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## Correlates between profile of farmers with attitude by using ICT tools in agricultural production

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#### 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 analysed, 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 there was a positive and significant relation observed between education, occupation, utility of ICT in extension, Methods of learning ICT skills, sources of awareness about ICT, knowledge with attitude while there was a negative and non significant relation between family size and attitude also, there was a negative and significant relationship between age and farming experience with attitude.

**Keywords:** Farmers, ICT tools, agricultural production

#### Introduction

ICT services provide critical access to the knowledge, information and technology that farmers require to improve the productivity and thus improve the quality of their lives and livelihoods. With the advancements in the technology world, the lag that is available between generation and dissemination of information has been reduced drastically. This has enhanced the capability of farmers to manage weather risks, technological risks, price risks and many more such risks. ICTs not only help to disseminate information, rather it also improves the farmer's knowledge base, increase their participation and share the knowledge among farmers. The proper use of ICT helps to overcome the time, space, language and illiteracy barriers effectively. Thus ICT has emerged as a core driver of the modern knowledge based economy promoting socioeconomic development of the country.

The present study is an effort to understand the role played by the ICTs in improving the lives of the farmers. It is useful to make an assessment of utilization of ICT tools by the farming community. The outcome of such assessment could be useful in many forms, especially to reach farmers in a more economical and quick means to spread agriculture knowledge. However, number of studies on ICT use in agriculture is very small. Therefore, 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 relationship between profile of respondents and 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 Vasanttrao 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.

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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 analysed, classified and tabulated. Statistical tools such as frequency, percentage, mean, standard deviation, and coefficient correlation were used to interpret findings and draw conclusions.

**Age:** Most of the respondents *i.e.* (67.33) more than half were belonged to middle age group, followed by young group *i.e.* 17.33 percent and remaining 15.33 percent respondents belonged to old age group.

**Education:** Most of the respondents *i.e.* 24.00% of the respondents were educated up-to middle school level, while 16.00 percent of the respondents educated up-to primary school level followed by 12.67 percent of respondents were able to read and write only. Very few respondents were illiterate *i.e.* 9.33 percent.

**Occupation:** Maximum no of the respondents *i.e.* 24.00% of the respondents were educated up-to middle school level, while 16.00 percent of the respondents educated up-to primary school level followed by 12.67 percent of respondents were able to read and write only. Very few respondents were illiterate *i.e.* 9.33 percent.

**Family size:** Most of the respondents *i.e.* 40.00% belonging to large sized family, followed by small sized family 33.33 percent and then medium sized family *i.e.* 26.67 percent.

**Farming experience:** Most of the respondents having high level of farming experience (51.33%), followed by medium level *i.e.* 28.00 percent and remaining respondents had low level of farming experience *i.e.* 20.67 percent.

**Utility of ICT in extension:** Most of the respondents utilize ICT daily (76.77%), followed by utility once in a week *i.e.* 12.67 percent and then 10.67 percent respondents utilized occasionally.

**Methods of learning ICT skills:** Most of the respondents get awareness about new technologies from e-learning, followed by workshops *i.e.* 35.33 percent and very few respondents get from conferences *i.e.* 17.33 percent.

**Sources of awareness about ICT:** Most of the farmers (77.33%) had medium source of awareness about ICT, followed by high level of awareness *i.e.* 16.67 percent and very few respondents near about 6.00 percent had low level of awareness about ICT.

**Knowledge:** Most of the respondents had medium level 60.67% of knowledge about ICT tools followed by low level of knowledge *i.e.* 33.33 percent and then high level of knowledge about 6.00 percent.

**Table 2:** Correlation coefficient between selected profile characteristics of farmers with Attitude towards the use of ICT in agricultural production and marketing

| Sr. No. | Independent variable           | Coefficient of correlation (r) |
|---------|--------------------------------|--------------------------------|
| 1       | Age                            | -0.225**                       |
| 2       | Education                      | 0.251**                        |
| 3       | Occupation                     | 0.250**                        |
| 4       | Family size                    | -0.137 NS                      |
| 5       | Farming experience             | -0.299**                       |
| 6       | Utility of ICT in extension    | 0.216**                        |
| 7       | Methods of learning ICT skills | 0.389**                        |
| 8       | Sources of awareness about ICT | 0.232**                        |
| 9       | Knowledge                      | 0.407**                        |

