

## **Digital Marketing Influence on Agriculture: Revolutionizing an Indian Primary Sector**

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### **Abstract:**

The agricultural sector, traditionally reliant on physical marketplaces and word-of-mouth promotion, is undergoing a digital revolution. Digital marketing strategies are transforming the way farmers, agricultural businesses, and related industries connect with customers and stakeholders. This paper explores the multifaceted impact of digital marketing on agriculture, highlighting its benefits, challenges, and future potential.

**Key Words: Agriculture, Marketing, Digital, SEO**

### **Introduction:**

Agriculture forms the backbone of global food security and economic well-being. However, the industry has historically faced limitations in reaching wider audiences and maximizing profits due to dependence on traditional marketing methods. The rise of digital technologies and internet penetration has opened new avenues for agricultural marketing. Digital marketing encompasses a range of online strategies to promote products, services, and brands through various digital channels.

### **Indian Agricultural Trade**

Trade in agricultural all account for a relatively small share of overall Indian trade. Agricultural exports represent 9% of the value of total exports while the share of agriculture in total imports is 5%. When compared with other main players in world markets and considering the size of the country, Indian agricultural trade flows appear relatively modest. As the key goal of agricultural policy since independence has been to achieve self-sufficiency, trade has been relatively limited. However, technological developments and macroeconomic policy reforms have brought increased liberalization, following the implementation of the Uruguay Round Agreement, and have contributed to changes in agricultural trade. OECD and FAPRI (Food and Agricultural Policy Research Institute) both expect India to play a bigger role in world markets in future. It is likely to remain a small net exporter overall. India is to consolidate its position among the

world's leading exporters of rice, though the volume of exports has been erratic since the mid-nineties depending on the size of the crop and on domestic consumption. Currently it is the second largest rice producer after China and the third largest net-exporter after Thailand and Vietnam. As stated in Planning Commission Report, agricultural marketing and external trade in agricultural commodities are assuming increasing importance in the wake of ushering in second green revolution, improving the living standards of farm families, making India hunger free and turning poverty into history in the shortest possible time. The challenges facing the marketing system are quite different than what these used to be about two decades before.

### **Objectives of the Study: -**

- 1) To Understand the Digital Impact on Agriculture Sector
- 2) To Analyze the Digital Marketing Impact on Agriculture

### **Significance of Digital Transformation:**

A digital transformation will help the farmers in multiple ways.

**Access to Finance:** The farmers in India today face acute shortage of money due to the various challenges highlighted earlier. Digital transformation helps the farmer in getting access to funds from various sources due to the exposure and awareness they get from being digital.

**Forecasts on Climate Change:** In India (as compared to other advanced countries), the ability to forecast weather changes and in turn the impact that it would have on farming, has been a difficult task. Having the right inputs on potential Climate Change will help the farmer in deciding the right seed to grow and in turn fulfill the demand that is out in the market.

**Access to Farming Equipment and New Technology:** In many of the developed countries, Robotics play a bigger role in farming. India is yet to see this advancement and hence there is a crucial need for this transformation.

**Inputs for Better Soil Fertility and Soil Structure:** The farmer in India rarely does an investigation of the fertility of the soil and hence the kind of seed to grow. What has been done in the past generations is what the Indian farmer today develops. There is thus a need to have a more scientific approach to agriculture

**Access to Markets:** The farmer, though he does all the hard work today, is not compensated fairly for the work he does. Due to middle-men involved in the buying and selling of the farmer's products, the actual farmer gets a meager amount compared to the profits that the middle-men make. There is thus a need for a platform which will enable the farmer to sell directly to the buyers (rather than go through middle-men).

**Access to Information:** The farmer today bases his produce based on his peers and what has culturally been grown in his land. What worked yesterday or for someone else does not always mean a success for today or for ourselves. The farmer will have to try out new experiments based on the information available which will enable him/her to produce more and get the right financial backing. The digital transformation is expected to handle this appropriately.

