

Attitude of farmers towards online agricultural marketing: A study in Marathwada region, Maharashtra

Dawane V.T.*¹, Kapse P.S., Kadam R.P., More S.S.¹, Deshmukh P.R.,
Jakkawad S.R. and Lad A.S.

Department of Agril. Extension Education, College of Agriculture, Vasantrao Naik Marathwada Krishi Vidyapeeth (VNMKV), Parbhani, Maharashtra 431402, India

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Abstract

The farmers' psychological well-being has an impact on the adoption of online agricultural marketing. Attitude is a crucial element that converts behaviour into overt action. This study determined the socio-economic variables that influence farmers' attitude towards the adoption of online agricultural marketing. The present investigation was conducted during 2022-24 in six districts of Maharashtra state on 180 respondents. To gauge the respondents' attitudes, an attitude scale was developed. The socioeconomic factors that predicted farmers' views about the adoption of online agricultural marketing were examined using a multiple regression model. According to the study's findings, most respondents had a moderately positive attitude towards online agricultural marketing. Farmers' attitudes toward the adoption of online agricultural marketing were influenced by several factors, including age, education, family size, annual income, land holding, exposure to mass media, contact with extension agents, social participation, scientific orientation, economic motivation, techno savviness, risk orientation, and ownership of ICT devices. To alter farmers' attitudes, it is essential to create a mobile application and host workshops and training sessions for them.

Keywords: Attitude, Covid-19, Likert Scale, Maharashtra, Online agricultural marketing

Introduction

The Indian agriculture sector provides for the livelihoods of around 42.30 per cent of the population and contributes 18.20 per cent of the country's GDP at current prices, according to the Ministry of Finance's Economic Survey 2023–24. The sector has shown its buoyancy over the past five years, growing at an average annual rate of 4.18 per cent at constant prices. Preliminary estimates for 2023–2024 indicated that the agriculture industry will grow at a rate of 1.4%. The COVID-19 pandemic is the largest humanitarian calamity on the planet. The World Health Organization (WHO) declared COVID-19 a global epidemic in March 2020. A 47.00% reduction in overall production levels was the outcome of the COVID-19-related lockdown that was imposed countrywide, which had a significant impact on the total amount of output in the agriculture and allied industries. It goes without saying that, alongside its impact on public

health, COVID-19 and the lockdown implemented in early March 2020 to curb its spread have had a profound economic impact, touching every sector of the economy. This also holds for markets and the agricultural sector. Governments worldwide have had to balance efforts to halt the COVID-19 pandemic with addressing the looming food security crisis. During COVID-19, online marketing is thought to be an effective substitute for the offline farm market channel (Guo et al., 2022). During the COVID-19 epidemic, digital marketing and online marketing platforms were more popular for marketing agricultural products as well as daily necessities. Many farmers have adopted social media platforms like Facebook, WhatsApp, and specialized smartphone applications to sell agricultural products in local markets, including fresh fruits, vegetables, and food grains (Tomar, N. S., 2022). The Government e-Marketplace (GeM) has introduced 170 seed categories to its website in an attempt to make it simpler to find high-quality seeds for agriculture

* Author for Correspondences: Email: vijayaranidawane@gmail.com; ORCID ID :0000-0003-3843-9580

and horticulture. Acquired for nationwide distribution by Central/State PSUs and other regulatory organizations, aims to increase seller involvement across the country, expedite the length of tendering processes, and encourage accountability and transparency in public procurement. The adoption of online agricultural marketing in agriculture is influenced by farmers' psychological health. Attitude is one of the most important psychological factors that might influence a person's decision to choose a particular item or idea (Thurstone & Chave, 1929). It acts as the deciding element by turning covert behaviour into overt action. Farmers' attitudes towards online agricultural marketing are significant determinant of their plans to adopt online agriculture marketing. However, the positive attitude toward online farm marketing is correlated with social status and viewpoints. Since farmers make the majority of the decisions about whether or not to adopt technology, their socio-economic status may provide important information about how they adopt it. Farmers' attitudes have a big impact on their willingness to adopt new technology, such as online agricultural marketing. If farmers had a more positive opinion toward online agriculture marketing, they were more likely to embrace it. Understanding the socioeconomic factors influencing attitude may help create more palatable technologies that would increase online trade in agricultural products. Understanding farmers' perspectives can help direct the efficient allocation of resources (Boora et al. 2022) and Thangjam et al. 2024).

