



# Awareness Level of Members of Farmer Producer Organizations (FPOs) about E-commerce Platforms in Agriculture

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

Farmer Producer Organizations (FPOs) as the business entities need to be aware of all the technologies and ideally utilize them to earn profits for the company. Electronic commerce, sometimes known as e-commerce, is one example of such technology. E-commerce refers to any transaction that takes place over the internet. As a result, FPOs must learn how to use e-commerce platforms for a variety of agricultural activities such as bulk trading of produce, purchasing inputs, accessing market information or crop management procedures. This study was conducted to assess the awareness level of members of FPOs on e-commerce platforms related to agriculture. A sample of 146 farmers was selected through multi-stage proportionate sampling from four villages with the highest number of farmers registered under FPOs from Donakonda mandal of the Prakasam district

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of Andhra Pradesh. Data collection was done through a well-structured interview schedule. Statistical tools such as mean, standard deviation, frequency and percentage were used to analyze the result. Study findings indicate that respondents had a medium level of awareness about e-commerce in agriculture.

*Keywords: Awareness; E-commerce; Farmer Producer Organizations (FPOs).*

## 1. INTRODUCTION

Agriculture is one of the major livelihoods in India contributing about 3.9% of GDP in 2021-2022 [1]. Most Indian farmers are small and marginal with an average land holding of 1.08 ha [2]. This creates issues such as difficulty in marketing and usage of machinery for various agricultural operations. To overcome these challenges and cater the needs of small and marginal farmers, the government has taken an initiative for the formation of farmers' collectives called Farmer Producer Organizations (FPOs). FPOs are registered either under Part IXA of the Companies Act or under the Cooperative Societies Act [3]. The main aim of the formation of the FPOs is that farmers come together and work as a business organization to generate higher incomes. FPOs represent a critical component of the plan for lifting small and marginal farmers out of poverty and increasing their competitiveness in agricultural markets [4].

Business organizations must be flexible to use different strategies to improve the market base and gain a competitive advantage to increase their income. One such strategy is the use of e-commerce. Electronic commerce/ e-commerce means any person/entity who owns, operates or manages a digital or electronic facility or platform for commerce [5]. Electronic commerce encompasses both physical products and intangibles such as information. This includes all trade processes such as online marketing, ordering, payment and delivery support [6]. With the increased availability of internet and communication facilities, the scope for the use of e-commerce has increased exponentially. ICT projects primarily provide linkages, increase access to markets, and improve the corporate processes while also expanding product diversity [7]. These Technological advances have created new forms of trade such as e-commerce as a potential strategy tool for farmers to be more successful in the digital economy [8]. E-commerce is a boon for business as it provides a competitive advantage such as cash-less transactions, the opportunity to sell in international or national markets and a reduction

in the exploitation of farmers by middlemen. Thus, the present study focuses on the awareness level of members of FPOs about e-commerce platforms.

## 2. MATERIALS AND METHODS

The research was carried out in the Donakonda block of the Prakasam district of Andhra Pradesh. The purposively selected block has the highest number of farmers registered in FPOs i.e., 6092 farmers in 33 revenue villages of the block. A sample size of 146 was selected proportionately from the first four villages with the maximum number of farmers registered in FPOs i.e., Aravallipadu, Kotcherla Kota, Gudipadu, Polepalle. An ex post facto research design was adopted for the study. The data collection was done through a pre-tested interview schedule. Statistical tools such as frequency, percentage, mean and standard deviation were used for analyzing the awareness level of members of FPOs about e-commerce platforms.

## 3. RESULTS AND DISCUSSION

All the respondents said that they were aware of agricultural e-commerce sites. Although, when asked about their level of awareness regarding e-commerce sites, about half of the respondents (50.7 percent) showed a medium level of awareness, followed by 26 per cent of respondents who had a low level of awareness and 23.3 per cent had a high level of awareness (Fig. 1). Members of FPOs having awareness of e-commerce platforms can increase the various marketing channels and obtain better prices for their commodities.

### 3.1 General Awareness about E-commerce

More than three-quarters (78.2%) of respondents were particularly aware of the existence of e-commerce sites related to agriculture. Further 71.2 per cent of respondents were aware that e-commerce is a virtual platform. More than half (57.5%) of the respondents were aware that there are various e-commerce sites for different

aspects of agriculture, both government and private e-commerce sites in agriculture and, e-commerce sites provide 24x7 hours of business (Table 1).

From the above findings, it may be concluded that more than half of the respondents had a general awareness of e-commerce. Digital India, Skill India, Start-up India, and Make in India are all government initiatives that are helping to build the e-commerce market in India [9].