**Small Landholdings:** With the amount of barren land which is unutilized, the fact of the matter are that today, many farmers having very little land which does not help in growing the right crops. This needs to change if we need to overcome the challenges.

**Predictive Analytics:** Using the latest technology available in the market, if the agriculture sector is ignited with this digital transformation, the amount of data that would be available will help the farmer in growing the right crops at the right time. Thus the standard of living for the Indian farmer would go up, which would in turn encourage others to get engaged in farming.

Thus, the farmer can get benefited with above inputs using Digital Transformation.

### **Digitization in Agriculture**

The convergence of agriculture and information and communication technology (ICT) is a new development in India which is intended to increase efficiency in every process of production, distribution and consumption. This system can be also described as an integrated agricultural system. The main keys of the integrated agricultural system includes data processing and digital control machinery for digitization, data transmission, data collection, network and automation of agricultural activity (Tang, 2002). The current agriculture has converged with technologies such as information technology (IT), biotechnology (BT), environment technology (ET), and nano technology (NT). (Hwang, 2002) And it mainly focuses on areas such as cost reduction during production level, reduction in labor burden, high quality and organic production, and quality management in facility. Second, it is important to meet consumers' needs at the production and distribution stages through building a system, which delivers food safety information. This means, IT applications need to be expanded in the agriculture farming automation system. Furthermore, at the distribution and processing stages, advanced distribution technologies using IT need to be introduced including the convergence of distribution data. These are the very small portions of the digital agriculture system that is part of making big database of the whole agriculture system.

### **Agriculture Phases**

The main phases of the agriculture industry are, Crop cultivation, Water management, Fertilizer Application, Harvesting, Transporting of food/food products, Packaging, Food preservation, Food processing/value addition, Food quality management, Food safety, Food storage, Food

marketing. All stakeholders of agriculture industry need information and knowledge about these phases to manage them efficiently. Any system applied for getting information and knowledge for making decisions in any industry should deliver accurate, complete, concise information in time or on time. The information provided by the system must be in user-friendly form, easy to access, cost-effective and well protected from unauthorized accesses. Information and Communication Technology (ICT) can play a significant role in maintaining the above mentioned properties of information as it consists of three main technologies. They are: Computer Technology, Communication Technology and Information Management Technology. These technologies are applied for processing, exchanging and managing data, information and knowledge. The tools provided by ICT are having ability to:

- Record text, drawings, photographs, audio, video, process descriptions, and other information in digital formats,
- Produce exact duplicates of such information at significantly lower cost,
- Transfer information and knowledge rapidly over large distances through communications networks.
- Develop standardized algorithms to large quantities of information relatively rapidly.
- Achieve greater interactivity in communicating, evaluating, producing and sharing useful information and knowledge.

