

# An Evaluation of the Challenges Farmers Face in the New Era of E-Commerce A Study of the Sehore District in Madhya Pradesh, India

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## **Abstract**

Agriculture is the one of the most significant solution to the inclusive development of any country. The internet keeps on becoming more widespread among people who transact with the agricultural business. The inadequate health crisis about COVID 19 has exaggerated all communities Frontline Health Responders are a priority for countries in saving the lives of the people suffering from this disease. The purpose of the study is to examine the E-commerce sources selected for the agriculture sector and challenges faced by the farmers.

E-Commerce has succeeded a major break in the agriculture sector. Now a day's internet becomes more popular among all customers. Some people use the internet for agriculture or irrigation. There are increasing awareness of the software and hardware among farmers. The thing which is needed is the internet with both the parties i.e. the one that is buying and therefore the one that is selling. My study is focused on the agriculture marketing & challenges faced by farmers by using E-commerce in agriculture sector .While examining the current scenario, farmers in India fail to make a living. Farmers are manipulated by so many intermediaries in Indian Farming Marketing. We used the sample size through which we build up a building of questions with multiple choices in answers but it is optional for the samplers who participate in this survey.

**Keywords-** Agricultural Marketing, E-Commerce, Marketing, Challenges of E-Commerce

## **Introduction**

There was a significant effect of E-commerce in the Agriculture sector in the last few decades. Several actions had Government flourished since the Corona virus attack and created this pandemic situation. After the nationwide lockdown, the Indian Finance Minister has announced and declared an INR 1.7 trillion package, to protect the vulnerable sections including farmers out of which Rs. 2000 to farmer's bank accounts to support farmers under the scheme of PM-KISAN. Agricultural E-commerce helped farmers to eliminate intermediaries, which resulted in increased income to the farmers by reducing wastage. So, that the fresh commodities can be delivered to the customers.

Indian agriculture exports reached a historic high of US \$ 50 billion in financial year 2022, thanks to several initiatives pursued by the Central government. The highest-ever exports were recorded for staples like rice, wheat, sugar, other cereals and meat. As of this provisional data, Commercial

Intelligence and Statistics (DGCL&S), exports had grown by 19.92% in the year ending February 22nd, to reach \$50.21 billion. This success is due to increased production of food grains in recent years. However, the story of India's Atmanirbharta in food begins almost fifty years back. In 1950-51, India was suffering from food shortages with occasional droughts and famines. A rapidly growing population was creating increasing pressure on agriculture. Even at this point, the agriculture sector contributed 50% of the GDP; showing how dependent our economy was on agriculture.

On the other hand a Survey, presented by Finance Minister Nirmala Sitharaman in Lok Sabha, noted, "The Indian agriculture sector has been growing at an average annual growth rate of 4.6 % during the last six years. It grew by 3.0 % in 2021-22 compared to 3.3 % in 2020-21".

According to the Economic Survey 2022-23, the Indian agriculture sector has been growing, but it needs to be re-oriented to face challenges like climate change, fragmented landholdings, and rising input costs.

### **E-Commerce in India**

In current years India has skilled a growth in internet and cellphone penetration. In 2021, there was a substantial increase in the number of internet connections, reaching a total of 830 million. This growth was primarily attributed to the 'Digital India' program. Of the overall internet connections, 55% were located in urban areas, with 97% of these connections being wireless.

The smartphone base has also increased significantly and is expected to reach 1 billion by 2026. The growth of India's digital sector has been instrumental in facilitating its progress, with projections indicating that it will attain a value of US\$1 trillion by 2030. This remarkable ascent in internet usage and smartphone adoption, combined with an increase in disposable incomes, has significantly contributed to the expansion of India's e-commerce industry.

India's e-commerce sector has transformed the way business is done in India and has opened various segments of commerce ranging from business-to-business (B2B), direct-to-consumer (D2C), consumer-to-consumer (C2C) and Consumer-to-business (C2B). Most important segments consisting of D2C and B2B have skilled giant increase in recent years. India's D2C market is expected to reach US\$ 60 billion by FY27. The overall e-commerce market is also expected to reach US\$ 350 billion by 2030 and will experience 21.5% growth in 2022 and reach US\$ 74.8 billion.