**Table 1:** Relationship between profile of respondents and attitude of farmers towards use of ICT tools in agricultural production and marketing

| Age                                   |     |       |
|---------------------------------------|-----|-------|
| Young ( Up to 28 years)               | 26  | 17.33 |
| Middle ( 29 to 49 years )             | 101 | 67.33 |
| Old (50 years & above )               | 23  | 15.33 |
| Education                             |     |       |
| Illiterate                            | 14  | 9.33  |
| Can read and write only               | 19  | 12.67 |
| Primary school level                  | 24  | 16.00 |
| Middle school level                   | 36  | 24.00 |
| High school level                     | 33  | 22    |
| Graduate                              | 24  | 16    |
| Other                                 | 0   | 0     |
| Occupation                            |     |       |
| Farming                               | 52  | 34.67 |
| Dairy Farming                         | 20  | 13.33 |
| Goat Farming                          | 9   | 6     |
| Business                              | 27  | 18.00 |
| Service                               | 28  | 18.67 |
| Other                                 | 14  | 9.33  |
| Family Size                           |     |       |
| Small (up to 4 members)               | 50  | 33.33 |
| Medium (5 to 7 members)               | 40  | 26.67 |
| Large ( above 7 members)              | 60  | 40.00 |
| Farming experience                    |     |       |
| Low (up to 8 years)                   | 31  | 20.67 |
| Medium ( 9to 30 years )               | 42  | 28.00 |
| High ( above 30 years )               | 77  | 51.33 |
| Utility of ICT in extension           |     |       |
| Occasionally                          | 16  | 10.67 |
| Once in a week                        | 19  | 12.67 |
| Daily                                 | 115 | 76.67 |
| Methods of learning ICT skills        |     |       |
| Low                                   | 71  | 47.33 |
| Medium                                | 53  | 35.33 |
| High                                  | 26  | 17.33 |
| Sources of awareness about ICT        |     |       |
| Low (upto 6)                          | 9   | 6.00  |
| Medium(7-10)                          | 116 | 77.33 |
| High(Above 10)                        | 25  | 16.67 |
| Knowledge                             |     |       |
| Low (up to 4)                         | 50  | 33.33 |
| Medium (5 to 7)                       | 91  | 60.67 |
| High (7 & above)                      | 9   | 6     |
| Attitude of farmers towards ICT tools |     |       |
| Less favourable ( up to 60 )          | 22  | 14.67 |
| Moderately favourable ( 60 - 75)      | 111 | 74.00 |
| Highly favourable (above 75)          | 17  | 11.33 |

**Age with attitude**

There was a negative and significant relationship between age of the respondents and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Samatha (2011)<sup>[6]</sup>.

**Education with attitude**

There was a positive and significant relation observed between education and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Robert *et al.*, (2014)<sup>[5]</sup>.

**Occupation with attitude**

It was observed that there was a positive and significant relationship between occupation and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Dhaka and Chahal (2010)<sup>[3]</sup>.

**Family size with attitude**

There was a negative and non significant relation observed between family size and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Devaraja (2011)<sup>[2]</sup>.

**Farming experience with attitude**

It was observed that there was a negative and significant relationship between farming experience and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Samatha (2011)<sup>[6]</sup>.

**Utility of ICT in extension with attitude**

There was a positive and significant relation observed between Utility of ICT in extension with attitude and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Dhaka and Chahal (2010)<sup>[3]</sup>.

**Methods of learning ICT skills with attitude**

It was observed that there was a positive and significant relationship between Methods of learning ICT skills and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Felicitas *et al.*, (2017)<sup>[4]</sup>.

**Sources of awareness about ICT with attitude**

There was a positive and significant relation observed between Sources of awareness about ICT and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Derso *et al.*, (2014)<sup>[1]</sup>.

**Knowledge with attitude**

It was observed that there was a positive and significant relationship between knowledge and attitude of the respondents towards use of ICT in agricultural production and technology the above findings was in accordance with Devaraja (2011)<sup>[2]</sup>.

**Conclusion**

It was also observed that education, occupation, utility of ICT in extension, methods of learning ICT skills, sources of

awareness about ICT, knowledge had positive and significant relationship with the attitude. Whereas age and farming experience had negative and significant relationship with the attitude, while family size had negative and non significant relationship towards use of ICT in agricultural production and marketing. 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 specially in agricultural production and marketing.

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