Research Article
COMPREHENSIVE STUDY ON FARMERS' EXPECTATIONS FROM E-RETAILING OF AGRI INPUTS IN SOUTH GUJARAT

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Abstract: India is an agriculture-dominant country. Most of the Indian population depends on agriculture and allied occupation. A huge market for Agri-inputs exists in India. Earlier, farmers used to purchase Agri-inputs from an Agro retail shop or cooperative societies. In the era of digitization, some Agri-input companies have started electronic retailing of Agri-inputs, wherein farmers can order from the website or by phone call and Agri-inputs are delivered to their doorstep. The present Empirical Research Paper highlights the awareness and expectations of farmers for e-Retailing of Agri-inputs in south Gujarat. The research was conducted in three randomly selected districts of Gujarat. 300 respondent farmers were selected purposively by adopting a multistage sampling technique. Required data were collected by using a pre-coded interview schedule and analyzed considering the objectives of the study. The result of the study indicates that farmers were expected for timely delivery, good quality of product, availability of different sizes of the packaging, a good amount of discount and after-sale service from e-Retailers of Agri-inputs. If appropriate remedial measures are taken by the Agri-input companies, the trend of e-Retailing of Agri-inputs will surely pick up momentum in the future in the state of Gujarat.

Keywords: *Agri-inputs, e-Retailing, Expectations, Farmers*

Introduction
Farmers need various Agri inputs for successful farm production. Agricultural productivity highly depends on agricultural inputs like seeds, fertilizers, pesticides, farm equipment and machinery. The backbone of any agricultural revolution is the access of farmers to modern agricultural inputs [1]. The timely availability of farm inputs and service is very much required for higher agricultural growth and the welfare of the farming community [2].

There are mainly two types of agricultural inputs - Consumable Inputs and Capital Inputs. Consumable Inputs are everyday commonly used agricultural inputs for smallholder farmers - seeds, fertilizers, insecticides, etc. Consumable inputs are usually natural materials that will be "consumed" by the crops. This includes High-quality Seeds, Fertilizers, Insecticides, Pesticides, Insect Traps, Straw, Hay and even Water and such other things. On the other hand, capital inputs are materials that are mechanical and more technologically advanced such as tractor, thresher, pump sets etc.

In this study, the researchers have assessed the expectations of farmers for e-Retailing of Agri-inputs. The marketing of Agri-inputs is changing with changing agricultural scenarios and changing needs of the farmers. Agri-input firms are trying hard to fulfill farmers' requirements effectively and efficiently. Farmers usually purchase Agri-inputs from various sources like agro retail shops, cooperative societies and company layouts.

The use of digital technology in the agriculture sector is increasing nowadays as farmers are adopting various digital technologies for agricultural purposes. Marketing has become more advanced and customer friendly due to the emergence of this new age of digital technologies. Some Agri-input companies have started electronic retailing of Agri-inputs, wherein farmers can order from the website or by phone call and Agri-inputs are delivered to their doorstep.

This research study assesses the expectations of farmers form e-Retailing of Agri-inputs.

Literature Review
While going through the earlier research; it was found that there is a plethora of literature highlighting Online Shopping. But there are very few studies focusing on the awareness and expectations of farmers for e-Retailing of Agri-inputs. Some relevant research has been summarized here.

Gupta and Malik (2015) [3] found that the respondents have a very high level of expectations in most of the service areas of the Big Bazar retail chain. Al-msalam (2014) [4] found that customer expectation and perceived service quality have a positive effect on customer satisfaction. Kushwah & Bhargav (2014) [5] found that online shopping websites need to work on their performance to remove the gap between the expectations and perceptions of youngsters towards online shopping websites. Gupta and Khincha (2015) [6] identified the gap between the expectation & perception of customers toward online shopping and concluded that the gaps can be easily removed by improving the level of service quality. Khandakar *et al.* (2018) [7] concluded that most of the customers expect low prices, variations in the offer, availability of information, the durability of quality and after-sale service while online shopping. Biswas *et al.* (2019) [8] explained that if the performance of the products and services were matched with customers' expectations, customers were satisfied. Washisht and Joshi (2020) [9] reported that the perceived value and the quality of e-commerce services were affected by the expectations of customers.