In our country, Electronic National Agriculture Market (E-NAM) is doing e-commerce in agriculture. E-commerce enabled the farmers to market their products directly to consumers and outside dealers across the world. Farmers suffered enormous losses because of middlemen.

### **Objectives of the study**

- To evaluate the monthly income and age wise classification of farmers.
- To evaluate the opportunities in E-Commerce through the awareness level of Farmers.
- To analyse the challenges faced by farmers using E-commerce.
- To examine the factors which effects E-Commerce in Agriculture Sector/Farmers

### **Research Methodology**

The study was carried out in District Sehore of Madhya Pradesh agricultural area. A questionnaire was used to collect the data. The purpose of the study was to examine the challenges faced by the farmers through online process. In the study, both primary and secondary data were employed. A total of 250

samples were selected for the study. The samples were chosen in a random manner. The questionnaire served as the main method for gathering data.

**Study Area:** The study has been conducted in major Sehore districts of Madhya Pradesh including the 5 villages - Astha, Shymapur, Ichhewar, Nasrullaganj and Dhabla. A total of 250 farmers are chosen at random using a practical sampling approach. Each village has 50 farmers selected. Farmers doing various types of cultivation were included in samples.

**Study population:** The population of the study was all the professional farmers, agro-product customers, IT experts, and E-Commerce facilitators of sehore District.

**Sampling technique:** We used purposive non-random sampling procedure. The main aim of purposive sampling is to emphasis on particular characteristics of a population that are of interest, which will authorize to answer research questions.

**Sample size:** 158 farmers (who grow agro-items professionally), 64 Agro-product customers (including experienced in online shopping), 23 IT experts, and 5 E-Commerce facilitators (including agro-product based portals) were selected purposively from Sehore districts of five villages.

**Data collection tools:** The researcher used questionnaire as data collection tool to elicit required data. The questionnaire consisted of four parts, including: Challenges/barriers to E-Commerce, E-Commerce development solution, the questionnaire was designed in a Likert Scale in first phase of survey. In second phase of survey, the questionnaire is multi-choice type for studying of current issue of online shopping of vegetable and fruit items. Finally, the interview questionnaire for investigating a case of existing portal- National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities, eMandi, Mbapl etc.

### Limitations of the study

- The scope of the study is limited to financial and profitability under different market conditions
  - Time available is too short to elovatrte and deliver the paper in view of the volume of activities
- The study relies more on primary and secondary sources and all limitations, which are applicable to secondary data are likely to creep into the research.

**Data Analysis Procedure:** Challenges of E-Commerce in agriculture

### Age Wise Classification of Farmers:

**Table 1 Age wise classification of Farmers**

Age-Wise	No. Respondents	Percentage
15-25	22	8.8
25-35	22	8.8
35-45	40	16.0
45-55	80	32.0
55-65	52	20.8
Above 65	34	13.6
<b>Total</b>	<b>250</b>	<b>100</b>

Table 1, it is clear that majority of farmers are aged between 45 and 55 (32 %). 20.8% are aged between 55 and 65, 16 % between 35 and 45, 13.6% above the age group of 65, 8.8% between 25 and 35 and 8.8% between 15 and 25.

**Monthly Income o Farmers**

**Table 2 Monthly Incomes of Farmers**

<b>Income</b>	<b>No. Respondents</b>	<b>Percentage</b>
<b>Below15,000</b>	<b>180</b>	<b>72</b>
<b>15,000-30,000</b>	<b>30</b>	<b>12</b>
<b>30,000-45,000</b>	<b>25</b>	<b>10</b>
<b>Above 45,000</b>	<b>15</b>	<b>6</b>
<b>Total</b>	<b>250</b>	<b>100</b>

Table 2 shows the monthly income of farmers. 72 % of the farmers earn below 15000 per month, 12% between 15000 and 35000, 10% between 35000 and 45000 and remaining 6% earn above 60000.

