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SK Mahajan
Department of Agricultural
Extension Education, College of
Agriculture, Vasant Rao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

RP Kadam
Department of Agricultural
Extension Education, College of
Agriculture, Vasant Rao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

GS Pawar
Department of Agricultural
Extension Education, College of
Agriculture, Vasant Rao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Bangar RU
Department of Agricultural
Extension Education, College of
Agriculture, Vasant Rao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Corresponding Author:
SK Mahajan
Department of Agricultural
Extension Education, College of
Agriculture, Vasant Rao Naik
Marathwada Krishi Vidyapeeth,
Parbhani, Maharashtra, India

Attitude of farmers towards use of information and communication technology on agricultural production and marketing

SK Mahajan, RP Kadam, GS Pawar and Bangar RU

Abstract

The present investigation is conducted in Marathwada region of the Maharashtra state during 2021-2022 with the objective to study "Attitude of farmers towards use of information and communication technology on agricultural production and marketing". Parbhani district was selected randomly from Marathwada region. Three talukas from Parbhani district and five villages from each talukas were selected randomly for the study. From each selected village, ten farmers were selected randomly on the basis of awareness about ICT tools to acquire farm knowledge in this way total 150 respondents were considered for the study. An Ex-post-facto research design was followed for the study. Data was gathered using a well-structured interview schedule created with the study's objectives in mind. The collected data was analysis, classified and tabulated. Statistical tools such as frequency, percentage, mean, standard deviation, and coefficient correlation were used to interpret findings and draw conclusions. Among the 150 selected farmers majority of the farmers that is more than half (74.00%) of the farmers had moderately favourable attitude towards use of ICT tools, followed by less favourable attitude *i.e.* 14.67 percent and very few respondents had highly favourable attitude towards usages of ICT (11.33 percent).

Keywords: Attitude of farmers, ICT, Marathwada region

Introduction

In developing countries, ICT in agriculture provides farmers with vital information pertaining to sowing, crop protection, and improving soil fertility that enables them to improve agricultural productivity. Weather-related advisories and alerts help them prepare for sporadic events such as floods, drought, or even pest and disease outbreaks, thus preventing significant crop loss. ICTs also provide them with a reliable channel to seek the best market price in the local markets and other daily updates for their produce to ensure they receive fair returns. Information Communication Technology is a term which is currently used to denote a wide range of services, applications and technologies that facilitate communication, processing and transmission of communication by electronic means. In the field of agriculture, ICT is going to make a big change in the life of people in the developing world. ICT could provide farmers, farm related information such as package of practices, weather forecasting, access to credit, prices and availability of farm inputs, market information, etc., the unrestricted flow of information through the ICT process opens an avenue for the people to view others from a different perspective. The the present study is carried out to know the awareness of farmers on ICT and its impact on marketing and economic conditions in agriculture with the following objectives.

Specific objectives of the study

1. To study the profile of respondents.
2. To study the attitude of Farmers towards use of ICT tools in Agricultural production and marketing.

Materials and Methods

The present study is conducted in Marathwada region of the Maharashtra state during 2021-2022. In Marathwada region Parbhani District of Maharashtra State is selected due to the reason of Vasant Rao Naik Marathwada Krishi Vidyapeeth is situated in the Parbhani district and it is a hub for agricultural training programs for the farmers to implement various improved agricultural practices.

There are nine talukas in Parbhani district out of which three talukas namely, Parbhani, Manwath, Sailu selected for present study. From each of the selected taluka, five villages were selected randomly. Thus fifteen villages were selected for the present study. From each selected village, ten respondents were selected randomly, those having mobile phones with internet facilities and engaged in agricultural operations were selected, in this way total one hundred fifty respondents were considered for the present study. "Ex-post-facto" research approach was used for study. Data was gathered using a well-structured interview schedule created with the study's objectives in mind. The collected data was analyzed, classified and tabulated. Statistical tools such as frequency,

percentage, mean, standard deviation, and coefficient correlation were used to interpret findings and draw conclusions.

Attitude of farmers towards use of ICT

Here the term attitude refers to the degree of positive or negative effect associated with some physiological object. Attitude in this study was operationalized as the degree of positive or negative feeling of farmers towards the ICT based primary information. Effective use of ICT tools in rural area depends on the preparedness of farmers through proper knowledge and attitude in using this tools for acquiring market information.

