

# ICT USAGE BY FARMERS OF PUNJAB

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## Abstract

ICT devices have penetrated into all spheres of our lives. Hence, the study focusing on the interaction between ICT and humans becomes necessary, especially when ICT based developmental approaches are being used. It becomes pivotal to study whether there is any kind of usage at the ground level. Therefore, this paper attempts to study ICT usage patterns, in terms of frequencies and devices used, and reasons for usage along with the platforms used by the farmers in the state of Punjab. A review of literature was done to build a primary data collection tool. The primary data was collected using a schedule, from a sample size of 360 farmers, from nine districts of Punjab, chosen randomly. The usage was studied by recording the frequencies of usage of ICTs on a scale of 'daily', 'weekly', 'fortnightly', 'monthly' and 'beyond a month' as parameters. Also, reasons for ICT usage were recorded on three popular social media platforms. It was found that a majority, i.e. 88% of the farmers was daily users, 62% used smart phones, 34% used it for socializing and 58% used Whatsapp. The content of this paper is original and is part of my ongoing PhD research.

**Keywords:** Information and Communication Technology, ICT usage, ICT and Farmers, Frequency of ICT usage

## I. INTRODUCTION

In this 21<sup>st</sup> century humans are exposed to not just one but multiple popular ICT tools. Hence the approach of ICT based development is widely being used in several countries including India. These information and communication technology (ICT) tools are being used by many sections of the society. However, when we talk about development of India, the farming community cannot be ignored. And yet, the agriculture sector is facing a number of problems and the farmers are struggling. The Government has introduced Digital India Programme and other policies to facilitate ICT based development, including the agriculture sector. However, the existing conditions should be understood prior to formulation of plans. So, it is important to take into consideration the interaction between the farming community and ICT. It is significant to understand that what are the usage patterns? The farmer's population is more than 50% and hence it becomes necessary to determine how farmers are using ICT. In fact, it's important to determine whether farmers are using ICT at all or not.

## II. USAGE OF ICT IN INDIA

An article published in the Hindu, dated 1 Dec, 2015, India sits on position 131 out of 167 on the ICT Global Index (IDI) of the year 2015. Similarly, the Year India book of 2018 recorded a tele-density (telephone per 100 persons) of 83.40 in April, 2016, which rose to 93.01 in March, 2017. The rural tele-density increased from 51.26 per cent to 56.98 per cent in March, 2017. In the year 2016, the total internet connections were a record 342.66 million, which further escalated to 422.19 million in March 2017.

Another article published in Financial Express in 2018 quoted Director-Marketing, Lenovo India as stating that, "PC penetration in India is still very low." According to an *Economic Times* article published in 2017, a survey was conducted by BARC India and it was revealed that the T.V. penetration has increased and gone from 154 million to 183 million which is an increase from 54% to 64%. Urban-rural split of T.V. was 84-99 million, i.e., urban being 46% and rural 54%. According to the article by *The Hindu*, 2018 it was emphasized by Nisha Narayanan, Chief Operating Officer of Red FM that radio isn't dead and is important especially in rural areas, and it was the most accepted medium outside the metros.

## III. REVIEW OF LITERATURE

Gagandeep Kaur Grewal & Kiran Jyoti (2015) conducted a research to study the knowledge, attitude and perception of farmers in Punjab and found that majority used mobile and hence suggested that mobile and applications should be focused as a tool for development. It was also found that lack of knowledge, skill, and guidance were the main reasons for non-adoption of ICT. TV & Radio were used but the usage was less compared to mobile.

Similarly, a study by Dr. Egwu Emeka Williams & Igwe Sylvester Agbo (2013) was conducted with the aim to evaluate the use of ICT in technology delivery among farmers. Multiple stage sampling procedure was followed to collect data using questionnaires and interview schedule. It highlighted that 54.17 had access to mobiles and 57.5 had no access to computer. 31.67 farmers accessed ICT to get information about new varieties. Infrastructure, technical, institutional and financial constraints were highlighted.

Another research carried out by Haruna Sekabira (2012) on determinants of adoption of ICT-based Market Information services (MIS) by smallholder farmers. Stratified random sampling was used to collect the data. It was found that despite the need, very few adopted ICT for use of MIS. The analysis further revealed that a majority of users were males; 55% of them with primary education; with an average ICT experience of 3.16 years; and radio and mobiles were the most popular tools for them. Lack of proper network connectivity, poverty, improper power supply, expensive hardware and lack of expertise were the barriers for ICT adoption.

#### IV. OBJECTIVE

Based on the above mentioned review of literature, it becomes important to study the frequency of usage and the reasons. Hence, the following objectives were made.

- To find out the frequency of ICT usage by the farmers of Punjab
- To study the usage of ICT devices
- To find out the reason for using ICT
- To study the most used ICT based social media platform

#### V. RATIONALE

Agriculture is the backbone of the Indian economy. It is the principle source for more than 55% of the population to earn their livelihood, and hence become an important group to focus upon, and analyze. Punjab led to the first Green Revolution in the country and is also known as the 'Granary of India.' Approximately 82 per cent of the state's land is under cultivation, compared with the national average of 40 per cent. Punjab covers an area of about 4.2 million hectares that accounts to be 3% of the net area sown across the country. Hence, the agriculture sector of Punjab was chosen to record the data for the study.

