Role of Information Technology in Agri-Business

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Abstract

Agriculture is a vital element in the Indian agrarian economy, as per the India Brand Equity Foundation (IBEF) Agriculture sector serves as a fundamental source of livelihood for nearly 60 of percent India's population. And it emerges as 2nd largest contributor to India's GDP i.e.18 percent in the lower quartile of 2020-21. India is the fastest developing nation, since last few decades, agriculture industry is facing several issues such as Small and split land-holdings, Seeds, Manures, Fertilizers and Biocides, Irrigation, Lack of mechanisation, Inadequate transport, Inadequate storage facilities, Agricultural Marketing, along with these the major problem or need is the requirement of an adequate supply of agri-produce. In addition, agri-Business is influenced by universal factors and speedy changes. These particulars point out that there is enormous demand for the intervention of information technologies (IT), it can be benefited to manage agricultural problems with the risk, uncertainties and to get better agricultural marketing. However, the possibility of Information Technology is not completely utilized in agri-business. Performance of Agri-business based on ICT and countryside is comparatively slow in association to the third segment of the nation where existing Information Technology has been executed at sky-scraping speed. The purpose of this article is to know the, need and importance of ICT in agri-business and to analyse the opportunities and benefits for the use of the latest technology in agri-Business.

Keywords

Agriculture, Agri-business, Information technology, E-choupal, and E-nam.

1. Introduction

Farming at all times hanging on the information like climate, weather condition, rain forecasting, market fluctuations, etc. It is not constant in nature, So to be a good farmer one must have the knowledge of everything which is primarily related to production and marketing. Especially in marketing of agri-produces, the farmers are facing problems, a large number of peasants are more in India producing in small quantities. But the market depends more on big farmers. In the agriculture sector business and its marketing intermediaries are more, so the major part of the profit goes to intermediaries. The agricultural goods pass through all these intermediaries and the farmers have to pay commission to all of them and consequently, the farmers do not receive the actual reward for their efforts. The other reasons farmers do not reach their expected returns are poor knowledge of markets, prices of their produces. Information technology in agri-business is playing an important role in eradicating the problems of marketing of agricultural produces. Information technology in agri-business is the most exciting and fastest growing way for commercial transaction. In the world, India has the maximum amount of internet users of around 75.5 crores of the total population. The growing smartphone user rate is more in rural markets even farmers and educated youths buying smartphones this benefits e-business models and agri-business and can reform Indian agriculture. Now presently rural India's computer literacy is developing to some extent almost all villages in the country have internet connections through communication networks. Through this, the farmers can adopt the modern technology in their day-to-day lives which may help them in reducing the operating cost, time-saving, and they will get the awareness of the suitable price for their produces as in India many technologies based agri-markets are available for farmers.

2. IT based E-agricultural Markets in India

E-choupal: In June 2000, ITC Limited launched E-choupal in India and now E-choupal is the largest Internet-based Agri market in rural India. E-choupal is the virtual platform which connects farmers of India via

internet. The start-ups have provided PCs and Broadband connections in rural communities throughout numerous agrarian sections of the country. where the farmers can sell their Agri products at agreed prices. This online platform enables farmers to get information on market prices. The principle aim of this e-market is to empower the farmers, it should not only empower but also facilitates these farmers to face the competition. This service is provided in many states like Karnataka, Andhra Pradesh, Maharashtra, Kerala, Tamilnadu, Haryana, Madhya Pradesh, Uttarakhand, Rajasthan. eNAM: National Agriculture Market or eNAM was projected on 14 April 2016 by the Ministry of Agriculture Govt. of India. It is an internet based agricultural products buying platform in a India. The market enables the farmers, traders, and buyers in single virtual spot. This helps the farmers in getting the best prices for their products. On this platform, more than 90 commodities are included for trade. This market is connected with 785 APMC's in 17 states and 2 Union territories, more than 45 lakh farmers have membership from 17 states. AGMARKET: India's first e-agricultural market system was established in 2000 to empower the Indian agricultural market. It maintains and Provides data on daily reasonably high estimate rates for about 300 products and over 2,000 types in many regional languages from its well-maintained database. Digital Mandi: IIT Kanpur and BSNL have developed this agri related mobile application, which facilitates the farmers to access the current rates of specified crops, and farmers can choose suitable time and market to sell their crops for maximum returns.