Table 1: Content analysis of attitude statements regarding ICT tools

Sr. No	Statements	SA (5)		A (4)		UD (3)		DA (2)		SDA (1)	
		F	%	F	%	F	%	F	%	F	%
1	ICT can provide a reliable information.	40	26.67	43	28.67	27	18	26	17.33	14	9.33
2	We have to pay money for getting information through ICT tools.	50	33.33	40	26.67	29	19.33	20	13.33	11	7.33
3	ICT can access at anywhere.	48	32	38	25.33	31	20.67	20	13.33	13	8.67
4	Internet can provide valuable information on new agricultural technologies.	41	27.33	48	32	27	18	22	14.67	12	8.00
5	Mobile advisory services are very useful for backward farmers.	45	30.00	40	26.67	25	16.67	25	16.67	15	10.00
6	ICT tools are not suitable to illiterate people.	47	31.33	50	33.33	27	18	17	11.33	9.00	6.00
7	Agricultural mobile apps are easier to use.	46	30.67	48	32.00	31	20.67	19	12.67	6.00	4.00
8	Agricultural mobile apps provide information about various modern crop cultivation practices.	49	32.67	52	34.67	23	15.33	17	11.33	9.00	6.00
9	Agro advisories through ICT platform helpful for increasing crop productivity.	40	26.67	46	30.67	28	18.67	23	15.33	13	8.67
10	ICT tools are easy to access.	44	29.33	52	34.67	28	18.67	14	9.33	12	8.00
11	Farmers himself can diagnose the pest and diseases of their crops by using Agril. Mobile apps.	42	28	54	36	29	19.33	17	11.33	8.00	5.33
12	ICT tools can provide information very quickly.	41	27.33	43	28.67	28	18.67	25	16.67	13	8.67
13	Agril. Mobile apps help to farmers to know about market prices of crops at different mandis.	45	30	48	32	29	19.33	21	14	7.00	4.67
14	Agril. Mobile apps can provide information about weather forecasting.	40	26.67	49	32.67	35	23.33	18	12	8.00	5.33
15	Kisok is important like other ICT tools.	36	23.33	35	23.33	44	29.33	23	15.33	11	7.33
16	Information provided by the ICT tools is not suitable to tackle local problems.	47	31.33	54	36	25	16.67	14	9.33	9.00	6.00
17	Kisok machine is easy to handle.	17	11.33	10	6.67	26	17.33	48	32	49	32.67
18	ICT application in agriculture has improved the social status of the farmers.	35	23.33	53	35.33	35	23.33	18	12	9.00	6.00
19	ICT reduces farm to lab gap.	34	22.67	39	26	37	24.67	27	18	12	8.00
20	It is difficult to access an ICT tools by rural people.	37	24.67	48	32	35	23.33	20	13.33	10	6.67

1. ICT can provide a reliable information

Most of the respondents (28.67%) had agreed with first statement, followed by strongly agreed *i.e.* 26.67% and (18.00%) were undecided about above statement, (17.33%) respondents were disagree about statement and very few respondents (9.33%) were strongly disagreed the findings was in accordance with Choudhari *et al.*, (2019) [1].

1. We have to pay money for getting information through ICT tools

A little less than one third (33.33%) of the respondents were strongly agreed with above statement, followed (26.67%) respondents were agreed, where, (19.33%) were undecided about above statement and (13.33%) respondents were disagree and very few respondents *i.e.* 7.33% were strongly disagreed the findings was in accordance with Parmar *et al.*, (2015) [5].

2. ICT can access at anywhere

A little less than one third (32.00%) of the respondents were strongly agreed, followed by (25.33%) respondents were agreed where (20.67%) respondents were undecided about the statement (13.33%) were disagreed strongly disagreed (8.67%) the findings was in accordance with Choudhari *et al.*, (2019) [1].

3. Internet can provide valuable information on new agricultural technologies.

Most of the respondents (32.00%) were agreed with above statements, followed by (27.33%) were strongly agreed, (18.00%) were undecided about the statement and (14.67%) disagreed (8.00%) were strongly disagreed about the above statement the findings was in accordance with Dhaka and Chayal (2010) [2].

4. Mobile advisory services are very useful for backward farmers

A little less than one third (30.00%) of the respondents were strongly agreed, followed by (26.67%) respondents were agreed where, (16.67%) respondents were undecided about the statement (16.67%) were disagreed strongly disagreed (10.00%) the findings was in accordance with Choudhari *et al.*, (2019) [1].

5. ICT tools are not suitable to illiterate people

Most of the respondents (33.33%) were strongly agreed with above statements, followed by (31.33%) were agreed, (18.00%) were undecided about the statement and (11.33%) disagreed (6.00%) were strongly disagreed about the above statement the findings was in accordance with Dhaka and Chayal (2010) [2].

6. Agricultural mobile apps are easier to use

A little less than one third (30.67%) of the respondents were strongly agreed with above statement, followed (32.00%) respondents were agreed, where, (20.67%) were undecided about above statement and (12.67%) respondents were disagree and very few respondents *i.e.* 4.00% were strongly disagreed the findings was in accordance with Surabh *et al.*, (2015) [6].