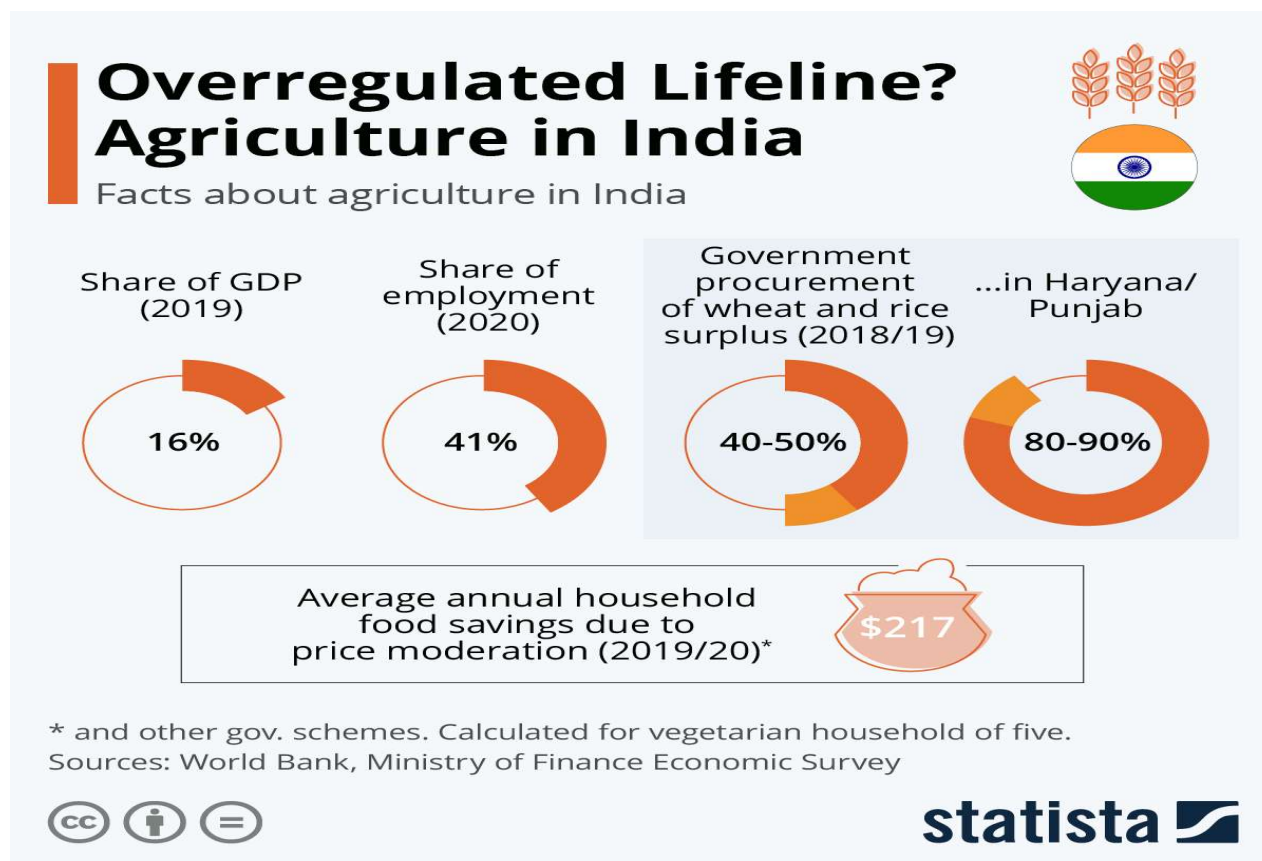


Image.1 FACTS of Indian Agriculture; STATISTA 2022

## **Problems in Agricultural Marketing**

As stated in Report of Planning Commission, agricultural development continues to remain the most important objective of Indian planning and policy. The experience of agricultural development in India has shown that the existing systems of delivery of agricultural inputs and marketing of agricultural output have not been efficient in reaching the benefits of technology to all the sections of farmers. The timely, quality and cost effective delivery of adequate inputs still remains a dream despite the marketing attempts of the corporate sector and the developmental programs of the state. Also, the farmers are not able to sell their surplus produce remuneratively. There is plenty of distress sales among farmers both in agriculturally developed as well as backward regions.

There are temporal and spatial variations in the markets and the producers' share in consumers' rupee has not been satisfactory, except for a few commodities. In fact, in commodities like potato in some regions in India, producers end up making net losses at the same time when traders make substantial profits from the same crop.

However, it needs to be recognized that producers' relative share in the final price of a product certainly goes down with the increase in the number of value-adding stages, and therefore, cannot be used as an indicator of a market's efficiency or inefficiency. Nevertheless, the other aspects of the market performance like absolute share of the producer in terms of remunerability, fluctuations in prices across seasons, large spatial price differences and lack of proper market outlets itself, are the issues which have become increasingly crucial in the present context. There are structural weaknesses of agricultural markets like unorganized suppliers as against organized buyers, weak holding capacity of the producers and the perishable nature of the produce in the absence of any storage infrastructure. In the presence of these characteristics of the market, the rural producers cannot simply be left to fend for themselves so far as marketing of their produce is concerned. And if the marketing system does not assure good returns to producers, not much can be achieved in the field of product quality and delivery which are critical for processing and manufacturing sectors. In the environment of liberalization and globalization, the role of the state in agricultural marketing and input supply is being reduced, and an increasing space is being provided to the private sector to bring about better marketing efficiency in input and output markets.

