Utilization of Social Media by Farming Community: A Case from Punjab State

Divyata Joshi[1]* and R.K. Dhaliwal[2]

ABSTRACT

To equip the farmers with recent technologies, and innovations various tools of cyber extension are being used by the farming community, social media is one such area. To understand the utilization pattern of these social media tools used by farmers for agriculture purpose the study was conducted in Punjab state with fifty respondents (farmers) selected by simple random sampling technique. The data were collected through survey method using structured interview schedule. Two third of the respondents (66%), used YouTube always for agriculture related information. Majority of the respondents (52%) used PAU Kisan App 'sometimes' whereas 34 percent used it 'always' for getting information regarding agriculture, majority (58%) of the farmers posted queries on social media platforms. 68 per cent of the farmers contribute to discussions held in social media. Two third of the respondents (66%) shared agriculture information further on social media. Most of the farmers (74%) said that social media fulfills their information needs. Majority used social media for seeking information related to agriculture such as new varieties, trainings etc. Hence, it can be concluded that social media can be a new age solution to cater to the challenge of less availability of extension personnel by complementing the personnel for quick and effective dissemination of agriculture related information ultimately empowering farming community.

Keywords: Agriculture information, Credibility, Farming community, Social media, Utilization

INTRODUCTION

As per changing needs of stakeholders, emergence of new school of thoughts and advancement in agriculture, paradigm shift has been witnessed through time in the extension approach. A modern approach of cyber extension has come up to cater to the most important issue in extension mechanism i.e. lack of technical human resource, credibility and infrastructural issues. It includes effective use of Information and Communication Technology, national and international information networks, internet, expert systems, multimedia learning systems and computer based training systems to improve information access to the farmers, extension workers, research scientists and extension managers (Anonymous, 2019). With this approach, the existing parity in information between the various stakeholders can be reduced to an extent by complementing it with conventional extension system.

Agricultural information exchange has been dominated by industrial media such as newspapers, television and magazines. In recent years, however, technology awareness, computer literacy and usage of smart phones and internet are increasing across all demographics in India (Lathiya, 2015). Now, various tools of cyber extension are being used by the farming community. Low-cost information and communication technology tools possess the ability to deliver timely, relevant, and actionable information to farmers at lower costs than traditional extension services (Aker, 2011). With recent rapid developments in the mobile technology

[1]Ph.D. Research Scholar, [2]Director Students' Welfare, Punjab Agricultural University, Ludhiana-141004, Punjab
*Corresponding author email id: divyatajoshi01@gmail.com

and good network facility, new ways of transfer of technology have emerged. Web based portals and mobile applications which are considered as social media or 'New Media', now being used in a greater extent. In the pioneering work related to social media by Kaplan and Haenlein (2009), the term is defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user-generated content. According to Bhattacharjee and Raj (2016), "Social media are web based tools of electronic communication that allows users to interact, create, share, retrieve, and exchange information and ideas in any form (text, pictures, video, *etc.*) that can be discussed upon, archived, and used by anyone in virtual communities and networks." Social media tools may include (but are not limited to): Social networking sites (e.g. Facebook), Video sharing websites (e.g. YouTube), and photo sharing websites (e.g. Instagram), Blogs, Microblogs (e.g. Twitter), forum discussion groups (e.g. Google Groups, Yahoo Groups), collaborative projects (e.g. Wikipedia), Video conferences and web conferences, Socially integrated mobile text messaging (e.g. WhatsApp), professional networking (e.g. LinkedIn) (Anonymous, 2013). The social media provides a platform for its users to actively participate in information seeking and sharing. Now, it becomes essential to understand the utilization pattern of this new media and how credible this new media is. Hence, the present study was conducted to fill the void.

METHODOLOGY

Descriptive research design was used for the study. Punjab state was taken as the universe. A total number of 50 respondents (farmers) were selected by simple random sampling technique. The independent variables taken for the study were age, education, marital status, family size, family type, operational land holding and annual income. The dependent variables were utilization of social media and credibility of social media. The data were collected through survey method using structured interview schedule. The credibility of social media tools among farmers were determined through six factors such as timeliness, factualness, usefulness, completeness, need based and problem solving. The data was analyzed using weighted mean, frequency, percentage and correlation

coefficient. In order to find the factors related to utilization of social media for agriculture among the respondents, a correlation analysis was done using statistical package for social sciences (SPSS).

