



## Use of Social Media in Enhancing Farmer's Satisfaction Level on Agricultural Extension Services: A Case Study of Farmers Club in Thoubal District, Manipur

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### Abstract

Social media has become universal and practically inescapable, revolutionizing the way farmers communicate, interact and socialize; and has become an integral part of their social education through expressing opinion on varied issues. The agriculture sector is embracing social media and utilising it to increase knowledges of the farming and cropping management as well as interacting with others like agricultural professionals, Scientists, Subject Experts including research scholars. Social media tools can be viewed as social communication technologies in which opportunities of farmers' feedback, interaction, and networking are much higher than other forms of extension information delivery. Besides all these opportunities provided by the social media, the farmers' satisfaction level is also an important measures in dissemination of the information specially for agricultural extension and advisory services in order to improve the present communication system between farmers and the services provider. The present study sought to assess farmers' satisfaction level towards agricultural extensions services by means of social media.

**Keywords:** Agriculture, Extension Services, Information, Satisfaction level, Social Media

### Introduction

Social media is the use of Facebook, Youtube, Whatsapp, Blogs, Twitter, My Space and LinkedIn for the purpose of communication, sharing photos as well as videos (Acheaw and Larson, 2015; Balkrishna and Deshmuk, 2017; Thakur and Chander, 2018). However for the purpose of this study social media is captured within the use of internet through Facebook, Whatsapp, Youtube, Instagram, Telegram messenger as well as other Messengers for communication and sharing of information, innovations on latest technologies by sharing of photos and videos (Barau and Afrad, 2017). Teenagers and young adults have especially embraced these sites as a way to connect with their peers, share information, reinvent their personalities, and showcase their social lives. It is also astounding to accept as true that in little as two short decades, the evolution of the Internet and social media has taken place right before our eyes. It was only in 1991 that the World Wide Web became public,

only around 17 years since Google was created and only a decade since Facebook was invented (Lathiya *et al.*, 2015).

Social media has a great potential to be used as a tool of communication and networking for benefits of farming community as in India about 70% of the population resides in rural area and their main livelihood income were from agriculture and its allied activities. The need for current and relevant information by farmers in this sector for increased production in a sustainable way is now become a key issue for the nation. Information communication technology facilities are greatly influencing how information is sourced and disseminated these days. Social community often consists of people known in real life. Among the social media platform Facebook is a great place to start a positive conversation about agriculture, connect with the younger generation, and get people excited about farming (Joshi *et al.*, 2017; Thakur and Chander, 2018). Some of the main actions that has been done in the field of agriculture through social

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media includes- post photos from the farm, share agricultural messages, connect with agriculture pages, share farm facts on page, post videos of the operation, a note about activity on farm, or a tour of the barn, advertise agri-tourism events etc. (Joshi et al., 2017).

The information dissemination regarding crops, soils, climate, cultivation practices, financing, storage of produce and marketing in the farming communities can be shared through this media. The satisfaction level of farmers towards the agricultural and extensional services should also take into consideration and it got positive responses only when they get fair pricing, security of crops, payment on time, guidance from employees, security from malpractices, proper weighing system (Bandhari and Mishra, 2014; Elias et al., 2015; Ganpat et al., 2014). So, in order to study the how much social media has helped the farming community in enhancing the farmers' satisfaction level, this study has been carried out to support and help farmers to seek information on farm operations, clarify their doubts on plants/ livestock disease symptoms and can have immediate access to market related information through social media.

## Materials and Methods

### Sample Selection and Data Analysis

This study is based on case study of 10 farmers club in Thoubal District of Manipur. A sampled of 100 farmers were selected from 10 Farmers Club randomly. A focus group discussion was conducted before the collection of the data from the farmers. Primary data were collected using well-structured interview scheduled through filed visit and personal interview method. After the collection of data, the results were analysed with the use of the Statistical Package for Social Science (SPSS).

### Reliability of the Measurement Items for Internal Consistency

An observant list of relevant variables with their measurement items was developed based on literature review and discussion among the scientist and experts in the field. To elicit responses on frequency and extent, the face validity of the selected items was ensured from reliability analysis during pre- testing and after data collection. Cronbach's Alpha value was calculated and compared with the range to examine consistent with the recommended value of greater than or equal to 0.7 (Henseler et al., 2009) indicating their validity and reliability. The formula for Cronbach's alpha is as follows.

$$\hat{\alpha} = \frac{k}{k-1} \left[ 1 - \frac{\sum_{i=1}^k p_i(1-p_i)}{\sigma_x^2} \right]$$

Where, k is the number of items taken up for study;  $p_i$  refer to the item difficulty is the proportion of examinees who answered item  $i$  correctly; and  $\sigma_x^2$  is the sample variance for the total score. Cronbach's Alpha value ranges from 0 to 1.00, with values close to 1.00 indicating high consistency. Professionally developed high-stakes standardized tests should have internal consistency coefficients of at least 0.90. Lower-stakes standardized tests should have internal consistencies of at least 0.70 or higher (Wollack et al., 2003). Cronbach's alpha value of more than 0.7 is regarded as

reliable and a valid one (Henseler et al., 2009).

