year, it started an online platform to sell the farmers' produce at the right prices, under the brand 'Ekgaon'. In just a year, the platform has amassed over 5,000 customers of whom 50 percent are repeat customers. Over 130 different products are sold – rice, flax seed, pulses and millets, spices, sugar etc. All products cater to a healthy food brand philosophy, for example it sells Palm sugar and Jaggery and not white sugar, which is not good for health. The farmers' income, as a result of both the mobile-based advisory services as well as the marketplace, has seen an average increase of ₹ 8,500 per month, or 67 percent. Ekgaon expects to double the farm income in next few years and ensure the monthly bonus credited to bank account of its network farmers.

CONCLUSIONS

This is the first of its kind in India, in terms of using Internet Adoption, which still is a complex issue for application in farming practices in India, to say the least. Hence, this study is unique and proposes practical implications for agricultural sector which is in dire need of technology up gradation and application at all levels to face the global crisis in terms of production and distribution of this scarce resource. A key reason why e-commerce is growing so quickly is its significant impact on ease of business and its costs and productivity.

REFERENCES

- Boateng, R., Hinson, R., Heeksand, R., & Molla, A. (2008). E-commerce in LCDs: Summary evidence and implications. *Journal of African Business*, 9(2), 257-285.
- Cathle, A., & Grazzi, M. (2009). E-commerce and productivity: Evidence from Chile, *Productivity*, 56(4), 353-361.
- Ehmake, C., Ernst, S., Hopkins, J., & Tweeten, L. (2001). The market for e-commerce services in agriculture, Paper Presented at *AAEA Annual Meeting*, Chicago, Illinois, 5-8 August.
- Goldman, S. (2000). B2B: 2B or not 2B- The Second Survey. <http://www.gs.com/hightech/research/b2b-second-survey.pdf> (accessed on May, 2016).
- Mueller, A.E.R. (2000). *Emergent e-commerce in agriculture*. AIC Issues Brief, Agricultural Issue Centre, University of California, No. 14.
- Nicolaisen, R., & Poole, B. (2001, February, 22-23). How will agricultural e-markets evolve? Paper Presented at the *USDA Forum*, Washington DC.
- Porter, M. (2001). Strategy and the Internet. *Harvard Business Review*, 74(2), 63-78.
- Shapiro, C., & Varian, H. (1999). *Information rules: A strategic guide to the network economy*. Harvard Business School Press, Boston.
- TATA. (2016). Next generation Indian agriculture-Role of crop protection solutions, (report) *Indian Agrochemical Industry*. Accessed on <http://indiaibusiness.nic.in/newdesign/upload/Agrochemicals-Knowledge-report-2016.pdf>
- Thompson, S. (1996, January, 23-25). Potential effects of information technologies on the economic performance of agricultural and food markets. In *Proceedings of National symposium on Global Restructuring of Agro-Food Markets: Need for Change in Marketing Policies*, held in Alexandria, Virginia (USA), accessed from <http://www.aguiue.edu/fame/thompsons.html>.