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ROLE OF ICT'S TO INCREASE THE KNOWLEDGE OF FARMERS ABOUT AGRICULTURAL INVENTIONS

Awais Sattar
awais.sattar90@gmail.com
Coordinator Department of Mass Communication,The University of Faisalabad (TUF)

Abstract

Information communication technology is a broader term which comprises on modern education of computer hardware, software, and telecommunication technologies such as online as well as offline digital communication. This study investigated the ICT'S and information level of farmers about agriculture innovation. It indicates the skills which take admittance to information through broadcast communications. This study investigated the ICT'S and information level of farmers about agriculture innovation. It indicates the skills which take admittance to information through broadcast communications. It is like Information Technology (IT) yet cores fundamentally on communication developments. This incorporates the Web, Radio, and TV, Whatsapp application, messages, mobile phones and other communication mediums. Diffusion of innovation theory is applied by the researcher. To investigate how ICTs are helping Pakistani farmers to think about advanced technologies rural innovations the researcher applied survey strategy and created a questionnaire to gather information from respondents. The population of current investigation comprised of farmers of various rustic zones of Faisalabad Region. A sample size of current study was 150 farmers and information is gathered through convenience sampling technique. Frequency distribution of the information is determined by utilizing statistical package for social sciences (SPSS). This research investigated the requirements of ICTs for the farmers and measures the demeanor of farmers towards ICTs. ICTs are turning into the fundamental need of the farmers and for this reason training about ICTs is essential for the farmers just as for the improvement of Agriculture section of the Pakistan as farming area is the foundation of the nation.

Key-Words: *ICT, Agricultural Innovation, Farmers, crop cultivation, Information and Knowledge*

INTRODUCTION

The agrarian zone in Pakistan is starting at now experiencing a problematic stage. Pakistan is moving towards a plant emergency in light of the absence of thought, inadequate land changes, broken land the administration, non-giving of sensible expenses to farmers for their harvests, lacking enthusiasm for irrigational just as country establishment in Pakistan notwithstanding so forward. Pakistan's food creation (Aggarwal, 2003) just as gainfulness is declining while its food use is extending. The position has furthermore been aggravated due to usage of food grains to satisfy the necessities of bio powers. Without a doubt, even the game plan of import of food grains would be dangerous.

Farming is an enormous piece of the Pakistan economy. Its proposal to total national output (GDP) is practically 19 percent just as holds around 42 percent work intensity of the country (Pakistan Monetary Review, 2017-18). The prolonged interest for food modicums can be encountered unmistakably with straight goings-on in humanizing exploration just as development (Shahbaz and Salman, 2014). There is scarcely a field of human action today that has not been moved by the illustrative changes in ICTs as far back as 10-15 years. Agrarian and cultivating related normal assets the board are no uncommon case. In this time of globalization, ICTs have transformed into an extraordinary resource for improving the transport organization and updating close by progress openings as a wide device for giving close by developing systems latest plant advancement, information and communication advancement declares the course of action of learning for social requests in the nation locales of the making scene. Nonappearance of help of the close by systems just as social foundations makes the farmers to excuse the new headways in light of the fact that most of

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the farmers are uneducated just as ought to be guided also encouraged fittingly to the reasonability of the ICT in advancement movement to be successful.

Farm developments are vast for dispersal of domicile innovation and inside the occasion that they're no longer thrived accurately, they no longer simply have an effect on the worker's, who depend upon them for his or her meat and potatoes but additionally have an impact on the improvement and development of horticulture, in this manner thwarting the country wide development. Subsequently, the similar studies evaluation of the 3 precise associations inside the equivalent topographical territory has been useful for the employer, approach producers, and distributers in arranging and actualizing becoming correspondence. The systems to disperse advances are in the best shape, for the right farmers are critical to get the best advantages (Ali & Dogar, 2010).

Fakhar (2012) stated that noteworthy elements that are rummage-sale in our country for giving ICT administrations to the agriculturalists are on line interfaces, compact applications at the android cellphone, SMS notwithstanding voice messages on important telephones, material stands, in addition to accounts with the professionals. Horticulture masters are the crucial component within the entire approach of spreading cloth to the agriculturalists.