7. Agricultural mobile apps provide information about various modern crop cultivation practices

Most of the respondents (34.67%) were agreed with above statements, followed by (32.67%) were strongly agreed, (15.33%) were undecided about the statement and (11.33%) disagreed (6.00%) were strongly disagreed about the above statement the findings was in accordance with Kabir (2015) [3].

8. Agro advisories through ICT platform helpful for increasing crop productivity

A little less than one third (30.67%) of the respondents were agreed, followed by (26.67%) respondents were strongly agreed where, (18.67%) respondents were undecided about the statement (15.33%) were disagreed strongly disagreed (8.67%) the findings was in accordance with Surabh *et al.*, (2015) [6].

9. ICT tools are easy to access

Most of the respondents (34.67%) were agreed with above statements, followed by (29.33%) were strongly agreed, (18.67%) were undecided about the statement and (9.33%) disagreed (8.00%) were strongly disagreed about the above statement the findings was in accordance with Parmar *et al.*, (2015) [5].

11. Farmers himself can diagnose the pest and diseases of their crops by using Agril. Mobile apps.

Most of the respondents (36.00%) were agreed, followed by (28.00%) were strongly agreed, (19.33%) were undecided about the statement and (11.33%) disagreed (5.33%) were strongly disagreed about the above statement the findings was in accordance with Kabir (2015) [3].

12. ICT tools can provide information very quickly

A little less than one third (28.67%) of the respondents were agreed, followed by (27.33%) respondents were strongly agreed where, (18.67%) respondents were undecided about the statement (16.67%) were disagreed strongly disagreed (8.67%) the findings was in accordance with Parmar *et al.*, (2015) [5].

13. Agril. Mobile apps help to farmers to know about market prices of crops at different mandis.

Most of the respondents (32.00%) were agreed with above statements, followed by (30.00%) were strongly agreed, (19.33%) were undecided about the statement and (14.00%) disagreed (4.67%) were strongly disagreed about the above statement the findings was in accordance with Kabir (2015) [3].

14. Agril. Mobile apps can provide information about weather forecasting.

A little less than one third (32.67%) of the respondents were

agreed, followed by (26.67%) respondents were strongly agreed where, (23.33%) respondents were undecided about the statement (12.00%) were disagreed strongly disagreed (5.33%) the findings was in accordance with Parmar *et al.*, (2015) [5].

15. Kisok is important like other ICT tools

Maximum no. of the respondents (36.00%) were undecided with above statements, followed by (23.33%) were strongly agreed, (15.33%) were agreed about the statement and (14.00%) disagreed (12.67%) were strongly disagreed about the above statement the findings was in accordance with Kharmudai *et al.*, (2018) [4].

16. Information provided by the ICT tools is not suitable to tackle local problems

A little less than one third (36.00%) of the respondents were agreed, followed by (31.33%) respondents were strongly agreed where, (16.67%) respondents were undecided about the statement (9.33%) were disagreed strongly disagreed (6.00%) the findings was in accordance with Parmar *et al.*, (2015) [5].

17. Kisok machine is easy to handle

Most of the respondents (32.67%) were strongly agreed with above statements, followed by (32.00%) were disagreed, (17.37%) were undecided about the statement and (11.33%) strongly agreed (6.67%) were agreed about the above statement the findings was in accordance with Surabh *et al.*, (2015) [6].

18. ICT application in agriculture has improved the social status of the farmers.

A little less than one third (35.33%) of the respondents were agreed, followed by (23.33%) respondents were strongly agreed where, (23.33%) respondents were undecided about the statement (12.00%) were disagreed strongly disagreed (6.00%) the findings was in accordance with Kharmudai *et al.*, (2018) [4].

19. ICT reduces farm to lab gap.

Maximum no. of the respondents (26.00%) were agreed with above statements, followed by (24.67%) were undecided, (22.67%) were strongly agreed about the statement and (18.00%) disagreed (8.00%) were strongly disagreed about the above statement the findings was in accordance with Surabh *et al.*, (2015) [6].

20. It is difficult to access an ICT tools by rural people

A little less than one third (32.00%) of the respondents were agreed, followed by (24.67%) respondents were strongly agreed where, (23.33%) respondents were undecided about the statement (13.33%) were disagreed strongly disagreed (6.67%) the findings was in accordance with Surabh *et al.*, (2015) [6].

Conclusion

It was observed that majority of the respondents had moderately favourable attitude towards the use of Information and Communication Technology for agricultural production and marketing. The estimation of the findings revealed that majority of the respondents had moderate level of profile characteristics. So, extension workers must focus to take the

efforts on the medium level of farmers profile characteristics. As we see the respondents had moderately favourable attitude towards uses of ICT tools in agricultural production and marketing it is essential to take efforts on improving their attitude towards ICT technologies especially in agricultural production and marketing.

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