Materials and methods

In the state of Maharashtra, where almost 80% of the population depends on agriculture as their main source of employment and income, the research study was carried out between 2022 and 2024. Developing ways to implement online agriculture marketing requires an understanding of farmers' attitudes about this form of advertising. Six districts from the state of Maharashtra were chosen for this investigation. Additionally, 30 farmers who follow online agricultural marketing were chosen at random from each village within these districts, for a total sample size of 180 farmers. A Likert scale, often known as a summated rating scale, was developed to gauge farmers' attitudes toward the use of Internet agricultural marketing. It was pre-tested with 30 farmers from non-sample area and then put through a relevancy test with 120 judges. A final scale with 39 statements (33 positive and 6 negative) was produced since the statements' "t" values were more than 1.75. To find out how farmers felt about online agricultural marketing, a scale was developed. Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), and Strongly Disagree (SDA) were the five points on a continuum scale used to collect responses.

Positive statements were given a score of 1, and negative statements were given a value of 5, 4, 3, 2, and 1. The percentage score of each statement was assessed, and individual scores were computed by adding the scores from each statement. Using mean and standard deviation values, respondents were classified as less favourable, moderately favourable, and most favourable based on their overall score.

Results

Level of attitude towards online agricultural marketing

Results presented in Table 1 revealed that the majority of respondents (62.22%) had moderately favourable, (19.44%) less favourable and (18.34%) most favourable attitudes towards online agricultural marketing.

Table 1. Distribution of respondents based on their level of attitude towards online agricultural marketing

Sr. No.	Level of Attitude	Percentage
1	Less favourable (up to 156)	19.44
2	Moderately favourable (157- 194)	62.22
3	Most favorable (195 & above 195)	18.34

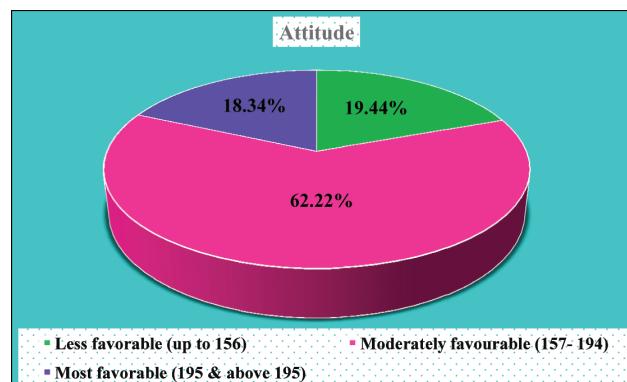


Figure 2. Distribution of respondents according to their overall attitude towards online agricultural marketing

The attitude of the farmers was calculated by collecting data through the scale developed to measure the attitude of the farmers towards online agricultural marketing. Attitude was calculated by using 39 statements. These 39 statements were selected for the attitude scale's final format which were arranged randomly to avoid response biases. This attitude scale can be administered on a five continuum viz., strongly agree, agree, undecided, disagree and strongly disagree with scores of 5,4,3,2 and 1, respectively for positive statements. For negative statements, reverse scoring such as strongly agree, agree, undecided, disagree and strongly disagree with scores of 1,2,3,4 and 5, respectively.

Sr. No.	Statements	Response				
		SA	A	UD	DA	SDA
1	For positive statements	5	4	3	2	1
2	For negative statements	1	2	3	4	5