On the other hand, processors and/or marketers face problems in obtaining timely, cost effective, and adequate supply of quality raw materials. There are several challenges involved in marketing of agricultural produce. There is limited access to the market information, literacy level among the farmers is low, multiple channels of distribution that eats away the pockets of both farmers and consumers. The government funding of farmers is still at nascent stage and most of the small farmers still depend on the local moneylenders who charge high rate of interest. Although we say that technology have improved but it has not gone to the rural levels as it is confined to urban areas alone. There are several loopholes in the present legislation and

there is no organized and regulated marketing system for marketing the agricultural produce. The farmers have to face so many hardships and have to overcome several hurdles to get fair and just price for their sweat.

**Benefits of Digital Marketing in Agriculture:**

**Increased Visibility and Brand Awareness:** Digital marketing allows agricultural businesses to establish a strong online presence, reaching a wider audience than traditional methods. This can be achieved through website development, search engine optimization (SEO), and social media marketing, ultimately increasing brand awareness and recognition.

**Targeted Marketing and Audience Reach:** Digital platforms enable targeted marketing campaigns, allowing farmers and businesses to connect with specific demographics and consumer segments interested in their products. Social media advertising and content marketing tailored to niche audiences can significantly improve the effectiveness of marketing efforts.

**Cost-Effective Advertising:** Compared to traditional advertising methods, digital marketing offers a more cost-effective approach. Social media marketing, email marketing, and content creation can generate higher returns on investment (ROI) by reaching a larger audience with minimal expenditure. **Efficient Lead Generation and Sales:** Digital marketing tools like website analytics and lead capture forms enable businesses to track customer interactions and generate valuable leads. By nurturing these leads through targeted email campaigns and personalized communication, farmers and businesses can convert interest into sales.