3. Objectives of the Study

This is a conceptual paper and the main objectives of the study are:

- To study the role of information technology agri-business in Karnataka, India.
- To understand how information technology promotes the efficiency and effectiveness of agri-business.
- To suggest the suitable recommendation.

4. Research Methodology

This study is confined to the state of Karnataka particularly north Karnataka in India. In north Karnataka highly committed, hardworking farmers are growing agri-business crops in large numbers, and only a few are selling or engaging in agri-business. This is the conceptual study and it focuses only on commercial crop growers.

5. Limitations of the Study

- This study is a conceptual paper based on the observations and the suggestions cannot be generalised.
- This study is not focused on any specific agriculture product.
- This study does not elaborate on the mechanism of IT usage in agri-business.

6. Scope of the Study

In the introduction part, we saw the advantages of information technology in agri-business, the northern part of the country like Panjab, Hariyan, Uttarapradesh, and few other states are aware of e-agriculture markets. In south India, the awareness of these market facilities are rare and farmers are following the traditional method of selling their products. This study is confined to the state of Karnataka especially to the Northern part of the state which includes 13 districts namely Belagavi, Vijayapur, Bagalkot, Bidar, Bellary, Gulbarga, Yadagir, Raichur, Gadag, Dharwad, Haveri, Koppal, and Vijayanagar. Farmers of this region are growing cash crops like Rice, Jowar, Maize, Gram, Tur, Groundnut, Sunflower, Cotton, Sugarcane, etc. Farmers in spite of being dedicated to agriculture, lack of awareness and low literacy is the hurdle to associate them with the modern agri facilities. Farmers of this geography are not organised as in the northern section of the India. In recent days, agri-business forums are getting attention and farmers understand the modern scenario and benefits of these platforms. Efforts are required to make them more aware and educated to understand and reap the benefits. In rural areas, farmers are restricted by the buyers in APMCs because at the time of cultivation, more than 50 percent of farmers are dependent on licensed agents to take their inputs or they have taken loan from them so at the end farmers must

sell their agri produces to these traders in APMCs, on the lower prices as determined by these agents only. It is a traditional barrier to uplift the farmers in rural Karnataka it is more prevalent in north Karnataka. In the Union Budget 2019-20, announcement, the Government in the Department of Agriculture Cooperation and Farmers Welfare (DAC & FW) has approved an innovative Central segment proposal titled "Formation and Promotion of Farmer Produce Organizations (FPO)" to structure and endorse 10,000 new FPOs with a total budgetary prerequisite of Rs. 4,496 crore for five years (2019-20 to 2023-24) with an additional committed responsibility of Rs 2,369 crore for the period from 2024-25 to 2027-28 in the direction of handholding of each FPO for five years from its aggregation and formation. The National Bank for Agriculture and Rural Development (NABARD) has revealed that at present there are approximately 6,000 Farmer Producer Organisations (FPOs) active in the country, which has been promoted by the Government to help the farmers, but still, farmers are unaware of these schemes. Another initiative by the union government is the KISAN RAIL scheme which is also helpful for transportation of notified fruits, vegetables that helps farmers to market their products in different region of the country. These schemes are added to support the farmers' development with the help of information technology that is adding value to the agri-business.

7. Findings

- North Karnataka is having fertile land coupled with the Ganga-Krishna River and farmers are producing commercial crops.
- The educated youth is not venturing into agri-business start-ups.
- A start-up ecosystem for agri-business requires support particularly related to learning communication, better transportation, and financial support from the banks.
- Agri-business is an evergreen and rising sector. It has a great potential for entrepreneurs, farmers, and society at large.
- The majority of the present generation possess mobiles and are good in using Information Technology and they also know the basic usage of IT in agri-business.

8. Suggestions

- Taluq and District headquarters under agriculture departments must provide training to college dropout youths to start agri-business.
- Agri-business is a noble profession, young and educated youth must take interest in agri-business.
- Educated youths must take risks to create value for society.
- Educated youths are becoming employees, they are searching for jobs, instead, they may involve in agriculture activities or agri-business.
- Information technology is a facilitator and capacity builder to the young and knowledgeable ones to start agri-business.