Table 2: Statement-wise attitude towards online agricultural marketing

Sr. No.	Attitude Statements	Respondents					Respondents (N=180)
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
1	Online agricultural marketing has more opportunities for the marketing of agricultural products than traditional methods.	146(81.12)	22(12.22)	8(4.44)	4(2.22)	0(0.00)	
2	I believe that online agriculture marketing can improve the profitability of the farming business.	163(90.56)	17(9.44)	0(0.00)	0(0.00)	0(0.00)	
3	Online agricultural marketing is helping farmers to save a lot of time and they get more time in doing farm work.	158(87.78)	22(12.22)	0(0.00)	0(0.00)	0(0.00)	
4	Online agricultural marketing is helping a lot to know the market prices of all places.	147 (81.67)	33 (18.33)	0(0.00)	0(0.00)	0(0.00)	
5	Online agricultural marketing has reduced the need for storage of agricultural commodities.	162(90)	18(10)	0(0.00)	0(0.00)	0(0.00)	
6	Due to the immediate demand, online agricultural marketing has made it easier to sell agricultural commodities accordingly.	163(90.56)	17 (9.44)	0(0.00)	0(0.00)	0(0.00)	
7	Online agricultural marketing should be used by everyone for marketing of agricultural products.	144(80)	36(20)	0(0.00)	0(0.00)	0(0.00)	
8	Using online platforms for agriculture marketing enhances farmer access to a larger customer base.	163(90.56)	17(9.44)	0(0.00)	0(0.00)	0(0.00)	
9	Online agriculture marketing provides better opportunities for farmers to showcase and promote their agricultural products.	161(89.45)	19(10.55)	0(0.00)	0(0.00)	0(0.00)	
10	Awareness is essential among farmers about online agricultural marketing.	159(88.34)	21(11.66)	0(0.00)	0(0.00)	0(0.00)	
11	Online agricultural marketing of agricultural commodities is less expensive.	154(85.55)	26(14.45)	0(0.00)	0(0.00)	0(0.00)	
12	Farmers require updated knowledge and training about online agricultural marketing.	161(89.44)	19(10.56)	0(0.00)	0(0.00)	0(0.00)	
13	Online demand and sale of agricultural commodities cut down the middleman which results in better prices of agricultural commodities for both farmers and consumers.	160(88.88)	20(11.12)	0(0.00)	0(0.00)	0(0.00)	
14	Online agricultural marketing is a reliable source of selling agricultural products.	155(86.12)	25(13.88)	0(0.00)	0(0.00)	0(0.00)	
15	Online agricultural marketing makes it possible to get more demand for agricultural products.	150(83.34)	30(16.66)	0(0.00)	0(0.00)	0(0.00)	
16	I feel confident in my ability to use digital tools and technologies for selling agricultural products online.	148(82.22)	32 (17.78)	0(0.00)	0(0.00)	0(0.00)	
17	Only quality agricultural commodities have more opportunities and scope in online agricultural marketing.	147(81.66)	33(18.34)	0(0.00)	0(0.00)	0(0.00)	
18	There is more demand for agricultural products of the established brands in online agricultural marketing.	109(60.55)	07(3.88)	0(0.00)	56(31.12)	08(4.45)	
19	Online agricultural marketing is more beneficial to those farmers having more marketable agricultural products.	138(76.66)	21(11.66)	0(0.00)	20(11.12)	01(0.56)	
20	I believe that online marketing can help farmers to gain valuable customer feedback and insights.	152(84.45)	28(15.55)	0(0.00)	0(0.00)	0(0.00)	
21	Online agricultural marketing facilitates Anytime-Anywhere marketing of agricultural products.	153(85)	27(15)	0(0.00)	0(0.00)	0(0.00)	
22	Online banking and payment process technology accelerates online agricultural marketing.	131(72.78)	49 (27.22)	0 (0.00)	0 (0.00)	0 (0.00)	
23	Favourable government policies and initiatives enhance the utilization of online agricultural marketing technology among the farmers.	136(75.56)	44(24.44)	0(0.00)	0(0.00)	0(0.00)	
24	Online agricultural marketing helps to access global markets at its fingertips thereby attaining more sales and profits in a fraction of the time.	151(83.88)	29(16.12)	0(0.00)	0(0.00)	0(0.00)	
25	Senior citizens hesitate to use online agricultural marketing platforms. (-)	14(7.77)	34(18.88)	02(1.12)	38(21.11)	92(51.12)	
26	The problem of internet connectivity hinders farmers from using online agricultural marketing. (-)	0(0.00)	0(0.00)	0(0.00)	74(41.12)	106(58.88)	
27	Online agricultural marketing services are an alternative to the present agricultural situation.	97(53.88)	19 (10.55)	02(1.12)	26(14.45)	36(20)	
28	Online agricultural marketing is difficult to use by rural farmers. (-)	111(61.66)	61(33.88)	0(0.00)	03(1.67)	05(2.79)	
29	Online agricultural marketing helps farmers to reduce the wastage of agricultural products.	152(84.45)	28(15.55)	0(0.00)	0(0.00)	0(0.00)	
30	Online agricultural marketing enables farmers to establish their brands in the markets by maintaining good relationships with customers.	64(35.56)	04(2.22)	0(0.00)	43(23.88)	69(38.34)	
31	I am open to adopting new technologies and strategies to enhance my agricultural marketing practices.	126(70)	54(30)	0(0.00)	0(0.00)	0(0.00)	
32	Online agricultural marketing requires continuity in the supply of agricultural products.	180(100)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	
33	Quality assurance of agricultural products through online agricultural marketing is not guaranteed. (-)	127(70.56)	53(29.44)	0(0.00)	0(0.00)	0(0.00)	
34	I prefer cash on delivery to online payment mode. (-)	36(20.00)	0(0.00)	11(6.11)	102(56.67)	31(17.22)	
35	Online agricultural marketing reduces manpower to work. (-)	45(25)	09(5)	05(2.78)	31(17.22)	90(50)	
36	Delivered goods looking different from once seen online.	01(0.56)	26(14.45)	04(2.22)	67(37.22)	82(45.56)	
37	Online agricultural marketing is cheaper than going to physical stores.	123(68.34)	56(31.11)	0(0.00)	01(0.55)	0(0.00)	
38	I can access more products or varieties online.	152 (84.45)	28(15.55)	0(0.00)	0(0.00)	0(0.00)	
39	Online agricultural marketing facilitates direct service between producer-to-consumer and consumer-to-producer.	180(100)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	

