



E - Commerce and Digital Platforms for Agricultural Marketing

**Santhosh B.L¹, Chirag B.
Channe², Akshita Negi³,
Purushottam Sudhakar Rao
Deshmukh⁴, Shiv Lal Kumawat⁵**

¹Agriculture Officer, Raitha Samparka
Kendra, Singatagere, Office of
Assistant Director of Agriculture
Kadur, Department of Agriculture,
Karnataka, India.

²Ph.D Scholar, Department of
Agricultural Economics, Sam
Hinggingbottom University of
Agriculture, Technology and Science,
Prayagraj, U.P.

³B.Sc (Hons. Agriculture), School of
Agriculture, Uttaranchal University.

⁴Assistant Professor, Department of
Agricultural Economics, College of
Horticulture, VNMKV, Parbhani.

⁵Ph.D Scholar, Division of Agricultural
Economics, ICAR-Indian Agriculture
Research Institute PUSA New Delhi.



Open Access

*Corresponding Author
Santhosh B.L.*

Article History

Received: 17.06.2026

Revised: 22.06.2026

Accepted: 27.06.2026

This article is published under the
terms of the [Creative Commons
Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/).

INTRODUCTION

Farming is essential for world food supplies, employment, and economic growth, but in many developing countries the marketing of agricultural produce is hindered by fragmented markets, poor infrastructure, information asymmetry, price instability, and an overdependence on middlemen. With recent developments in information and communication technologies (ICTs), internet connectivity, mobile phone, cloud computing, and digital payment systems, agricultural marketing is now being conducted via e-commerce and digital platforms. These technologies facilitate real-time market information, online trade, better logistics management, and more transparent price discovery, which help in improving market access, decreasing transaction costs, strengthening farmers' bargaining power, and leading to more efficient, inclusive, and sustainable agriculture development.

2. Concept of E-Commerce in Agricultural Marketing

E-commerce is the trade of goods or services through electronic channels, such as the internet. In agriculture, it relates to the facilitation of digital trade in farm input, agricultural produce, value added products, machinery, advisory services and financial services. E-commerce gives farmers the opportunity to get market information, connect with buyers, bargain prices, accept payment all on a digital platform, organize logistics, and so forth, by breaking down geographical barriers.

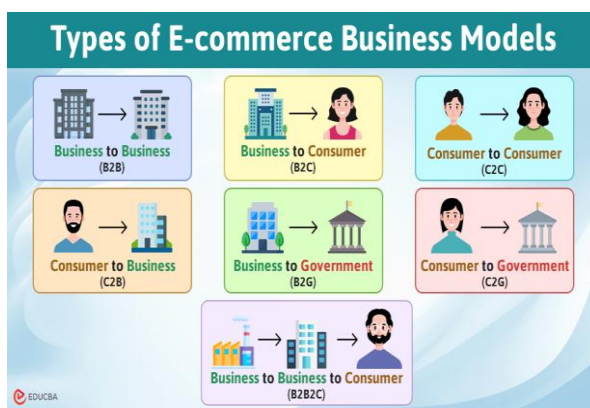


3. Evolution of Digital Platforms in Agricultural Marketing

The development of agricultural digital platforms has been prompted by the development of ICTs and the increasing penetration of the internet. At the beginning, these platforms offered farmers information on market prices, weather forecasts and advisory services via SMS and web platforms. Riding the smartphone and mobile internet wave, they also closely integrated with these new technologies to provide online trading, digital payments, logistics assistance, warehouse management and financial services. More recently, AI, blockchain, big data analytics, cloud computing and IoT technologies have been instrumental in advancing platform capabilities with market forecasting, supply chain optimization, product traceability and real-time decision-making. Consequently, digital platforms have emerged as effective means to enhance efficiency, transparency, access to market, and competitiveness in the marketing of agricultural produce.