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

The information regarding socio-economic characteristics of the farmers has been presented in Table 1. The data revealed that majority of the respondents i.e.

Table 1: Distribution of the respondents on the basis of socio-economic characteristics (n=50)

Category	Freq.	Percentage
Age		
Young (22-39)	17	34
Middle (40-57)	21	42
Old (58-74)	12	24
Education		
Illiterate	0	0
Secondary education	6	12
Matric	13	26
10+2	9	18
Graduate	15	30
Post graduate and above	7	14
Marital status		
Unmarried	7	14
Married	43	86
Divorced/ separated	0	0
Widow	0	0
Family size		
Small (up to 8)	44	88
Medium (8-12)	4	8
Large (above 12)	2	4
Family type		
Nuclear	34	68
Joint	16	32
Operational land holding (Acre)		
Marginal (<2.5)	1	2
Small (2.5-5)	4	8
Semi medium (5-10)	6	12
Medium (10-25)	19	38
Large (>25)	20	40
Annual income (Rs.)		
<Rs. 2,50,000	10	20
Between Rs. 2,50,000-Rs.5,00,000	8	16
Between Rs. 5,00,000-Rs. 10,00,000	19	38
More than Rs. 10,00,000	13	26

42 per cent were found to be aged from 40 to 57, maximum percentage of the respondent (30%) had studied up to graduation, married (86%), majority (88%) had size of family from 3 to 8. More than two third of the respondent (68%) belonged to nuclear family, 40% had large (>25 acre) land holding. Regarding annual income of the respondents, majority (38%) of the farmers had medium annual income between 5-10 lakhs.

Utilization of social media

The data regarding the utilization of social media is given in the following Table 2. It was taken in terms of ranking according to the weighted mean score of obtained frequency for each of the social media tool.

The data revealed that majority (50%) of the respondents were using Facebook daily. 38 per cent were using this application monthly. Twitter was not used by most of the farmers (88%). WhatsApp was being used by 82 per cent of the respondents daily and weekly by 8

per cent of respondents. Majority of the respondents (78%) were found to be using YouTube daily and 40 percent of them were using the application monthly. PAU Kisan App was used monthly by majority (40%) of the farmers, 34 per cent of the farmers were using this app daily. Majority of the respondents (78%) had never used Instagram and 92 per cent of the respondents had never used LinkedIn application. One respondent was using Plantix application.

The usage of social media tools for agricultural purpose by the farmers is compiled into Table 3. It was taken in terms of ranking according to the weighted mean score of obtained frequency for each of the social media tool. Regarding utilization of social media for agriculture, nearly half of the respondents (48%) used Facebook sometimes for agriculture purpose followed by 36 per cent who used this application always, 16 per cent respondents never used Facebook for agriculture purpose. Twitter was never used by majority of the

Table 2: Distribution of the respondents on the basis of utilization of social media (n=50)

Social Media	Daily		Weekly		Monthly		Never		Weighted Mean Score	Rank
	f	%	f	%	f	%	f	%		
Facebook	25	50	2	4	19	38	4	8	1.96	III
Twitter	3	6	2	4	1	2	44	88	0.28	VI
WhatsApp	41	82	4	8	2	4	3	6	2.66	II
YouTube	39	78	3	6	7	14	1	2	2.86	I
PAU Kisan App	17	34	6	12	20	40	7	14	1.66	IV
Instagram	8	16	2	4	1	2	39	78	0.58	V
LinkedIn	0	0	1	2	1	2	46	92	0.06	VII
Others (Plantix)	0	0	1	2	0	0	49	98	0.04	VIII