### 3.2 Awareness about Registration

Awareness about registration in e-commerce sites is one of the critical components necessary for the usage of e-commerce platforms. About 57.5 per cent of the respondents were aware that FPOs/members of FPOs have to register on e-commerce sites to avail of their services. Further, 56.8 per cent of respondents were aware that registration is free of cost. Awareness regarding special privileges provided by e-commerce sites when registered as an FPO rather than registering as an individual farmer and provision

of SMS or web-based price alerts to the registered farmers of FPO was 24 and 23.3 per cent respectively (Table 2).

The reason for this may be that only certain farmers occupying the positions of group leaders or executive leaders, and board members were actively involved in the usage of e-commerce sites and were aware of the registration. Thus, the flow of information is disrupted leading to less awareness among remaining members of FPOs.

### 3.3 Awareness about Transactions

The majority (69.9%) of the respondents were aware that payments regarding commodity purchases and returns can happen directly through online bank transactions. Although, 63 per cent of respondents were aware that e-commerce allows transparency in transactions. Further, only 60.3 and 57.5 respondents were aware that cash on delivery and FPOs or members of FPOs can perform business transactions related to agriculture through e-commerce sites respectively (Table 3).

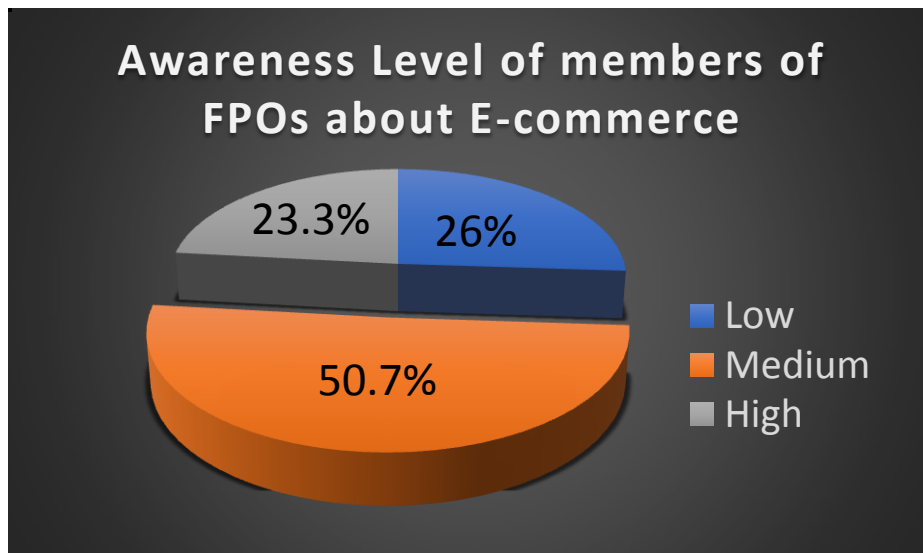


Fig. 1. Awareness level of members of FPOs about E-commerce platforms (n=146)

Table 1. General awareness of e-commerce platforms by members of FPOs

S. No	General awareness of E-commerce	Frequency (n=146)	Percentage
1.	Existence of e-commerce sites related to agricultural business.	115	78.8
2.	There are various e-commerce sites for different activities related to agriculture.	84	57.5
3.	The E-commerce platform is one of the virtual platforms.	104	71.2
4.	Government and private e-commerce sites in agriculture.	84	57.5
5.	Provides 24 x 7 hours of business.	84	57.5

**Table 2. Awareness about registration in e-commerce platforms by members of FPOs**

S. No	Awareness about registration	Frequency (n=146)	Percentage
1.	FPOs/Members of FPOs have to register on e-commerce sites before using its services.	84	57.5
2.	Registration is free of cost on e-commerce platforms	83	56.8
3.	Special privileges are given while registered as an FPO/Member of an FPO rather than registering as an individual farmer.	35	24
4.	When registered, e-commerce sites provide SMS/web-based price alerts.	34	23.3

**Table 3. Awareness about transactions in e-commerce platforms by members of FPOs**

S. No	Awareness about transactions	Frequency (n=146)	Percentage
1.	Payments for commodity purchases and commodity returns can happen directly through online bank transactions.	102	69.9
2.	Cash on delivery is available on e-commerce sites	88	60.3
3.	FPOs/ Members of FPOs can perform business transactions related to agriculture through e-commerce sites.	84	57.5
4.	Allows transparency in the transactions.	92	63