9. Conclusion

Innovative agri-business with the help of information technology is possible that may increase agricultural productivity, provide work, and create a value chain in the society to achieve goals. Technology can play a key role in agri-business and help the small landholders to get a remunerative price, farm technology is the rising sector of the future in north Karnataka particularly and India in general. At present, the rural youths are better than their urban counterpart's interims of honesty, hard work, and computer literacy. The rural educated youths understand more than two languages and they can create wealth and value through agribusiness, from this initiative the small and secondary peasants can get good remunerative prices for their products. ITC is the major backbone to agriculture and agri-business. The positive impact and role of information technology in Agri-Business will certainly bring the a difference in the outcome.

10. References

1. Acharya S. S. (2006) Agricultural Marketing and Rural Credit for Strengthening Indian Agriculture, *Asian Development Bank,* INRM Policy Brief No. 3.
2. Arunachalam S. (1999), 'Information and knowledge in the Age of Electronic Communication: A Developing Country Perspective', *Journal of Information Science, Vol 25, No 6, pp 465–476.*

3. Blattman, C., Jensen, R., Roman, R. (2003): *Assessing the Need and Potential of Community Networking for Development in Rural India,* Information Society, Vol. 19, Issue 5, pp. 349-364.
4. Cecchini, S., Scott, C. (2003): *Can Information and Communications Technology Applications Contribute to Poverty Reduction?* Lessons from Rural India, Information Technology for Development, Vol. 10, Issue 2, pp. 73-84.
5. Cloete, E., Doens, M. (2008): *B2B E-marketplace Adoption in South African Agriculture, Information Technology* for Development, Vol. 14, Issue 3, pp. 184-196
6. Daramola, A.B., 2005. *Women's Access to ICT in an Urban Area of Edo State Nigeria.* Report submitted to World Summit on the Information Society (WSIS), Gender Caucus Project Duration: July-September, 2005, Benin City, Nigeria
7. Gorla, N. (2009): *A Survey of Rural e-Government Projects in India: Status and Benefits,* Information Technology for Development, Vol. 15, Issue 1, pp. 52-58.
8. Irfan, M., S. Muhammad, G. Ali Khan and M. Asif, 2006. *Role of Mass Media in the Dissemination of Agricultural Technologies Among Farmers.* Int. J. Agric. Biol., 8: 417–419
9. Kaaya, J. (1999): *Role of Information Technology in Agriculture,* Proceedings of FoA Conference, Vol. 4, pp. 315-328.
10. Kumar, k. &. (2013). E-choupal: Importance for Rural India. *International Journal of Management Volume 4 (issue 5), Issn 134-138.*
11. Manouselis, N., Konstantas, A., Palavitsinis, N., Costopoulou, C., Sideridis, A.B. (2009): A Survey of Greek Agricultural E-Markets, Agricultural Economics Review, Vol. 10, No. 1, pp. 97- 112.
12. McNamara, K., Belden, C., Kelly, T, Pehu, E., Donovan, K. (2011): ICT in *Agricultural Development, ICT in Agriculture - Connecting Smallholders to Knowledge, Networks, and Institutions,* The International Bank for Reconstruction and Development/The World Bank, Washington, pp. 3-14.
13. Milovanović1, s. (2014). *The Role and Potential of Information Technology in Agricultural Improvement.* Economics of agriculture.
14. Obiechina, J., 2004. ICT and Agriculture: *A Contest Project on ICT and Agriculture.* Paper presented at AYF's seminar on ICT and Agriculture, Accra, Ghana, 21-23 April 2004

15. Samah, B.A., Shaffril, H.A.M., Hassan, M.D.S., Hassan, M.A., Ismail, N. (2009): Contribution of Information and Communication Technology in Increasing Agro-based Entrepreneurs Productivity in Malaysia, *Journal of Agriculture & Social Sciences, Vol. 5, No. 3, pp. 93–97.*
16. Sharma, r. G. (2018). Scope of E-commerce in Agri-business in India: An overview. *International Journal of Advanced Scientific Research and Management.*