Material and Methods
Research Problem Statement & Operational Definitions
The present study attempts to assess the expectations of farmers form e-Retailing of Agri-inputs and suggest measures to prepare an appropriate e-Retail strategy for the mutual benefits of farmers and e-Retailers. The Operational Definitions of various constructs are as follows. **Awareness**: Here, farmers' awareness is measured about e-Retailing of Agri-inputs.

Table-1 Socio-Economic Characteristics of Farmers

Variables	Categories	No of Respondents	Percentage
Gender	Male	291	97
	Female	9	3
Age	20-30 years	3	1
	31- 40 years	18	6
	41-50 years	120	40
	51- 60 years	123	41
	Above 60 years	36	12
Education	Illiterate	12	4
	Below SSC	54	18
	SSC/Diploma	81	27
	HSC	78	26
	Graduate	57	19
	Post Graduate	18	6
Occupation	Farming Only	57	19
	Farming + Livestock	87	29
	Farming + Service	96	32
	Farming + Business	9	3
	Farming + Livestock + Service	45	15
	Farming + Livestock + Business	6	2
Annual Income	Below 1 lakh	3	1
	1-3 lakh	99	33
	3-5 lakh	156	52
	5-7 lakh	39	13
	Above 7 lakh	3	1

Table-2 Expectations of farmers from e-Retailers of Agri-inputs

Construct	Particulars	VI	MI	N	LI	NIA	CS	Rank
Reliability	e-Retailer should provide its services as per the promise	222(1110)	69(276)	0(0)	6(12)	3(3)	1401	1
	e-Retailer should have products available when the farmers want it	93(465)	189(756)	18(54)	0(0)	0(0)	1275	3
	e-Retailer should complete home delivery by a certain time	183(915)	96(384)	12(36)	6(12)	3(3)	1350	2
	e-Retailer should insist on error-free sales transactions	102(510)	99(396)	78(234)	18(36)	3(3)	1179	4
Retail Mix	e-Retailer should provide wide variety of Agri Inputs	162(810)	90(360)	27(81)	18(36)	3(3)	1290	3
	e-Retailer should provide quality Agri Inputs on a reasonable price	237(1185)	63(252)	0(0)	0(0)	0(0)	1437	1
	Accessibility and search of Agri Inputs on the e-Retail platform should be easy	66(330)	174(696)	42(126)	18(36)	0(0)	1188	5
	e-Retailer should provide all information in the local language	198(990)	72(288)	18(54)	12(24)	0(0)	1356	2
	e-Retailer should provide multiple pack sizes of Agri Inputs	132(660)	105(420)	39(117)	21(42)	3(3)	1242	4
	e-Retailer should provide attractive promotional offers	96(480)	132(528)	39(117)	30(60)	3(3)	1188	6
Personal Interaction	e-Retailers should have the knowledge to answer the farmer's questions	105(525)	126(504)	36(108)	24(48)	9(9)	1194	3
	e-Retailers should give prompt services to the farmers	99(495)	129(516)	48(144)	18(36)	6(6)	1197	2
	e-Retailers should never delay responding to the farmers	99(495)	108(432)	48(144)	42(84)	3(3)	1158	5
	e-Retailer should give individual attention to the farmer's requirements	135(675)	117(468)	33(99)	15(30)	0(0)	1272	1
	e-Retailer should consistently courteous with farmers	93(465)	123(492)	63(189)	15(30)	6(6)	1182	4
Problem-solving	e-Retailer should always be ready to solve farmer's problems	138(690)	117(468)	18(54)	21(42)	6(6)	1260	2
	e-Retailer should be able to handle customer complaints immediately	147(735)	129(516)	21(63)	3(6)	0(0)	1320	1
Customer-oriented Policy	e-Retailer should offer high-quality Agri Input products	240(1200)	57(228)	3(9)	0(0)	0(0)	1437	1
	e-Retailer should willingly handle returns and exchanges	150(750)	144(576)	0(0)	6(12)	0(0)	1338	2
	e-Retailer should offer good discount plans	150(750)	117(468)	24(72)	9(18)	0(0)	1308	4
	e-Retailer should promise for after-sale services	177(885)	96(384)	15(45)	3(6)	9(9)	1329	3

Expectation: This refers to the expectations of farmers from e-Retailers of Agri-inputs. **Farmers**: This refers to the farmers who are doing farming on their own land in the randomly selected three districts of Gujarat.