**Table 4. Awareness about marketing aspects in e-commerce platforms by members of FPOs**

S. No	Awareness about Marketing aspects	Frequency (n=146)	Percentage
1.	Through the e-commerce platform, more returns for their commodity are obtained.	81	54.1
2.	FPOs/Members of FPOs can sell their produce or buy input from different e-commerce sites.	79	51.5
3.	E-commerce sites provide real-time market prices	64	43.8
4.	Inspection procedure for the verification of physical quantity and quality parameters of commodities through e-commerce sites.	34	23.3
5.	Avoidance of middlemen through e-commerce platforms	60	41.1
6.	Bulk transactions are possible through e-commerce platforms.	93	63.7
7.	Opens business for a wide range of customers.	92	63
8.	Disrupts the traditional agricultural value chains.	60	41.1

E-Commerce is the most interesting and fastest-growing commercial transaction channel in India [9]. The rapid spread of digital technology, such as digital payments, has simplified farmer purchases [10]. Farmers were aware of internet banking and other online transactions as it reduces the drudgery of waiting in long queue lines for money deposits or withdrawing money.

### 3.4 Awareness about Marketing Aspects Related to e-commerce

From Table 4, it is understood that most (63.7%) of the respondents were aware that bulk transactions were possible through e-commerce

platforms followed by 63 per cent of respondents who had been aware that e-commerce opens business for a wide range of customers throughout the country and world (exports). About 54.1 per cent of respondents were aware that more returns can be obtained for their commodities. Awareness that FPOs/members of FPOs can sell their produce or buy input from different e-commerce sites or the same e-commerce site and providing real-time market prices by e-commerce sites was 51.5 and 43.8 per cent respectively. Equal (41.1%) per cent of respondents were aware that avoidance of middlemen occurs in e-commerce sites and that e-commerce disrupts the traditional agricultural

**Table 5. Awareness of advantages of e-commerce platforms by members of FPOs**

S. No	Awareness about advantages of e-commerce platforms	Frequency (n=146)	Percentage
1.	Using e-commerce sites has potential benefits. (Good quality, discounted price)	90	61.6
2.	Reduction in the wastage of agricultural produce due to transportation.	60	41.1
3.	The use of e-commerce platforms saves times	95	65.1
4.	E-commerce sites avoid issues related to transportation	92	63
5.	Through e-commerce sites, prices are commensurate with quality.	60	41.1
6.	E-commerce sites provide crop consultancy services too.	77	52.7

value chain. A few (23.3%) of respondents were aware of the inspection procedure for the verification of physical quantity and quality parameters of commodities.

The reason is e-commerce platforms reduce the role of market functionaries by directly enabling the farmers to connect with consumers all over the country or world. Thus, increasing the producers' share in the consumers' rupee. Agri e-commerce also expands farmers' access to new markets and improves value chain transparency [11].

### 3.5 Awareness of Advantages of E-commerce Platforms

The majority (65.1%) of respondents were aware that using e-commerce sites saves time. Further, 63 and 61.6 per cent of respondents knew that the use of e-commerce avoids issues related to transportation and has potential benefits such as good quality products and discounted prices. More than half (52.7%) of respondents were aware that e-commerce sites provide crop consultancy services. Equal (41.1%) per cent of respondents were aware that usage of e-commerce sites reduces the wastage of agricultural produce and through e-commerce site prices are commensurate with quality.

Agricultural e-commerce assisted farmers in eliminating intermediaries, resulting in higher income for farmers by reducing waste [10]. Electronic commerce and electronic markets provide various benefits, including reduced search costs for geographically dispersed vendors and buyers, more openness to trade and market information, and improved price discovery [12].

### 3.6 Overall Awareness Level of E-commerce Platforms

**Table 6. Overall awareness level of e-commerce platforms by members of FPOs**

S. No	Overall awareness level	Mean score	Rank
1.	General awareness about e-commerce.	64.5	I
2.	Awareness about registration.	40.4	V
3.	Awareness about transactions.	62.67	II
4.	Awareness about marketing aspects related to e-commerce	47.7	IV
5.	Awareness of advantages of e-commerce platforms.	54.1	III

## 4. CONCLUSION

Based on the findings, it was inferred that about half of the respondents (Table 6) were familiar with e-commerce. General awareness about e-commerce ranked first followed by awareness about transactions (II), awareness of advantages of e-commerce platforms (III), awareness about marketing aspects related to e-commerce (IV) and awareness about registration (V). With the increased availability of internet facilities, farmers have known about the e-commerce sites but due to the lack of knowledge or experience, they were not aware of how to register and utilize the e-commerce platforms. By providing necessary training to the members of FPOs in aspects such as registration and how to avail of special privileges by registering as an FPO, members of the FPO may become aware of the usage of e-

commerce platforms effectively in their day-to-day operations related to agriculture. Sometimes, FPOs may hire trained personnel that has experience in the usage of e-commerce platforms and improve the profitability of FPOs. Hence, e-commerce has a greater potential that must be leveraged by FPOs to expand their organization and ensure greater income for farmers.

## CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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