

Assessing the role of Information and communication Technologies in Farmer's Knowledge of Agricultural Innovations

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ABSTRACT

This study analyzed the Assessing the role of Information and communication Technologies in Farmer's Knowledge of Agriculture Innovations. It refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT) but focuses primarily on communication technologies. This includes the Internet, Radio, and Television, WhatsApp, messages, cell phones and other communication mediums. To explore how ICTs are helping Pakistani farmers to know about advanced agricultural technologies the researcher adopted survey technique and generated a questionnaire to collect data from respondents. The population of current study consisted on farmers of different rural areas of Lahore and Faisalabad Districts. Sample size of current study was 250 farmers and data is collected through convenience sampling technique. Frequency distribution of the data is calculated by using statistical package for social sciences (SPSS). This research explored the needs of ICTs for the farmers and measures the attitude of farmers towards ICTs. ICTs are becoming the basic need of the farmers and for this purpose education about ICTs is necessary for the farmers as well as for the development of Agriculture sector of the Pakistan as agriculture sector is the backbone of the country.



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Introduction

Pakistan's economy for broad-based national development, food security, supporting manufacturing sector, and increased products-based export earnings depends on agriculture sector, and agriculture sector plays a vital role in progress of economy. Increment in development of urbanization, varying ingesting forms, income rising per capita, as well as globalization has altered the importance of agriculture. Though for increased production climate change and it is a major challenge of enhancing construction in a situation of diminishing natural resource (Mihiretu, 2008).

Agricultural organizations were built up on logical lines by the British provincial government with the presentation of huge channel arrangement during the start of twentieth century. A large number of the current farming division and organizations identified with the watered agribusiness in Pakistan are inheritance of the pioneer raj (Gill, 2012). Secretary of Agriculture was the accountable for agribusiness, animal husbandry, forestry as well as service and fisheries wings. Major institutional part of farming wing was Regional Directorates of Agriculture (RDA) in Lahore (Punjab), Peshawar (Khyber Pakhtunkhwa) and Hyderabad (Sindh) and Bureau of Agricultural Information arranged in Lahore.

In Pakistan (Apaari, 2012) told that under Federal and Provincial Governments (FPG) there are in addition 316 Agricultural Research Stations (ARS) are working. Maximum current agroindustry statistics can't spread to the end consumers in addition to disappear inside these stations (Burton, 2014).

Power (2004) explored that ICT guarantees a crucial change in all parts of our lives, comprising learning, societal collaboration, financial as well as strategic approaches, political commitment, media, training, wellbeing, relaxation as well as diversion. ICTs (Etikan and Bala, 2017) opined that they can undertake a noteworthy portion in fighting rustic in addition to urban neediness also encouraging reasonable improvement through

making data rich societal orders in addition to supportive jobs. On the off chance that ICTs are befittingly sent as well as understand the differential needs of urban plus provincial individuals, they can turn out to be useful assets of monetary, social as well as political strengthening (Dillman, 2011).

Fakhar (2018) said that the IT has frequent parts to execute for farming improvement commencement from choice emotionally helpful system to the switching of yields. ICTs have an extraordinary section as choice emotionally helpful system to the farmers. Through ICT farmers can be rested with the continuing statistics regarding agroindustry, environment, new varieties of yields and enhanced methods to expand peers as well as quality regulator. The range of ample, proficient as well as custom fitted advances well-known with agro-climatic sector, mass of homestead and mud kind and so forth to the farmers is deficient in Pakistan's agribusiness and it is the frank assessment previously strategy creators in Pakistan (Abbas, 2009).

Significant parts which are consumed in our homeland for giving ICT services to the farmers are web-based edges, moveable requests on android telephone, SMS in addition to voice messages on basic cell phone, data stands, soundtracks as well as audiovisual conferencing with the experts. Agriculture specialists are the key part in the full system of spreading data to the farmers (Fakhar, 2012).