E-Retailing: The selling of products or services to customers in a digital way is called e-Retailing. In this study, the focus of the investigation is on the e-Retailing of Agri-inputs.

Agri-inputs: Agri-inputs refer to any external source put into the farm that can help a farmer to produce something on the farm. Here, in this study, the term refers to consumable Agri-inputs purchased by farmers through e-Retailing.

Research Objectives
To study the socio-economic characteristics of the farmers
To assess the expectations of the farmers from e-Retailers of Agri-inputs.
To suggest recommendations for preparing an appropriate e-Retail strategy.

Research Design
Descriptive-Cross Sectional Research Design is used in this study as it describes the awareness of farmers and their expectations for e-Retailing of Agri-inputs (Descriptive) at a specific point of time (Cross-Sectional). It is a cross-sectional study because primary data were collected from the farmers only once.

Data Collection
Primary Data
The study is mainly based on Primary Data collected from the farmers of randomly selected three districts of Gujarat by using a pre-coded interview schedule. The interview schedule was framed in English as well as in the local vernacular language Gujarati.

Secondary Data
Secondary data have been collected from relevant literature like books, reports, journals, periodicals, and electronic databases.

Sampling Design
Multistage sampling technique was used. At first stage, three districts of Gujarat were selected randomly. At the second stage, two talukas from each district were selected randomly. At the third stage, ten villages from each taluka were selected randomly and at the last stage, 5 farmers from each village were selected purposively who are doing e- Retailing for Agri-inputs.

Sample Size
300 Farmers from randomly selected three districts of Gujarat have been surveyed in this study.

Results & Discussion
Socio-Economic Characteristics of Farmers
Based on the frequency analysis of the responses of 300 respondents, as shown in [Table-1], the socio-economic characteristics of respondents – farmers - were classified according to their gender, age, education, occupation and annual income. Out of 300 respondents, 97% were male and 3% were female. The highest number of respondents belonged to the age group of 51-60 years. The majority of the respondents (27%) have education up to SSC/Diploma. 81% of farmers are involved in farming plus either livestock or service or business. Only 1% of farmers have an annual income of more than 7 lakhs and the majority (52%) of them have an annual income of 3 to 5 lakhs.

Expectations of farmers from e-Retailers of Agri-inputs.
Farmers were requested to rate their expectations from e-Retailers of Agri inputs on the various parameters like reliability, retail mix, personal interaction, problem solving and policy. Each parameter contains some statements related to a particular expectation. Reliability contains four statements, Retail mix contains six statements, Personal interaction contains five statements, Problem-solving contains two statements and Policy contain four statements. On each statement, farmers have responded on a five-point Likert scale viz; VI (Very important), MI (Moderately important), N(Neutral), LI (Less important) and NIA (Not important at all). The collected farmer's responses were analysed using a weighted mean method and based on cumulative score, rank was given to statements about various expectations.
As per the [Table-2], Category-I is about reliability and this category consist of four statements. Out of these four expectations related to reliability, the most important and firstly ranked expectation found was "e-Retailer should provide its services as per promise" followed by "e-Retailer should complete home delivery by a certain time", "e-Retailer should have products available when the farmers want it" and "e-Retailer should insist on error-free sales transactions" with second, third and fourth rank respectively.
Category-II is about retail mix. This category consists of six statements related to retail mix. Out of these six expectations, most important and firstly ranked expectation in this category found was "e-Retailer should provide quality Agri Inputs on reasonable price" followed by "e-Retailer should provide all information in local language", "e-Retailer should provide wide varieties of Agri Inputs", "e-Retailer should provide multiple pack sizes of Agri Inputs", "Accessibility and search of Agri Inputs on e-Retail platform should be easy" and "e-Retailer should provide attractive promotional offers" with second, third, fourth, fifth and sixth rank respectively.
Category-III is about personal interaction with five statements. In this category, the most important and firstly ranked perceived benefit found was "e-Retailer should give individual attention to the farmer's requirements". The other expectations in this category found were "e-Retailers should give prompt services to the farmers", "e-Retailers should have the knowledge to answer the farmer's questions", "e-Retailer should consistently courteous with farmers" and "e-Retailers should never delay responding the farmers" with second, third, fourth and fifth rank respectively.
Category-IV is about problem-solving and it consists of two statements. The most important and firstly ranked expectation in this category found was "e-Retailer should be able to handle customer complaints immediately" followed by "e-Retailer should always be ready to solve farmer's problems".
Category-V is about customer-oriented policy with four statements. The most important and firstly ranked expectation in this category found was "e-Retailer should offer high-quality Agri Input products" followed by "e-Retailer should willingly handle returns and exchanges", "e-Retailer should promise for after-sale services" and "e-Retailer should offer good discount plans" with second, third and fourth rank respectively.
The above discussion provides information related to category-wise expectations of farmers about e-Retailing of Agri Inputs. The comparison of all five categories is