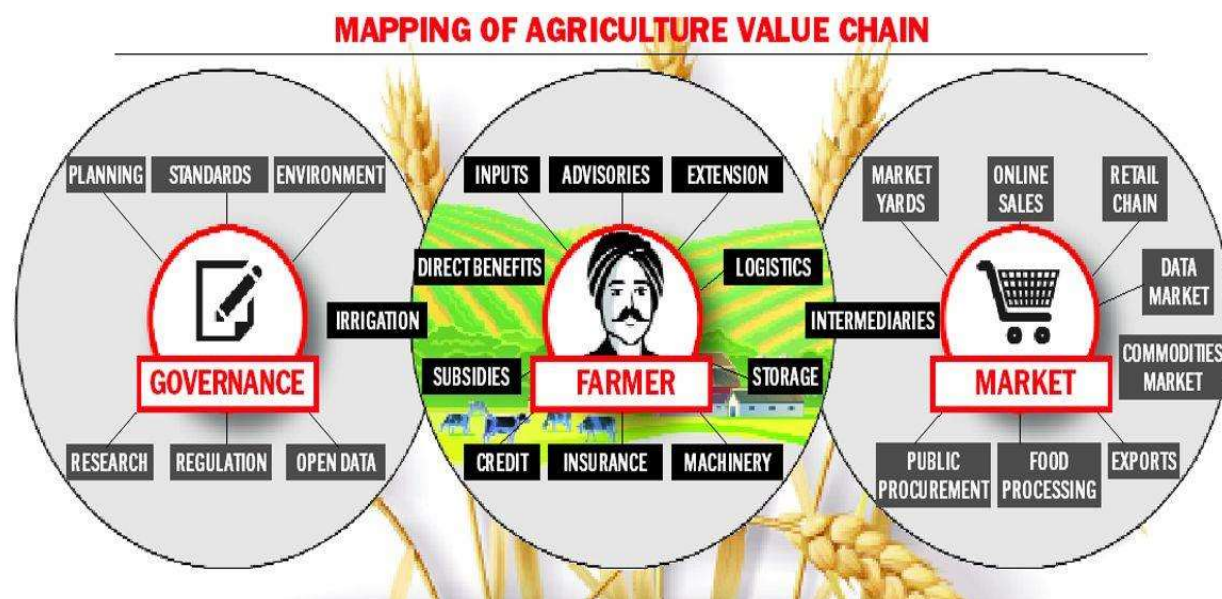


Image.2 The value chain analysis of Agriculture in INDIA: The TRIBUNE, 2024

### **Limitations of Digital Marketing in Agriculture:**

**Limited Internet Access in Villages:** Despite advancements, limited internet access and digital literacy in some rural areas can hinder the adoption of digital marketing practices by farmers.

**Lack of Digital Skills and Awareness:** Many farmers, particularly older generations, might lack the technical skills or awareness required to effectively implement digital marketing strategies. Training programs and workshops can bridge this gap.

**Language and Cultural issues:** Reaching a global audience through digital marketing necessitates overcoming language barriers and cultural nuances. Tailoring content and communication strategies to specific regions is crucial.

**Privacy and Data Security issues:** Data privacy and security are paramount concerns in the digital age. Implementing robust data protection measures is essential for building trust with customers.

### **Future Potential:**

- **Building a Strong Online Presence:** Developing a user-friendly website showcasing products, farming practices and success stories can establish a credible online presence.
- **Utilizing Social Media Platforms Effectively:** Engaging with potential customers on social media platforms like Facebook and Instagram allows for brand storytelling, community building, and targeted advertising.
- **Implementing Search Engine Optimization (SEO) Strategies:** Optimizing website content with relevant keywords ensures farms and businesses rank higher in search engine results, increasing organic website traffic.
- **Creating Engaging and Educational Content:** Developing informative blog posts, video tutorials, and webinars on agricultural topics positions farms and businesses as industry experts, attracting and educating potential customers.

### **Impact of Globalization on Agricultural Marketing**

The globalization has brought drastic changes in India across all sectors. It is more so on agriculture, farmers and made a deep impact on agricultural marketing. It is basically because of majority of Indians are farmers. It has brought several challenges and threats like uncertainty, turbulence, competitiveness, apart from compelling them to adapt to changes arising out of technologies. If it is the dark cloud there is silver lining like having excellent export opportunities for agricultural products to the outside world. The Working Group for Planning Commission, while framing its recommendations, recognized that there are three essential/necessary requirements for evolving an efficient agricultural marketing system in India. These are (a) continuous evolution, perfection and transfer of science and technological inputs in

agricultural marketing; (b) introduction of 'scale' in agricultural marketing for reaping the benefits of economies of scale; and (c) continuously refining and putting in place a conducive policy and regulatory framework, including withdrawal of the state in many areas

**Conclusion:**

Digital marketing presents a transformative opportunity for the agricultural sector by overcoming challenges and embracing digital tools, farmers and agricultural businesses can connect with a wider audience, establish stronger brands, and ultimately achieve greater success in a competitive global market. As digital literacy and internet penetration continue to grow in rural areas, the impact of digital marketing on agriculture is poised to become even more significant in the years to come. Hence it can be concluded that the technology platform will bring the desired outcomes in agricultural sector like reduced costs, improved productivity and quality, improved prices, reduced risks and ultimately sustainable ecosystem. Many software companies (including Microsoft) have entered into agreements with various State Governments in India to help build this digital transformation. This has already seen much progress in Hyderabad, Assam, Karnataka to name a few. Policies need to adapt to this changing Digital world to ensure that the challenges mentioned above are overcome and lead to increased efficiency in the production, distribution and consumption of agriculture produce.



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