**Awareness Level of Farmers Regarding Opportunities of E-Commerce:**

**Table 3: Awareness Level of Farmers Regarding Opportunities of E-Commerce**

<b>Awareness</b>	<b>No. Respondents</b>	<b>Percentage</b>
<b>Aware</b>	<b>50</b>	<b>20</b>
<b>Fully Aware</b>	<b>28</b>	<b>11.2</b>
<b>Not Fully Aware</b>	<b>94</b>	<b>37.6</b>
<b>Not Aware</b>	<b>56</b>	<b>22.4</b>
<b>Prefer not to Say</b>	<b>22</b>	<b>8.8</b>
<b>Total</b>	<b>250</b>	<b>100</b>

Table 3 shows awareness level of farmers regarding opportunities of E-commerce. 37.6% of the farmers are not fully aware about E- commerce opportunities and 22.4% are not aware. 20.0% of the respondents are aware, 11.2% are fully aware and remaining 8.8% of farmers prefer not to say.

**Challenges Faced by Farmers Using E-Commerce in Agriculture:**

**Table 4: Challenges Faced by Farmers Using E-Commerce in Agriculture**

Challenges	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Lack of Computer literacy & technical devices in Rural Areas	98	84	40	20	8	250
Cost of Computer & Internet	89	105	35	17	4	250
Pricing Issues	79	112	50	6	3	250
Nature of Perishable goods	121	80	40	85	5	250
Difficulty in Delivery	50	98	58	93	5	250
Intermediaries	76	117	39	16	2	250
Competition	132	52	38	20	8	250
Use Lack of Storage	29	89	78	12	42	250
Lack of trust in electronic transactions	155	60	16	13	6	250
People's traditional interest to physical presence in the market	125	65	12	25	23	250

Table 4 shows Challenges Faced by Farmers Using E-Commerce in Agriculture- 98 farmers regarding are strongly agree to the lack of computer literacy & technical devices in rural areas whereas 117 farmers agree on intermediates of the farmers. Moreover the farmers prefer the traditional presence in the market due to the security point of view.

**Factors which effects E-Commerce in Agriculture Sector/Farmers**

According to the research findings, we have identified the key challenges for the development of E-Commerce in the agriculture sector. Out of the 23 barriers that were assessed, the respondents consider the following factors to be the most significant obstacles to E-Commerce development in agriculture: limited literacy among farmers, absence of computers as business tools for farmers, insufficient

knowledge of information technology (IT) among the general population, and lack of trust in electronic transactions.

Factor name and effective variables of each factor with Percentage (The more value of factors % load indicates the more agreement of respondents for these challenges)

**Table 5: Factor with different variables of E-Commerce in Agriculture**

<b>Factors</b>	<b>Variables</b>	<b>Percentagewise load</b>
Technical & Educational	<ul style="list-style-type: none"> <li>• Unpopularity of computer as a business tool amongst farmers</li> <li>• Lack of English Language</li> <li>• Farmers low literacy level</li> <li>• Lack of proper portal design for E - Commerce</li> </ul>	85
Cultural	<ul style="list-style-type: none"> <li>• Lack of the culture of using computer for agricultural marketing purpose</li> <li>• Lack of customer trust</li> </ul>	68
Security	<ul style="list-style-type: none"> <li>• Fraud Platform</li> <li>• Delivery Risk</li> <li>• Online payment complexities</li> </ul>	78
Public	<ul style="list-style-type: none"> <li>• Lack of IT knowledge</li> <li>• Lack of awareness related to E-Commerce</li> <li>• Lack of rules and regulations related to customer law</li> <li>• Lack of Govt. support</li> </ul>	70

**Findings**

E-commerce has enormous potential to speech several constraints in the Indian agricultural sector. In the traditional form of agriculture, the potential for E-commerce disruption is high where intermediaries eat into farmers' margins.