*Values in parenthesis denote the percentage

Thus, the attitude score of the respondents were obtained by summation of all the statements included in the scale and were categorized into low, medium and high by using mean and standard deviation. These different statements are discussed and presented in Table 2.

The results of Table 2 show the percentage scores for the attitudinal statement, indicating the farmers' attitudes towards online agricultural marketing.

Table 2 illustrates that as regard with the statement "Online

agricultural marketing has more opportunities for the marketing of agricultural products than traditional method" received responses like majority of the respondents (81.12%) strongly agree, (12.22%) agree, (4.44%) undecided and (2.22%) disagree. Majority of the respondents(90.56%) strongly agree, (9.44%) agree with "I believe that online agriculture marketing can improve the profitability of farming business". Majority of the respondents (87.78%) strongly agree, (12.22%) agree with the statement "Online agricultural marketing is helping farmers to save a lot of time and they get more time in doing farm work". Majority of the respondents (90.00%) strongly agree and (10.00%) agree with the statement "Online agricultural marketing has reduced the need for storage of agricultural commodities". Majority of the respondents (90.56%) strongly agree and (9.44%) agree with "Due to the immediate demand, online agricultural marketing has become easier to sell agricultural commodities accordingly". Majority of the respondents (80.00%) strongly agree and (20.00%) agree that "Online agricultural marketing should be used by everyone for marketing of agricultural products". Majority of the respondents (90.56%) strongly agree and (9.44%) agree with "Using online platforms for agriculture marketing enhances farmer access to a larger customer base". As regards "Online agriculture marketing provides better opportunities for farmers to showcase and promote their agricultural products", majority of the respondents (89.45%) strongly agree and (10.55%) agree. (88.34%) strongly agree and (11.66%) agree that "Awareness is essential among farmers about online agricultural marketing". Majority of the respondents (85.55%) strongly agree and (14.45%) agree with "Online agricultural marketing of agricultural commodities is less expensive". Majority of the respondents (89.44%) strongly agree and (10.56%) agree with "Farmers require updated knowledge and training about online agricultural marketing". Majority of the respondents (88.88%) strongly agree and (11.12%) agree that "Online demand and sale of agricultural commodities cut down the middleman which results in a better price of agricultural commodities for both farmers and consumers". Majority of the respondents (86.12%) of the respondents strongly agreed and (13.88%) agreed with the statement "Online agricultural marketing is a reliable source of selling their agricultural products". Majority of the respondents (83.34%) of the respondents strongly agreed and (16.66%) agreed with the statement "Online agricultural marketing makes it possible to get more demand for agricultural products". Majority of the respondents (82.22%) of the respondents strongly agreed and (17.78%) agreed with the statement "I feel confident in my ability to use digital tools and technologies for selling agricultural products online".

