

Digital Transformation in Seed Marketing: CRM, Mobile and E-Commerce in Hybrid Vegetable Seeds

Manoj N. S.^{1*}, Channaviragouda² and Ravi A. R.³

¹Ph. D. Scholar, Department of Genetics and Plant Breeding, UAS, GKVK, Bangalore 560065

²Ph. D. Scholar, Department of Agricultural Economics, UAS, GKVK, Bangalore 560065

³Ph. D. Scholar, Department of Forestry and Environmental Science,
UAS, GKVK, Bangalore 560065

Corresponding Author

Manoj N. S.

Email: nsmanoj330@gmail.com



OPEN ACCESS

Keywords

Digital Agriculture, CRM (Customer Relationship Management), E-Commerce, Hybrid Seeds, Mobile Farming

How to cite this article:

Manoj, N. S., Channaviragouda. and Ravi, A. R. 2025. Digital Transformation in Seed Marketing: CRM, Mobile and E-Commerce in Hybrid Vegetable Seeds. *Vigyan Varta* 6(8): 143-146.

ABSTRACT

Digital tools are changing how hybrid vegetable seeds are marketed and delivered to farmers. Technologies like customer relationship management (CRM), mobile apps and e-commerce platforms help seed companies connect directly with farmers offering better information services and access to seeds. These tools allow companies to understand farmer needs, provide timely advice and sell seeds beyond local markets. As more farmers use smartphones and the internet, digital marketing becomes a powerful way to improve seed access and adoption. This transformation makes seed distribution more efficient, transparent and inclusive for modern agriculture.

INTRODUCTION

Agriculture today is entering a digital era where hybrid vegetable seeds are crucial for higher yields which can reach more farmers if seed companies adopt

modern tools (Jain and Thomas, 2023). Instead of only selling through local dealers, companies now use digital marketing, CRM (customer-relationship management), mobile



apps and online stores to engage farmers directly. For example, e-commerce platforms boost the circulation of agricultural products and improve price transparency (Gupta and Sinha, 2022). By adopting these tools, seed firms can communicate instantly with farmers, tailor offers to their needs and expand far beyond traditional markets (Patel *et. al* 2023).

Why Digital Tools Matter for Seed Sales

Hybrid vegetable seeds are a high-value, knowledge-intensive product. Farmers benefit when companies provide timely information on new seed varieties, crop tips and prices. Digital tools make this easier. A recent trend in smart platforms (websites, apps and social media) let agricultural businesses reach new customers in new ways enabling smoother communication and even price discovery (Jain and Thomas, 2023). In India, where 70% of people live rurally, increasing smartphone access and internet use mean that more farmers can be reached online. Overall, companies that use digital channels can break down old barriers – for example, direct online sales of seeds to farmers and helping farmers get quality inputs at competitive prices (Gupta and Sinha, 2022).

CRM: Building Farmer Relationships

CRM software helps seed companies treat each farmer as an individual customer. Modern CRM systems revolutionize how farmers manage their businesses by enhancing customer relationships and optimizing operational strategies (Patel *et al.*, 2023). This means a seed company can use CRM data to track which farmers bought which seeds last year, what crops they grow and how they responded to past promotions. With that information, the company can tailor marketing – for example, reminding a tomato grower of a disease-resistant hybrid or offering discounts on next season's seeds. Key benefits of CRM in seed marketing include:

- **Personalized outreach:** Track each farmer's history and send targeted advice or offers.
- **Loyalty and follow-up:** Maintain contact through email or SMS to build trust.
- **Better planning:** Analyse sales patterns to forecast demand and optimize seed supply (Jain and Thomas, 2023).

These data-driven strategies turn one-time buyers into repeat customers, strengthen trust, and expand market reach.

Mobile Platforms: Information on the Go

Mobile phones are the farmer's link to the digital world. In India and other countries, farmers use smartphones for everything from weather updates, price alerts and agro - advisories (Mishra and Singh, 2021). Mobile apps and SMS services let seed companies push product catalogues and farming tips straight to a farmer's phone. Indeed, studies show that in India using mobile technology and SMS for agricultural advice has led to higher crop yields. In practice, an app or WhatsApp group might alert a farmer when a new hybrid seed is available, or when and where to buy inputs. Studies suggest that mobile and social media give farmers direct access to a broader audience with real-time engagement. In other words, smartphones empower both sides where farmers get the latest seed info and advice, while seed companies gain a direct channel to share news, videos or even take orders (Mishra and Singh, 2021). These benefits include:

- **Wide reach:** Over half of rural India now uses mobile internet, enabling seed companies to reach remote farmers.
- **Instant communication:** Apps and SMS let companies notify farmers about new seed lots, field demonstrations or early-bird deals.