The ICT apparatuses may spread applicable, original, transformed facts to the farmers at appropriate phase. Henceforth to arrive at masses effectively ICTs give a gathering in addition to for making data effective for worldwide and nearby available to the partners. Figures scattering in agribusiness is economically savvy, well-organized as well as rapid through ICT (Fakhar, 2018).

Historical Background

Since freedom of Pakistan in 1947, farming augmentation administrations are a piece of the by and large country advancement methodologies (Abbas, 2003). Diverse expansion as well as rustic

advancement projects has been propelled in the nation to inspire the provincial zones. During the start of twentieth century by the British provincial government with the presentation of huge channel arrange agricultural organizations were built up on logical lines. The inheritance of the pioneer raj (Gill, 2012) is comprises on a large number of the current farming division and organizations identified with the watered agribusiness in Pakistan. The majority of the analysts concur that none of these projects were effective in long run as well as, thus, were surrendered in a steady progression.

To improve zone under development, overseeing seed as well as manure stores, supply of agricultural data sources, plant assurance as well as preparing of the staff and so on there are some fundamental objectives of local directorates. The territorial directorate's piece was the expansion wing. ICT'S are important for farmers because of Expansion in proficiency, efficiency as well as manageability of little scale farms, for quality control and better approaches to improve creation guidelines, in addition to purchaser tendencies and Up-to-date advertise data on costs for products, information sources in addition to permit simpler contact with companions and relatives as well as for the open up new business openings.

Why there is need for ICTs in Agriculture

In Pakistan there are in excess of 316 Agricultural Research Stations (ARS) are working under Federal and Provincial Governments (FPG). Sadly, most pieces of most recent agribusiness data can't reach to the end clients in addition to disappear inside these stations (Tearle, 2001). In information and communication technology the following are the ICT's tools radio, mobile phone,

television, messages, smart phone applications and whats app applications,

Role of ICTs in Rural Development

The agricultural area is stood up to with the trial of intensifying production to withstand an emerging as well as increasingly affluent masses in an occurrence of lessening approachability of natural belongings. Factors of exact apprehension are water shortages, deteriorating soil ripeness, impressions of environmental change as well as fast abatement of prolific horticultural grounds because of urbanization.

ICT tools are devices or objects used in information and communication technology ex, internet computers, cell phones applications (text, whats app, facebook), video conferencing software, newspapers, charts and folder, slide presentation, laptop, radio and television etc (Gill, 2012).

Objectives

- To measure the attitude of farmers toward ICTs based agricultural services.
- To what extent which tools of ICTs are using to inform the farmers about new agricultural innovations

Material and Methods

In this research convenience sampling technique was used 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 Lahore. The researcher selected 150 sample sizes of farmers of Lahore. The researcher generated a close ended questionnaire, and distributed among farmers to get their response.

Results and Findings

Table 1: Response of respondents regarding statement “I feel that ICTs have positive influences on the farmer's attitude

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	10	6.7	6.7	6.7
Agree	56	37.3	37.3	44.0
Neutral	27	18.0	18.0	62.0
Disagree	34	22.7	22.7	84.7
Strongly Disagree	23	15.3	15.3	100.0
Total	150	100.0	100.0	

Table 1 shows the percentage regarding the statement that response of respondents regarding statement “I feel that ICTs have positive influences on the farmer's attitude”. The data shows that 6.7% respondents are strongly agreed that they feel that ICTs have positive influences on the farmer's attitude, 37.3% respondents show that they are agreed that they feel that ICTs have positive influences on the farmer's attitude while

18.0% respondents remain neutral that they feel that ICTs have positive influences on the farmer's attitude. 22.7% respondents show that they are disagreed that they feel that ICTs have positive influences on the farmer's attitude while 15.3% respondents are strongly disagreed that they feel that ICTs have positive influences on the farmer's attitude.

Table 2: Respond of respondents regarding “Which ICT tool is useful to get latest information about agricultural innovation?”