The internet connectivity is one of the prevalent challenges in accepting the E-Commerce. The internet connectivity is actual acute for online business. Due to the attributes of perishable and decaying I would not be accessible to be reduced the farmers to accept the E-commerce. The online platform give many loses to the poor farmers, it is the biggest challenges for farmer to, adopt E-commerce.

The results indicated that there are many challenges in all aspects of E-Commerce adoption in agriculture. From Table 5 -These challenges are categorized into four categories: Technical and

Educational barriers were found to be major ones others being cultural barriers, security barriers, and public barriers. Based on the derived factor loads according to percentage wise ; in technical-educational factor the important variables were computer's unpopularity as a business tool among farmers, perishable nature of agricultural products, and farmers low levels of literacy and lack of proper design/portal of E-Commerce with factor load 85%. Similarly, the lack of the culture of using computer for marketing purpose (cultural factor with factor load 68%) , online payment system complexities (security factor with factor load 78%) and lack of government support in E-Commerce (public factor with factor load 70%) were other major challenges for adopting E-Commerce in agriculture.

E-Commerce development in agriculture needs funding and attention in all sectors. Definitely E-Commerce acceptance in agriculture is the development of the cultural, infrastructural, social and educational backgrounds. E-Commerce platforms for agricultural products, coupled with education on the benefits of E-Commerce for farmers and consumers, and the facilitation of online payment systems through community-level initiatives in this sector, entry of private sectors in E-Commerce and internet education to farmers were prioritized solutions for implementation of E-Commerce in agriculture. Hence, it is suggested to implement the identified challenges, for the future development.

The government also should encourage the farmers to adopt the e-commerce for future investment in their agribusiness. The platform such as Agro bazaar should be more promoted to the agropreneurs to market their products online and indirectly will attract new potential customers to buy their products. This approach can be seen by government agencies like Felda that offer a free platform in the Shoppe to the farmers to sell their agriculture outputs to the customers. The government also needs to make announcements or advertising to ensure all farmers aware about the program. In conclusion, the challenges present themselves as the determining factors that will influence the decision of farmers to either adopt or reject E-commerce in their agribusiness operations.

## Conclusion

An array of stakeholders, including farmers, input suppliers, logistics providers, and others, can be interconnected through the utilization of an E-commerce platform. By means of online suppliers, farmers can obtain access to higher-quality inputs at a more favorable price than local markets, resulting in cost efficiencies. Furthermore, expedited access to efficient transportation enables farmers to significantly reduce the time it takes for their produce to reach consumers. In informal cash transactions with intermediaries, farmers are unable to maintain a record of their post-sales, as these transactions typically occur without a purchase receipt. This, in turn, could deprive farmers of access to credit.

However, agricultural E-commerce platforms generally maintain a record of transactions conducted on their platforms. With the assistance of these records, farmers can establish a digital history of their sales and revenue flows, based on which they can access credit. Online platforms provide enhanced transparency and visibility of market prices to farmers, leading to more equitable pricing in comparison to that offered by intermediaries. The transparency provided by E-commerce platforms also enables buyers to trace the origin of the supplies, encouraging farmers to enhance and maintain the quality of their produce.

Agricultural E-commerce creates a virtuous cycle. The initial benefits generated by agri E-commerce, such as improved incomes, reduced wastage, and access to financial services, not only attract more and more farmers to the E-commerce ecosystem but also incentivize individual farmers to increase their on-



farm investments and productivity. As a result, along with an increase in the volume and frequency of agri E-commerce transactions, the Agri E-commerce infrastructure receives a boost.

NABARD has entered into a partnership with ONDC to promote the use of E-commerce in the agricultural sector. In furtherance of this objective, the two entities are organizing the NABARD-ONDC Grand Challenges. The Agri Grant Challenge seeks to equip existing E-commerce players in the agricultural sector with ONDC protocols and facilitate market linkages for these players with market-ready Farmer Producer Organizations (FPOs) across the country.

Additionally, the Agri Innovation Hackathon aims to encourage the development of innovative solutions to facilitate the adoption of E-commerce in the agricultural domain.

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