"Only quality agricultural commodities have more opportunities and scope in online agricultural marketing", (81.66%) strongly agree and (18.34%) agree. (60.55%) strongly agree, (3.88%) agree, (31.12%) disagree and (4.45%) strongly disagree with "There is more demand for agricultural products of the established brand in online agricultural marketing". Majority of the respondents (76.66%) strongly agree, (11.66%) agree, (11.12%) disagree and (0.56%) strongly disagree with "Online agricultural marketing is more beneficial to those farmers having more marketable agricultural products". Majority of the respondents (84.45%) strongly agree and (15.55%) agree with "I believe that online marketing can help farmers to gain valuable customer feedback and insights". Majority of the respondents(85.00%) strongly agree and (15.00%) agree that "Online agricultural marketing facilitates Anytime-Anywhere marketing of agricultural products". Majority of the respondents (72.78%) strongly agree and (27.22%) agree with "Online banking and payment process technology accelerates online agricultural marketing". Majority of the respondents (75.56%) strongly agree and (24.44%) agree with "Favourable government policy and initiatives enhance the utilization of online agricultural marketing technology among the farmers". Majority of the respondents (83.88%) strongly agree and (16.12%) agree that "Online agricultural marketing helps to access global markets at its fingertips thereby attaining more sales and profits with a fraction of time". As regards "Senior citizens hesitate to use online agricultural marketing platform (-)", (7.77%) of the respondents were strongly agree, (18.88%) agree, (1.12%) undecided, (21.11%) disagree and (51.12%) strongly disagree. As regards "Problem of internet connectivity hinders the farmers to use online agricultural marketing (-)", (41.12%) disagree and (58.88%) strongly disagree with. As regards "Online agricultural marketing services are alternative to the present agricultural situations". As regards "Online agricultural marketing is difficult to use by rural farmers (-)", (53.88%) strongly agree, (10.55%) agree, (1.12%) undecided, (14.45%) disagree and (20.00%) strongly disagree (61.66%) strongly agree, (33.88%) agree, (1.67%) disagree and (2.79%) strongly disagree. Majority of the respondents (84.45%) strongly agree and (15.55%) agree with "Online agricultural marketing helps farmers to reduce wastage of agricultural products". As regards "Online agricultural marketing enables farmers to establish their brands in the markets by maintaining good relationships with customers" (35.56%) strongly agree, (2.22%) agree, (23.88%) disagree and (38.34%) strongly disagree with. Majority of the respondents (70.00%) strongly agree and (30.00%) agree with "I am open to adopting new technologies and strategies to enhance my agricultural marketing practices". As regards "Online agricultural marketing

Table 3. Association between Socio-profile with their level of attitude towards online agricultural marketing