ICTs	Frequency	Percent	Valid Percent	Cumulative Percent
Radio/ Television	47	31.3	31.3	31.3
Smart phone Applications	40	26.7	26.7	58.0
Messages	22	14.7	14.7	72.7
Others	41	27.3	27.3	100.0
Total	150	100.0	100.0	

Table 2 shows the percentage regarding the statement respond of respondents regarding “Which ICT tool is useful to get latest information about agricultural innovation?” The following data reveal that 31.3% respondents expressed that Radio/ Television is useful ICT tool to get latest information about agricultural innovation, 26.7% respondents show that Smart phone Applications

is useful ICT tool to get latest information about agricultural innovation, 14.7% respondents show that Messages is useful ICT tool to get latest information about agricultural innovation while 27.3% respondents show that Others form are useful ICT tools to get latest information about agricultural innovation.

Table 3: Response of respondents regarding statement “In my opinion, through the utilization of ICTs can enhance the growth of my crop”

Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	29	19.3	19.3	19.3
Agree	56	37.3	37.3	56.7
Neutral	23	15.3	15.3	72.0
Disagree	23	15.3	15.3	87.3
Strongly Disagree	19	12.7	12.7	100.0
Total	150	100.0	100.0	

Table 3 shows the percentage about the statement that response of respondents regarding statement in my opinion, through the utilization of ICTs can enhance the growth of my crop.

The information revealed by the farmers shows that 19.3% respondents are strongly agreed that in their opinion, through the utilization of ICTs can enhance the growth of their crop, 37.3% respondents are agreed that in their opinion, through the utilization of ICTs can enhance the

growth of their crop while 15.3% respondents remain neutral that in their opinion, through the utilization of ICTs can enhance the growth of their crop. 15.3% respondents are disagreed that in their opinion, through the utilization of ICTs can enhance the growth of their crop while 12.7% respondents are strongly disagreed that in their opinion, through the utilization of ICTs can enhance the growth of their crop.

Table 4: Response of respondents regarding statement “I feel that ICTs, as well as internet, are playing a vital role in our everyday”

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agree	28	18.7	18.7	18.7
Agree	44	29.3	29.3	48.0
Neutral	39	26.0	26.0	74.0
Disagree	31	20.7	20.7	94.7
Strongly Disagree	8	5.3	5.3	100.0
Total	150	100.0	100.0	

Table 4 shows the percentage about response of respondents regarding statement “I feel that ICTs, as well as internet, are playing a vital role in our everyday”. The information disclose that 18.7% respondents are strongly agreed that they feel that ICTs, as well as internet, are playing a vital role in our everyday, 29.3% respondents are agreed that they feel that ICTs, as well as internet, are playing a vital role in our everyday while 26.0%

respondents remain neutral that they feel that ICTs, as well as internet, are playing a vital role in our everyday. 20.7% respondents show that they are disagreed that they feel that ICTs, as well as internet, are playing a vital role in our everyday while 5.3% respondents are strongly disagreed that they feel that ICTs, as well as internet, are playing a vital role in our everyday.

Conclusion

The execution or rustic ICTs includes authoritative and social change. Moreover, a significant boundary to understanding the financial advantages of ICTs is the frequently generous abnormal state of interest in new framework both equipment and programming.

In created nations, enormous potential client bases and effective capital markets help beat this boundary, equipment and programming intended for created nations can without much of a stretch be adjusted to serve higher salary purchasers in creating nations, however this forgets about most of the populace in creating nations.

In this situation, one potential outcome of IT use is an expanding in fairness as just higher salary

gatherings make the most of its advantage this is the purported advanced divide.

Then again, in light of the fact that legislature give merchandise and ventures, including redistributive exchange installment, are frequently gone for lower salary gatherings, to the degree that ICT use can expand the productivity and viability of government, its advantages will be all the more broadly spread, incompletely diminishing computerized separate concerns.

Private suppliers may in this way have additionally a job in conveying IT based data benefits that are integral to taxpayer driven organizations, just as in giving traditional private products and ventures. The absence of access to ICTs in creating nations implies a developing information hole is unavoidable.

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