Role of ICTs in Agriculture

IT has various parts to accomplish for agrarian improvement preliminary after pronouncement genuinely strong classification to the transaction of yields. ICTs have an uncommon segment as a decision genuinely strong arrangement to the growers. Concluded ICT, agriculturalists can be invigorated through the progressing statistics regarding agribusiness, atmosphere, novel diversities of yields as well as better means to deal with grow age just as quality control. The spread of adequate, capable just as custom-fitted advances related to, proportions of estate in addition to mud kind, etc. to the farmers is deficient in Pakistan's agribusiness as well as it is the authentic assessment afore technique makers in Pakistan (Abbas et al., 2009).

Objectives

- To find out how much ICTs are involved to increase farmer's knowledge about agricultural innovations.
- To identify the needs of ICTs for the farmers.

MATERIAL AND METHODS

This Chapter clarifies the research method that the researcher utilized in his study. The researcher has adopted the survey technique as Survey is a methodology for get-together data by conversing with individuals or set up the questionnaire to know the opinion of the individuals (Orodho, 2003). In this research convenience sampling was chosen to assess potential outcomes by the farmers. The universe of this study comprised on rural areas of Faisalabad district. The populace in this research was the agriculture sector of Faisalabad. The researcher selected 150 sample sizes of farmers of District Faisalabad. The researcher generated a close ended questionnaire, and distributed among farmers to get their response.

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RESULTS AND FINDINGS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
AgeGroup	150	1	4	2.59	1.057	1.117
Qualification	150	1	4	2.39	1.158	1.341
FarmingExperience	150	1	4	2.61	1.164	1.354
ICTUse	150	1	4	2.70	1.098	1.205
UsefulICTTool	150	1	4	2.31	1.081	1.170
Q6	150	1	5	3.04	1.385	1.918
Q11	150	1	5	2.98	1.293	1.671
Q23	150	1	5	2.52	1.294	1.674
Q18	150	1	5	3.05	1.382	1.911
Valid N (listwise)	150					

Standard deviation (SD) shows how spread out the responses are from the mean. Most SDs are around 1.0–1.4, meaning there's moderate variability in the responses (not too clustered, not too scattered). Variance is just the square of SD and provides the same insight. The respondents, on average, fall into moderate age and education levels with a fair amount of farming experience. ICT usage is moderate to slightly high, but the perception of its usefulness is just below neutral. Survey questions (Q6, Q11, and Q18) reflect generally neutral or slightly positive views, while Q23 is slightly negative. Variability in responses is moderate, meaning participants had a range of opinions, but no extreme outliers.

Correlations

		AgeGroup	Qualification	FarmingExperience	ICTUse	UsefulICTTool
AgeGroup	Pearson Correlation	1	.282**	.091	-.148	-.091
	Sig. (2-tailed)		.000	.270	.070	.266
	N	150	150	150	150	150
Qualification	Pearson Correlation	.282**	1	-.024	-.324**	-.131
	Sig. (2-tailed)	.000		.772	.000	.109
	N	150	150	150	150	150
FarmingExperience	Pearson Correlation	.091	-.024	1	-.030	-.104
	Sig. (2-tailed)	.270	.772		.716	.205
	N	150	150	150	150	150
ICTUse	Pearson Correlation	-.148	-.324**	-.030	1	.097
	Sig. (2-tailed)	.070	.000	.716		.239
	N	150	150	150	150	150
UsefulICTTool	Pearson Correlation	-.091	-.131	-.104	.097	1
	Sig. (2-tailed)	.266	.109	.205	.239	

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N	150	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed).

Older individuals tend to have higher qualifications. However, the correlation is moderate and significant, suggesting a trend but not a strong one. Correlation: –.324 (Negative, significant at $p < .01$) Interpretation: As qualification increases, the use of ICT decreases. This is a moderate negative relationship and statistically significant. Other correlations are not statistically significant ($p > 0.05$), meaning: Age Group vs ICT Use ($r = –.148$, $p = .070$): weak negative, not significant Farming Experience vs all others: no significant correlations Useful CTTool is not significantly correlated with any variable (all p-values > 0.05). The most important and statistically significant findings are: Age is positively associated with educational qualification. Educational qualification is negatively associated with ICT use. These insights can help you understand demographic and behavioral patterns in your sample (e.g., educated farmers may be less inclined to use ICT tools, possibly due to traditional practices or other factors).