Socio-Profile		Level of attitude towards online agricultural marketing			
		Less Favourable	Favourable	Most Favourable	Total (N=180)
Age (year)	Young (Up to 30 years)	1 (0.55)	16 (8.88)	9 (5.00)	26 (14.44)
	Middle (31 to 51 years)	31 (17.23)	75 (41.66)	21 (11.67)	127 (70.56)
	Old (52 & above 52)	2 (1.12)	24 (13.34)	3 (1.67)	27 (15.00)
r = -0.204					
Education	Illiterate	0	0	0	0
	Can read-only	0	0	0	0
	Can read & write only	0	0	0	0
	Primary school level	0	3	1	4
	Middle school level	0	8 (4.45)	4 (2.22)	12 (6.66)
	High school level	16 (8.88)	35 (19.45)	25 (13.88)	76 (42.22)
	Graduate	18 (10.00)	67 (37.22)	3 (1.66)	88 (48.89)
r = 0.511**					
Size of family	Small (Up to 2)	0	4 (2.22)	0	4 (2.22)
	Medium (3 to 8)	34 (18.89)	100 (55.56)	32 (17.78)	166 (92.22)
	Big (9 & above 9)	0	9 (5.00)	1 (0.55)	10 (5.56)
r = 0.130					
Annual Income	Low (Up to Rs.1,39,264)	2 (1.11)	33 (18.34)	16 (8.88)	51 (28.33)
	Medium (Rs.1,39,265 to Rs.4,04,070)	30 (16.67)	59 (32.77)	16 (8.88)	105 (58.33)
	High (Rs.4,04,071 and above Rs.4,04,071)	2 (1.11)	21 (11.66)	1 (0.55)	24 (13.34)
r = 0.153*					
Land Holding	Marginal (up to 1.00 ha)	2 (1.11)	30 (16.66)	14 (7.77)	46 (25.55)
	Small (1.01 to 2.00 ha)	14 (7.77)	21 (11.66)	16 (8.88)	51 (28.33)
	Semi-medium (2.01 to 4.00 ha)	16 (8.88)	47 (26.11)	2 (1.11)	65 (36.12)
	Medium (4.01 to 10.00 ha)	2 (1.11)	15 (8.33)	1 (0.55)	18 (10.00)
	Large (above 10.00 ha)	0	0	0	0
r = 0.200**					
Mass Media Exposure	Low (Up to 4)	2 (1.11)	26 (14.44)	12 (6.66)	39 (21.66)
	Medium (5 to 10)	21 (11.66)	73 (40.55)	14 (7.77)	108 (60.00)
	High (11 & Above 11)	10 (5.55)	22 (12.22)	1 (0.55)	33 (18.33)
r = 0.173*					
Extension Contact	Low (Up to 6)	0	7 (3.88)	5 (2.77)	12 (6.66)
	Medium (7 to 31)	30 (16.66)	88 (48.88)	18 (10.00)	141 (78.34)
	High (32 & above 32)	2 (1.11)	23 (12.77)	2 (1.11)	27 (15.00)
r = 0.201**					
Social Participation	Low (Up to 1)	1 (0.55)	17 (9.44)	6 (3.33)	24 (13.33)
	Medium (2 to 9)	23 (12.77)	71 (39.44)	18 (10.00)	112 (62.23)
	High (10 & above 10)	2 (1.11)	41 (22.77)	1 (0.55)	44 (24.44)
r = 0.208**					
Scientific Orientation	Low (Up to 21)	1 (0.55)	20 (11.11)	11 (6.11)	32 (17.78)
	Medium (22 to 26)	31 (17.22)	63 (35.00)	19 (10.55)	113 (62.78)
	High (Above 26)	2 (1.11)	30 (16.66)	3 (1.66)	35 (19.44)
r = 0.334**					
Economic Motivation	Low (Up to 21)	1 (0.55)	16 (8.88)	9 (5.00)	26 (14.44)
	Medium (22 to 27)	32 (17.77)	84 (46.66)	23 (12.77)	139 (77.22)
	High (Above 27)	0	14 (7.77)	1 (0.55)	15 (8.34)
r = 0.421**					
Tech savviness	Low (Up to 11)	2 (1.11)	24 (13.33)	12 (6.66)	38 (21.11)
	Medium (12 to 16)	30 (16.66)	67 (37.22)	21 (11.66)	118 (65.55)
	High (17 & Above 17)	2 (1.11)	22 (12.22)	1 (0.55)	24 (13.34)
r = 0.421**					
Risk Orientation	Low (Up to 17)	0	11 (6.11)	6 (3.33)	17 (9.45)
	Medium (18 to 28)	27 (15.00)	68 (37.77)	23 (12.77)	118 (65.55)
	High (29 & above 29)	7 (3.88)	35 (19.44)	3 (1.66)	45 (25.00)
r = 0.448**					
Possession of ICT gadgets	Low (Up to 1)	0	8 (4.44)	5 (2.77)	13 (7.22)
	Medium (2 to 3)	31 (17.22)	108 (60.00)	17 (9.44)	156 (86.66)
	High (Above 3)	0	10 (5.55)	1 (0.55)	11 (6.12)
r = 0.085NS					

Figures in the parenthesis denote percentage; *Significant at 5 per cent level of significance; **Highly significant at 1 per cent level of significance.