4. Types of E-Commerce Models in Agricultural Marketing

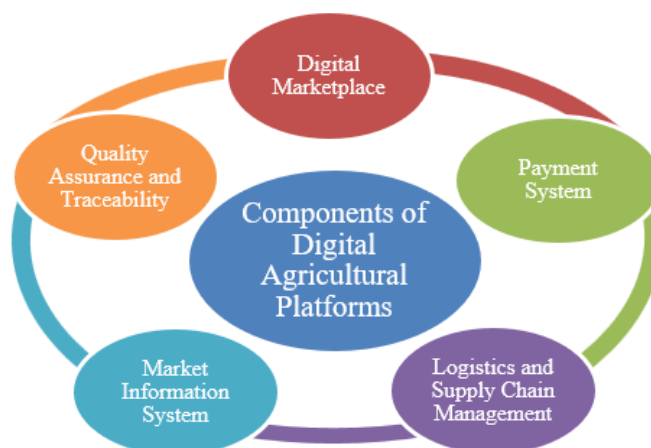
Together these e-commerce models illustrate how digital technologies support agricultural marketing and bring farmers, consumers, businesses, and government institutions closer together. B2B and B2C models mainly improve access to markets and supply chain efficiency and price realization, while C2C and C2B models promote higher consumer participation and more direct connections under the market. Correspondingly, B2G/C2G systems promote greater transparency, service delivery, and stakeholder involvement in government-run agricultural schemes. Further, the B2B2C model adds another layer of complexity by interlacing multiple players within the marketplace, from producers to final consumers. Collectively, these e-commerce models are associated with enhanced market efficiency, decreased transaction costs, better transparency, and greater profit, contributing to their status as integral parts of modern agriculture marketing systems and the expanding digital transformation of agriculture.



5. Components of Agricultural Digital Platforms

Together all these elements of the agricultural digital platform make for a seamless, efficient, transparent and comprehensive agricultural marketing system. The digital market place acts as the main interface between the buyer and seller who list products, discover prices and transact. Payments and financial inclusion Timely payments to farmers and rural communities are facilitated by use of mobile

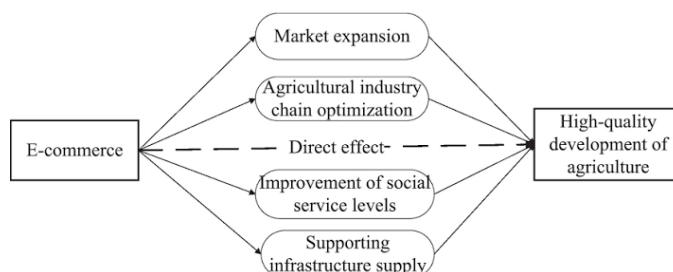
banking, digital wallets, electronic funds transfer and other secure payment mechanisms. The logistics and supply chain management software enables the monitoring of the movement of produce, from harvested product to storage and distribution, helping to cut delays, minimize post-harvest loss, and enhance delivery effectiveness. Market information systems offer up-to-date commodity price, market demand, weather and consumer taste information enabling users to take better production and marketing decisions.



6. Role of E-Commerce in Agricultural Marketing

E-commerce has greatly changed the way in which agricultural products are marketed with the opening up of markets and the overcoming of traditional barriers in trade. Farmers can reach more buyers, get better prices, and diversify their market opportunities through digital platforms. Market brokers operating in real-time contribute to greater price

transparency and information symmetry and enhance the bargaining power of farmers. In addition, online marketplaces reduce reliance on middlemen, producers receive a higher percentage of profits. After-sales service E-commerce helps to enhance coordination of order processing, inventory management, logistics and demand forecasting, and improve the efficiency of the supply chain and to lower the cost of transaction and loss of post-harvest.



7. Benefits of E-Commerce and Digital Platforms in Agriculture

E-commerce and digital platforms provide a positive impact on agricultural marketing through the enlargement of farmers' access to local, national, and international markets, contributing to the creation of new income sources. With greater market transparency and less need for middlemen, farmers earn more money for their produce on these platforms. Digital commerce also reduces the search, negotiation, transportation, and management costs of conventional marketing systems. Better communication and coordination between supply chain members also leads to greater

operational efficiency and less waiting. The adoption of digital payment systems also enhances financial inclusion by enabling access to banking, credit, and insurance services, while market analyses and demand forecasting provide information solutions that allow farmers to make decisions based on data to improve production and marketing strategies.

8. Economic Implications of Digital Agricultural Marketing

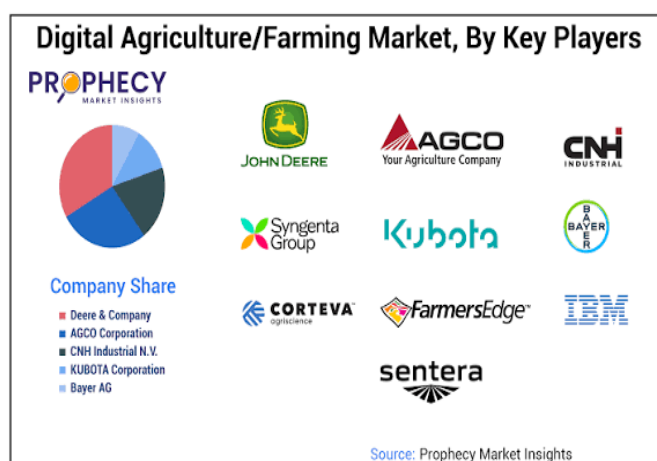
The promotion of e-commerce is beneficial to agriculture because it brings better market efficiency, better market access, and better price for farmers. Digital platforms enable