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.135[a]	9	.047
Likelihood Ratio	17.269	9	.045
Linear-by-Linear Association	11.836	1	.001
N of Valid Cases	150		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.94.

This means there is a significant association between the two categorical variables being tested. We reject the null hypothesis of independence. Interpretation: The distribution of one variable depends on the other (they are not independent). Likelihood Ratio ($\chi^2 = 17.269$, $p = .045$) Also significant ($p < .05$) and supports the result of the Pearson test. This test is often used to confirm the Pearson result. Here, both agree. Highly significant ($p < .01$). This test measures if there is a linear trend or ordinal association between the two variables. Suggests a strong linear relationship between the variables if they are ordered categories. There is a statistically significant relationship between the two categorical variables. The relationship may also be linear or ordinal if the variables are ranked. Assumptions for the chi-square test are met (no expected cell < 5). If you tell me the variables involved (e.g. Age Group vs ICT Use), I can provide a context-based interpretation tailored to your research.

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Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.228[a]	9	.033
Likelihood Ratio	21.059	9	.012
Linear-by-Linear Association	1.225	1	.268
N of Valid Cases	150		

a. 1 cells (6.3%) have expected count less than 5. The minimum expected count is 4.50.

The p-value is less than 0.05**,** which means the result is statistically significant**.** Interpretation: There is a significant association between the two categorical variables being tested. Also significant **(**p < .05**),** reinforcing the conclusion of the Pearson Chi-Square. It's often used as a backup test when expected cell counts are low. Not significant **(**p > .05**).** This statistic tests for a linear trend across ordered categories; since it's not significant, no clear linear trend exists**.** Only 1 cell (6.3%) has an expected frequency < 5, with a minimum of 4.50. This is acceptable since less than 20% of cells have low expected counts (a common threshold), meaning the Chi-squre. There is a statistically significant association between the two categorical variables tested. The relationship is not linear, but still significant overall. The assumptions for the Chi-Square test are mostly satisfied**,** so the result is valid**.** Let me know if you want this interpretation tailored to your actual variable names or included in your report.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.437[a]	9	.080
Likelihood Ratio	17.625	9	.040
Linear-by-Linear Association	3.270	1	.071
N of Valid Cases	150		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.04.

Pearson Chi-Square Not significant (no clear association). Likelihood Ratio**:** Significant (indicates potential association). Linear-by-Linear**:** Not significant (no trend detected). This means the relationship between the two categorical variables may be weak or inconsistent**.** The significant result in the Likelihood Ratio suggests a possible association that may not be detected by the Pearson Chi-Square due to sample structure **or** distribution of responses**.** The Chi-square analysis revealed no significant association between the variables using the Pearson Chi-Square test (p = .080). However, the Likelihood Ratio test indicated a

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significant association (p = .040), suggesting there may be a relationship between the variables under certain assumptions. The linear trend was not significant (p = .071). Therefore, the results are inconclusive and suggest a potential but weak association between the variables.

Conclusion

In Pakistan, rustic development staff is using different frameworks for the spreading of agri. information just as material amongst the developing system. Information additionally specific gadgets accept a noteworthy activity in enlightening the availability of yield in addition to market information also farming improvement particularly in making countries. The data show moderate variability across most variables, with standard deviations ranging from 1.0 to 1.4, indicating responses were neither too clustered nor too dispersed. Participants generally represent moderate age and education levels, with fair farming experience. ICT use among respondents was moderate to slightly high, while perceptions of its usefulness were slightly below neutral. Specific survey questions (Q6, Q11, Q18) showed neutral to mildly positive attitudes, whereas Q23 reflected a slightly negative view. Correlation analysis revealed that age is moderately and positively associated with education level (r = .282, p < .01), and education is moderately and negatively associated with ICT use (r = –.324, p < .01), indicating that more educated individuals tend to use ICT tools less. Other correlations, such as those involving farming experience and ICT tool usefulness, were not statistically significant. Chi-Square test results were mixed. The Pearson Chi-Square was not statistically significant (p = .080), suggesting no strong association between the tested categorical variables. However, the Likelihood Ratio test was significant (p = .040), indicating a potential association. The Linear-by-Linear Association was not significant (p = .071), suggesting no linear trend. Overall, the results suggest a possible but weak association between the categorical variables. The assumptions of the Chi-Square test were met, so the results are considered valid.

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