requires continuity in the supply of agricultural products”, (100.00%) strongly agree. Majority of the respondents (70.56%) strongly agree and (29.44%) agree with “Quality

assurance of agricultural products through online agricultural marketing is not guaranteed (-”). As regards “I prefer cash on delivery than online payment mode (-”), (20.00%)

strongly agree, (6.11%) undecided, (56.67%) disagree and (17.22%) strongly disagree. As regards "Online agricultural marketing reduces manpower to work (-)", (25.00%) strongly agree, (5.00%) agree, (2.78%) are undecided, (17.22%) disagree and (50.00%) strongly disagree. As regards disagree "Delivered goods looking different from once seen online", (0.56%) strongly agree, (14.45%) agree, (2.22%) are undecided, (37.22%) disagree and (45.46%) strongly. Majority of the respondents (68.34%) strongly agree, (31.11%) agree and (0.55%) disagree with the statement "Online agricultural marketing is cheaper than going to the physical stores". Majority of the respondents (84.45%) strongly agree and (15.55%) agree with "I can access more products or varieties online". As regards "Online agricultural marketing facilitates direct service between producer to consumer and consumer to producer" statement received (100.00%) strongly agree response. (Yadav et al. 2023).

Discussion

The findings of Table 1 presented that most of respondents had a somewhat positive opinion of online agriculture marketing. This might be because respondents are already aware of the use & importance of online agricultural marketing. They also know that soon there is a need to increase awareness about online agricultural marketing and that's why they are willing to take risks. They are eager for new technologies which help to maximize profit. Overall, the results indicate that respondents consistently expressed a common opinion of online agricultural marketing, reflecting a generally favourable attitude towards the adoption of online agricultural marketing. This result highlights the widespread recognition of the importance of online agricultural marketing among the respondents across all the districts. These findings complied with the findings of Kabir (2015), Patidar (2015), Kumar et al. (2017), Kharmudai et al. (2018), Naik (2018), Choudhari et al. (2019), Jha et al. (2020).

The findings from Table 2 illustrated that a statement-by-statement analysis of farmers' attitudes toward online agricultural marketing, revealed that while farmers generally perceive online agricultural marketing to be more profitable than traditional farming, they give a positive image to online agricultural marketing and are concerned about obtaining information about online agricultural marketing and the training required for online agricultural marketing. According to the results, online agricultural marketing is proving to be beneficial for the farmers who were adopting it, in terms of increase in the standard of living, increase in income, efficient utilization of ICT gadgets, and when something becomes

fruitful to human beings, we have a natural tendency to have a more favourable attitude toward that thing, and this might explain why the majority of farmers had a more favourable attitude towards online agricultural marketing. These findings complied with the findings of Naik et al. (2020), Ghosh et al. (2022), Mukherjee et al. (2022), Kumar et al. (2023) Arora et al. (2013) and Meena et al. (2022).

The coefficient of correlation (r) values between socio-personal factors and farmers' attitudes on ICT are shown in Table 3. The findings indicate that attitudes toward ICT tools are positively and significantly correlated with the following variables: annual income, risk orientation, scientific orientation, economic motivation, family education, land ownership, extension contact, social participation, and mass media exposure. It implies that altering these factors will also alter the degree of attitude. Age was a negatively significant predictor, while family size and ICT device ownership were positively non-significant factors in farmers' attitudes toward online agricultural marketing. These findings complied with the findings of Mishra et al., 2021, Mukharji et al., 2022, and Yamini et al., 2024.

Conclusion

The results revealed that more than half of the respondents (62.22%) had a more favourable attitude towards online agricultural marketing and Education, land holding, extension contact, social participation, scientific orientation, economic motivation, techno savviness, risk orientation were found positive and highly significant with the level of attitude towards online agricultural marketing while Annual income and mass media exposure has positive significant relationship with attitude of farmers towards online agricultural marketing. The overall conclusion would likely highlight that the favourable attitude stems from the convenience, market access, price transparency, and efficiency that online agricultural marketing brings to farmers, thus contributing to their business's profitability and sustainability. The study suggested that a majority of respondents exhibited moderately favourable attitudes. The study recommends creating awareness and encouraging farmers to develop a consistent favourable attitude through workshop and training programmes and developing friendly mobile applications to increase farmers' credibility on online marketing platforms. The developed scale for measuring the attitude of farmers towards online agricultural marketing is also useful for private online marketing companies to find out the potential area for online marketing of agricultural produce. The present study explores the profile of the respondents which causes the favourable attitude towards online agricultural marketing among the farmers. This would help the

government, extension workers and policymakers to make better policies for the promotion of online marketing of agricultural produce.

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