Table 3: Utilization of social media for agriculture

Social Media	Always		Sometimes		Never		Weighted Mean score	Rank
	f	%	f	%	f	%		
Facebook	18	36	24	48	8	16	1.2	III
Twitter	0	0	2	4	48	96	0.04	V
WhatsApp	35	70	10	20	5	10	1.6	I
YouTube	33	66	11	22	6	12	1.54	II
PAU Kisan App	17	34	26	52	7	14	1.2	III
Instagram	1	2	2	4	47	94	0.08	IV
LinkedIn	0	0	0	0	50	100	0	VII
Others (Plantix)	0	0	1	2	0	0	0.02	VI

respondents (96%) for taking agriculture related information; only 4 per cent respondents used it sometimes. WhatsApp was the most used social media tool by the farmers as majority (70%) of them used it always; followed by 20 per cent who used it sometimes, 10 per cent farmers never used this application. Two third of the respondents (66%), used YouTube always for agriculture related information followed by, 22 percent who used it sometimes making it the second most used application for agriculture related information. Majority of the respondents (52%) used PAU Kisan App 'sometimes' whereas 34 per cent used it 'always' for getting information regarding agriculture, 7 per cent of the respondents never used this application and it was the third most used application by the farmers. Only two percent of the respondents had taken agriculture related information through Instagram always, four percent took the information sometimes through Instagram and rest 94 per cent farmers never took agriculture information through Instagram. LinkedIn was not used by any of the respondent for agriculture information.

Activities and purpose served on social media

The data on the activities generally performed by the farmers with the use of different social media tools is depicted in Table 4. It can be observed that majority (58%) of the farmers post queries on social media platforms whereas 38 per cent farmers do not post queries. 68 per cent of the farmers contribute to discussions held in social media. Two third of the respondents (66%) shared agriculture information further on social media. Most of the farmers (74%) said that social media fulfills their information needs. 72 per cent of the respondents did not prefer social media over other channels and rest 28

per cent of the respondents preferred social media. Similar activities were reported by farmers on WhatsApp messenger by Nain *et al.* (2019).

The data regarding purpose of using social media by the farmers is given in the Table 5. It is taken as the ranking according to the weighted mean score of obtained frequency for each parameter. From the table, it is seen that information seeking was given rank one by the respondents, networking with fellow farmers was ranked two and sharing the information further with others was ranked third. Similarly, for the solution of farm related problem, selling or buying of agricultural commodity, to know the market rates and for branding of agricultural commodity were ranked fourth, fifth, sixth and seventh respectively.

The data regarding credibility of social media tools as perceived by the farmers is given in the Table 6. All four social media tool was given the ranking for each of the six factors of credibility individually and their weighted mean were calculated. For timeliness factor WhatsApp was given first rank followed by YouTube and Facebook.

Table 5: Purpose of using social media as identified by the respondents (n=50)

Purpose	Weighted Mean score	Rank
Information seeking	6.55	I
Sharing information	5.17	III
Selling / buying of agri-commodity	3.17	V
Solution of problem	3.62	IV
Market rates	2.62	VI
Branding of agri-commodity	1.31	VII
Networking with fellow farmers	5.53	II

Table 4: Respondents' activities on social media

Activities	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Post queries on social media platforms	29	58	19	38
Contribute to discussions on social media	34	68	16	32
Share agricultural information on social media	33	66	17	34
Social media fulfills information needs	37	74	13	26
Prefer obtaining your agricultural information from social media over other channels?	14	28	36	72

Table 6: Credibility of social media tools identified by the respondents (n=50)

	Timeliness Mean score	Factualness Mean score	Usefulness Mean score	Completeness Mean score	Need based Mean score	Problem solving Mean score	Overall Mean score
Facebook	1.44	1.56	1.8	1.9	1.72	1.7	1.687 (IV)
WhatsApp	2.18	2.2	1.92	1.7	2.14	1.8	1.995 (II)
YouTube	1.86	1.91	2.19	2.15	1.8	2.21	2.02 (I)
PAU Kisan App	1.00	2.25	2.15	2.21	2.01	2.01	1.938 (III)