#### VI. SIGNIFICANCE

The current research paper aims at helping policy makers by providing data about the most used devices and ICT based social media platforms. The same devices and social media platforms can be used to deliver developmental messages to the farming community in Punjab. Crucial information related to schemes, subsidies, new techniques of farming, and more can be delivered to the farmers directly using the same.

#### VII. OPERATIONAL DEFINITIONS:

- **ICT devices:** Mobile phones, i.e., feature and smart, Computer/laptops, Digital T.V. and radio were used to record the frequency of usage by the farmers
- **ICT frequencies:** Daily, weekly, fortnightly, monthly, beyond a month/ after 30 days were the categories of frequencies of usage
- **ICT platforms:** Three popular platforms - WhatsApp, Facebook and YouTube were used to record the reasons for usage
- **ICT reasons:** Information seeking, entertainment, self-status seeking, socializing, escapism were the categories for studying the reasons of ICT usage

#### VIII. METHODOLOGY

A sample size of 360 farmers was taken from nine districts in Punjab, chosen randomly. 40 farmers from each district were selected to obtain data.

#### IX. DATA ANALYSIS AND FINDINGS

The study conducted revealed the following-

DEVICES/ FREQUENCY	Daily	Weekly	Fort- nightly	Monthly	Beyond a month	Total	Chi square	p-value
A. Mobile								
(i) Feature phone	138	7	1	0	1	147	372.592	.0001
(ii) Smart Phone	222	4	0	0	0	226	210.283	.0001
B.								
Computer/laptop	27	28	0	3	4	62	37.226	.0001
C. Digital TV	140	18	0	2	0	160	213.650	.0001
D. Radio	2	1	0	0	0	3	.333 <sup>e</sup>	0.564
Total	529	58	1	5	5	598		

It was found that out of the total 360 respondents, **222 farmers were daily smart phone users**, amounting to 62% of the total. Whereas, **38% were feature phone users**, **39% were Digital T.V. users**, **8% were computer/laptop users**, with daily frequency. **Radio had the least frequency of usage**. As evident from the table, frequency of daily users is far more than any other frequency.

Therefore, the data revealed that **majority** of the farmers were ICT users. Keeping in mind the above data, it can be said that farmers in rural Punjab are consuming not just one but **multiple ICT devices on a daily basis**.

After analyzing the number of users among the farmers, it was important to understand the reasons for usage. Now, according to an article published in *Financial Express* (2018, Feb 1), WhatsApp has 105 billion monthly active users, and Facebook has 2.1 billion monthly active users. YouTube has 149 million monthly active users, worldwide.

Hence, five categories of the needs, which were being gratified by the devices, were recorded on popular internet based platforms. The most popular internet based platforms i.e. WhatsApp, Facebook, YouTube, as mentioned above, were used to record the reason of usage.

Platforms/ Needs	Information seeking	Entertainment	Self-status seeking	Socializing	Escapism	Total
WhatsApp	31	18	1	158	0	<b>208</b>
Facebook	28	68	2	78	0	176
YouTube	69	102	0	0	4	175
Total	128	188	3	<b>236</b>	4	556

It was found that 208 out of a total of 360, which amount to 58% of the users, used WhatsApp. An almost equal percentage (49%) i.e., 176 farmers used Facebook and 175 used YouTube, out of the total 360 respondents. Majority i.e., 42% used these platforms for the purpose of socializing, 34% for entertainment and 23% used it for information seeking purposes.

#### KEY FINDINGS

- 88% of the farmers had daily frequency of ICT usage.
- Smart phone (62%) was the most used ICT device.
- Socializing was the dominant purpose (34%) of usage.
- WhatsApp was the most (58%) accessed platform on the internet compared to Facebook and YouTube.

#### X. LIMITATION

The current study only took three popular social media platforms under consideration for studying the reasons of ICT usage.

#### XI. CONCLUSION

It can be observed that ICT has penetrated into the farming community of Punjab as well. As a matter of fact, not just one but multiple ICT devices and ICT based social media platforms are being used by farmers throughout the state. Hence, it can be said that there is potential for ICT based development at the grassroots level, and some sort of policy implications should be put into place to make these platforms more potent for farmers. With apt policies in place, the farming community can be strengthened drastically, and ICT can benefit not only individual farmers but the entire state of agriculture, particularly in the state of Punjab.

ICT has played a great role in the communication process in today's scenario. It has made our lives convenient. However, it is a powerful tool and needs to be used properly. And just like any other powerful tool, it has its pros and cons. In fact, excessive usage has given rise to the serious issue of addiction, but at the same time, it has opened new opportunities. In the end, it's the user or the bearer of this powerful tool who must choose wisely while using this tool.

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