also very important to understand the overall exactions of farmers. A comparison of all five categories of expectations is presented in [Table-3].

Table-3 Overall Expectations of farmers about e-Retailing of Agri Inputs

Category No.	Category Name	Summative Mean	Rank
I	Reliability	4.33	2
II	Retail Mix	4.28	3
III	Personal Interaction	4.00	5
IV	ProblemSolving	4.30	4
V	Customer-oriented Policy	4.51	1

As presented in [Table-3], the most important and firstly ranked category of expectations found was "Customer-oriented policy" of e-Retailing of Agri Inputs followed by reliability, retail mix, problem-solving and personal interaction categories of expectations with second, third, fourth and fifth rank respectively.

Conclusion
Agri-input firms are adopting innovative marketing strategies for selling Agri-inputs. Some Agri-input companies have started electronic retailing of Agri-inputs, wherein farmers can order from the website or by phone call and Agri-inputs are delivered to their doorstep. The result of this study indicates that farmers expected that e-Retailer should provide its services as per promise, e-Retailer should provide all information in the local language, e-Retailer should provide quality Agri Inputs at a reasonable price, e-Retailers should have the knowledge to answer the farmer's questions, e-Retailer should give individual attention to the farmer's requirements, e-Retailer should able to handle customer complaints immediately, e-Retailer should offer high-quality Agri Input products and e-Retailer should willingly handle returns and exchanges. The most important expectations of farmers found was related to customer-oriented policy, reliability and retail mix. By knowing these expectations of farmers, e-Retailer of Agri inputs should consider this feedback as important information and according to that, they should design their e-Retail strategy to grub a huge market of Agri inputs in India.

Recommendations
The findings of the study indicates that farmers have various expectations from e-Retailers, it seems that the companies have to work out strategies to fulfill these expectations to make e-retailing of Agri-inputs more popular and facilitative among the farmers. Some specific recommendations are given below:
1) Farmers have a bundle of expectations from e-Retailers of Agri inputs *viz*; services as per promise, information in the local language, quality Agri inputs at a reasonable price, individual attention to the farmer's requirements, handling customer complaints immediately, offer high-quality Agri input products and handle returns and exchanges, so the e-Retailer firm should try to fulfill these expectations to make e-Retailing of Agri input more facilitative for farmers and more profitable for the firm also.
2) Agri input e-Retailers should focus on preparing customer-oriented policy and should work to fulfill customers' expectations related to reliability, retail mix, problem-solving and personal interaction.

Application of research: Understanding farmers' expectations is extremely important for Agri input e-Retailer companies to increase the farmers' adoption of e-Retailing of Agri inputs.
The findings of the research provide some important information related to farmers' expectations from e-Retailers of Agri Inputs. These findings can be utilized by Agri input e-Retailer companies for preparing an appropriate e-Retail strategy to earn more profit as well as to provide better services to the farming community.

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