The queries regarding several issues asked by the farmers are promptly answered by the scientists or experts through WhatsApp. For factualness, PAU Kisan App was ranked first followed by WhatsApp and Facebook. The PAU App gave authentic information as compared to other media tools. YouTube was ranked one by the farmers on usefulness followed by PAU Kisan App and WhatsApp. The variety of information provided in the form of visuals in YouTube helping in the solution of different farm related issues and providing them with new information is the reason it is perceived as more useful. Regarding completeness of information PAU Kisan App was given the first rank followed by YouTube and Facebook. The PAU Kisan App provides a complete research based information to the farmers. WhatsApp was ranked first for providing need-based information followed by PAU Kisan App and YouTube. WhatsApp helps in providing location specific solution to the farmers through direct message facility including various media such as audio, video, images etc. at any time. Regarding solving of a particular problem, YouTube was ranked first followed by PAU Kisan App and WhatsApp. The YouTube app provides audio and visual together which provides more clarity of the solution of the issue. From the overall mean score, YouTube was found to be the most credible source among all social media tools with the mean score 2.02. All the new information is taken from the YouTube and it is considered useful and problem solving by most of the farmers. WhatsApp was considered as second most credible social media tools by the farmers as it gives need based and timely information to them. PAU Kisan App and Facebook was given third and fourth rank respectively.

A cursory look at the correlation results revealed (Table 7) that out of the independent variables, land holding

Table 7: Correlation coefficients of utilization of social media for agriculture

Independent variable	Correlation coefficient ('r' value)	'p' value
Age	-0.377	0.007**
Education	0.428	0.002**
Land holding	-0.0515	0.722
Income	-0.0194	0.894

**Significant at 1% and 5% level of significance

and annual income of the household were not associated with the utilization of social media for agriculture but age and education were significantly related with the utilization. The value of correlation coefficient between age and utilization was -0.377 and the p-value was 0.007 which was lesser than p=0.01. Hence it can be concluded that there was a significant negative relationship between the two variables. Similarly, the value of correlation coefficient between education was 0.428 and the p-value was 0.002, hence, it can be said that education had significant positive relation with the utilization of social media for agriculture. It can be inferred that higher education facilitates taking information through internet sources. Further, aged people prefer traditional sources of information whereas young and middle aged has higher interest for active involving on social media for information seeking and sharing.

CONCLUSION

Majority of the respondents were using Facebook, YouTube and WhatsApp daily and PAU Kisan App monthly. These channels can be used as the quick dissemination tool for creating awareness about innovations to the farming community. Regarding utilization of social media for agriculture, WhatsApp and

YouTube was used always by majority of the respondents. It becomes imperative that each and every department in research and extension institutions should make a social media group. An effort should be made to connect the experts of the department with farmers on the single media platform. The farmers generally use social media for seeking and sharing information among fellow farmers, and networking with peer group. To facilitate the building relationship and hassle free personal contacts and to integrate the research-extension-farmer linkages further through social media, a framework for capacity building for all related stakeholders can be made. Young and middle aged actively involve on social media as compared to older people. A communication strategy should be formulated to connect these individuals to gain insights from their life experiences. A social media platform for such type of localized information and more penetration among the farming community can be made. The government should promote information and media literacy with the advancements in the education system. Farmers perceived YouTube as the most credible source of information among all social media tools. Media richness of YouTube is also high. Hence, new projects related to generating media packages with more emphasis on videos can be initiated according to the need and interest of the farmers.

REFERENCES

Aker, J.C. (2011). Dial "A" for agriculture: a review of information and communication technologies for agricultural extension in developing countries, *Agricultural Economics,* **42**, 631–47.

Anonymous (2013). *Social Media Handbook for Agricultural Practitioners.* pp 13-34. United State Agency for International Development, Washington, D.C., United States.

Anonymous (2019). Digital population in India as of January 2019. Retrieved from https://www.statista.com/statistics/309866/india-digital-population/

Bhattacharjee, S. and Raj, S. (2016). *Social media: Shaping the future of agricultural extension and advisory services.* pp 6-7. GFRAS interest group on ICT4RAS discussion paper, GFRAS: Lindau, Switzerland.

Kaplan, A.M. and Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media, *Business Horizons,* **53**, 59-68.

Lathiya, A., Rathod, A. and Choudhary, K. (2015). Role of social media in agriculture, *International Journal of Communication & Business Management,* **8**, 268-273.

Nain, M.S., Rashmi, S. and Mishra, J.R. (2019). Social Networking of innovative farmers through whatsapp messenger for learning exchange: A study of content sharing, *Indian Journal of Agricultural Sciences,* **89**(3), 556-558.

Swanson, B.E. (2009). *Changing Extension Paradigms within a Rapidly Changing Global Economy.* pp 113-17. Proceedings of the 19th European Seminar on Extension Education: Theory and Practice of Advisory Work in a time of Turbulences.