- **Feedback loop:** Farmers can ask questions via text or app, giving companies real data on needs and concerns (Jain and Thomas, 2023).

These mobile-based channels bridge the gap between urban-based seed Research and development (R&D) and village farms, making seed marketing more interactive and responsive.

E-Commerce: Online Seed Marketplaces

Online marketplaces for agricultural inputs are on the rise worldwide. Farmers today can browse seed catalogues on e-commerce sites and order with a tap. Research by Gupta and Sinha (2022) confirms that e-commerce in agriculture boosts the circulation of products and enables smoother communication. In India, platforms like Bighaat allow farmers to buy hybrid seeds, fertilizers, and equipment online. These platforms offer several advantages:

- **Expanded markets:** Seed companies sell beyond local dealers, reaching farmers nationwide.
- **Product transparency:** Farmers can compare varieties, read reviews and check prices easily.
- **Convenience:** Online ordering means farmers can buy seeds year-round, even during off-season, without travel.
- **Data insights:** Sales data from e-commerce help companies spot popular varieties and plan new product launches.

Global trends indicate that agri-e-commerce sales are projected to more than double in the coming decade. This growth is driven by better internet access and the convenience of home delivery. For hybrid seed sellers, an e-shop or marketplace presence means capturing customers who might not visit rural retail

shops. It also lets companies handle international or regional sales in a way that was hard before (Government of India, 2022).

Integrating the Tools for Growth

CRM, mobile and e-commerce each strengthen seed marketing, but together they are most powerful. For instance, a seed firm might use CRM to segment customers, run a mobile SMS campaign for a new cherry tomato seed on exactly the right target list and have an online cart ready to take orders immediately. The data gathered from app clicks, online purchases, survey feedback will loop back into the CRM system. This creates a feedback cycle through which company learns what works, refines its approach and farmers get exactly the support they need. In effect, these digital tools turn seed marketing into an ongoing conversation. Leveraging such platforms helps farmers reach broader audiences, cultivate customer loyalty and enhance their competitive edge whether the farmer is selling produce *or* buying seeds and inputs (Jain and Thomas, 2023)

India's better digital infrastructure like National Digital Agriculture Mission will increase these kinds of opportunities. Seed companies that adopt user-friendly apps, active social media and online stores will gain a big advantage. Recently even small seed firms are beginning to invest in CRM software and mobile training for their sales teams, realizing that modern farmers expect timely, tech-enabled service (Patel *et al.*, 2023).

CONCLUSION

Digital transformation is reshaping the hybrid seed industry. CRM systems, apps, and e-commerce platforms allow seed companies to connect with farmers more efficiently, improving customer satisfaction and loyalty. These tools make it easier for farmers to access quality seeds, get more information about their purchases and often benefit from

better prices. A small seed company in Pune or Hyderabad can now reach farmers across India with just a website and a strong CRM system. This integration of CRM, mobile and e-commerce is driving a new seed marketing model, allowing the sector to grow rapidly and deliver better seed varieties and yields to a wider farming community. The result is a more efficient and transparent market, benefiting both seed innovators and farmers.

REFERENCES:

- Government of India. (2022). *National Digital Agriculture Mission (NDAM): Digital ecosystem for agriculture 2022–2026*. Ministry of Agriculture & Farmers' Welfare.
- Gupta, A., & Sinha, R. (2022). E-commerce in agricultural input marketing: Scope and challenges in India. *International Journal of Agricultural Marketing*, 10(3), 147–155.
- Jain, R., & Thomas, A. (2023). The role of digital marketing and CRM in hybrid seed sector expansion: A case study of Indian vegetable seed firms. *Indian Journal of Agri-Marketing*, 37(1), 51–64.
- Mishra, P., & Singh, V. (2021). Mobile-based advisory services in agriculture: Enhancing farm productivity and market access. *Asian Journal of Agricultural Extension, Economics & Sociology*, 39(6), 300–311.
- Patel, M., Kumar, S., & Sharma, P. (2023). Customer Relationship Management (CRM) practices in Indian agribusiness: A strategic perspective. *Journal of Agribusiness Management*, 15(2), 112–121.