efficient resource allocation, enhance productivity, and generate jobs in logistics, warehousing, information technology, digital marketing and financial services. They foster greater entrepreneurship and innovation in the countryside, and lead to better integration of markets and food distribution systems. E-commerce also aids value addition, product differentiation, responsible production and increased returns by linking producers directly with processors, exporters and the high value markets.

9. Major Digital Agricultural Marketing Platforms

Several global digital agri-marketplaces have been successful and proving that e-commerce is

now a big part of agricultural marketing. In India, the Electronic National Agriculture Market (e-NAM) is a pan-India electronic trading platform that improves price discovery, market transparency and promotes inter-state trade. AgriBazaar, DeHaat, Ninjacart, BigHaat are a few such private platforms that provide an end-to-end service of online trading, input procurement, logistics and advisory support. There is similar digital market place across China, US, Europe, Africa that can bridge farmers with broader markets and bring efficiency into the supply chain. Moreover, the entrance of global e-commerce enterprises into agricultural trade has opened up more markets for farmers, allowing them to access more consumers through the channels of digital.



10. Challenges in Adoption of Agricultural E-Commerce

However, the application of e-commerce and digital platform in the agriculture is encountering a number of challenges. Access is limited in many rural areas by poor internet connectivity, erratic electricity supply, and weak telecommunications infrastructure. The ability of farmers to effectively use digital tools and services is further limited by low levels of digital literacy. Issues such as fraud, cybersecurity, security of payments, and authenticity of products can lower the trust related to online transactions. Poor logistics system, transportation facility, cold chain infrastructure also create problem in marketing

of perishable agricultural commodity. Ambiguities in regulations on digital transactions, data ownership, taxation and dispute settlement also pose challenges for the stakeholders. Moreover, the expenses for digital equipment, internet connectivity and platform access could be too high for smallholder farmers. Tackling these constraints is vital to guarantee success and inclusiveness in the adoption of agricultural e-commerce systems.

11. Emerging Technologies Supporting Agricultural E-Commerce

Although they were very promising, the use of e-commerce and digital platforms in agriculture has had its share of difficulties. Limited access

to the Internet, unreliable electricity supply and poor telecommunications infrastructure are barriers in many rural areas. The barriers to effective use of digital tools and services are further exacerbated by low levels of digital literacy among farmers. Fraud, cyber and payment security, and product authenticity related issues might hinder trust in online transactions. Poor logistics, transport and cold chain facilities also add to the problem of marketing of perishable farm produces. Regulatory ambiguity concerning digital transactions, data ownership, taxation and dispute resolution similarly pose challenges to the stakeholders.

12. Future Prospects of Digital Agricultural Marketing

Although they are promising, e-commerce and digital platform in agriculture would encounter a number of barriers when being adopted. Poor internet connectivity, erratic power supply and weak telecommunications infrastructure limit access in many rural communities. Low levels of digital literacy among farmers is also a reason why the potential of digital tools and services are not fully realized. Trust in online payment can be undermined by concerns of fraud, cybersecurity, payment security and product authenticity. Besides, deficient logistics system, inadequate transportation facilities and cold chain infrastructure bring

about the challenge to sale of perishable agricultural goods. Regulatory uncertainty relating to digital transactions, data ownership, taxation, and dispute resolution adds a further layer of complexity, and challenges to the stakeholders.

CONCLUSION

E-commerce and digital platforms are reshaping agricultural marketing by facilitating the access to markets, increasing transparency, lowering transaction costs, and deepening value chain integration. These technologies provide good opportunities to raise farmer incomes, to spur rural development, and to increase efficiency of food systems. While infrastructure, digital literacy, logistics and regulatory-related challenges remain, the growth of digital agricultural ecosystems is being facilitated by continuing technological innovations and supportive policies. If e-commerce could be successfully integrated into agricultural marketing systems, it would have the potential to make agricultural economies more inclusive, competitive and sustainable. Work going forward should include striving to "design out" the challenges smallholder farmers face to ensuring they are able to participate fully in digital marketplaces, so that the benefits of agricultural digitalization can be shared by all segments of society.