## Results and Discussion

### Socio-Economic Characteristic of the Respondents

The socio-economic characteristics of the respondents are considered as a tool for measuring the basic background and wellbeing of the household. In the study, characteristics such as age, education, annual household and family size has been studied and is given in table 1.

Table 1: Details on socio-economic profile of the respondents

Sl. No.	Components	Frequency (%)
1	<u>Age</u>	
	Young (less than 30 years old)	18 (18.00)
	Medium (30 to 45 years old)	45 (45.00)
	Old (more than 45)	27 (27.00)
	<u>2 Education Level</u>	
	Illiterate	4 (4.00)
	Can read only	7 (7.00)
	Can read and write	5 (5.00)
	Primary school	15 (15.00)
	High School	45 (45.00)
	Higher Secondary and above	24 (24.00)
	<u>3 Family Size</u>	
	Less than 5	56 (56.00)
	5-7 members	38 (38.00)
	More than 7	6 (6.00)
<u>4 Media Exposure</u>		
	Low Media Exposure	22 (22.00)
	Medium Media Exposure	35 (35.00)
	High Media Exposure	43 (43.00)

It was found out that majority of the sample respondents i.e., 45% belong to the age group of 30-45 years, followed by age group of more than 45 years constituting 27% and the remaining, old age group constitute 27% only. It shows that middle age people tend to be more proactive in becoming member of Farmer Club thereby their social media exposure is also high (Kishindo, 1988; Wangu, 2014). Considering about education level higher percentage of the respondents i.e., 45% belonged to the high school category. This shows that farmers had a medium level education level which help in adoption of new technology and better decision making ability. Further, the study also revealed that more concentration of family size less than 5 members followed by household with 5-7 members constituting 56% and 38%. This shows that maximum of the household had a nuclear type of family rather than joint family.

The study also disclosed that 43% of the respondents have higher media exposure as compare to medium and low media exposure with 35% and 22% respectively. This might

be due to fact that with the increase in modern day of smart phone people are more aware and taking advantage of social media for their daily activities.

**Reliability of the Measurement Items**

Reliability measurement of the 11 selected parameters for the satisfaction index of the farmers being developed for the study was analysed using Cronbach's alpha value the result of which is shown in table 2. For the present study Cronbach's alpha value was found to be 0.601 which shows that reliability coefficient is high and the score on that test can be used to draw conclusions about farmer's satisfaction level towards the Agricultural and Extension Services getting through Social media.

Table 2: Reliability of the Measurement Items

Reliability Statistics	
Cronbach's Alpha	N of Items
0.601	11

Table 3 data shows that most of the respondents are having account on social media. Most of them are using WhatsApp messenger followed by Facebook and YouTube with 56%, 27% and 17% respectively. The study also revealed that Instagram were neglected by all the farmers. The result might be due to the information sharing and taking were more handy with the WhatsApp messenger other the remaining social media sites.

Table 3: Favourite social media sites

Sl. No.	Sites	Frequency (%)
1	Facebook	27 (27.00)
2	WhatsApp messenger	56 (56.00)
3	YouTube	17 (17.00)
4	Instagram	0 (0.00)

Table 4 data shows that majority of the respondents *i.e.*, 48% were visiting social media for daily for an about 30 mints to 1 hour.

Table 4: Time spend on social media site per day

Sl. No.	Volume of usage (daily)	Frequency (%)
1	10-30 minutes	37 (37.00)
2	30 min.-1 hrs	48 (48.00)
3	1-2 hrs	10 (10.00)
4	More than 2 hrs	5 (5.00)

**Why Farmers Use Social Media?**

The above data on why farmers use social media, from table 5, it is found out that most of the respondents *i.e.*, 62% were using social media for information seeking followed by information sharing with 15%. From the interview of the respondent it is also exposed that farmers were seeking information on YouTube videos, since the visualized thing were more recalled by the farmers and learn more quickly.

Table 5: Nature of uses of social media by the respondents

Sl. No.	Nature of usage	Frequency (%)
1	Information seeking	62 (62.00)
2	Solution of problems	10 (10.00)
3	Information sharing	15 (15.00)
4	Selling/ buying of agriculture commodities	13 (13.00)

**Satisfaction Level of Farmers on Agricultural and Extension Services Getting through Social Media**

The study revealed overall satisfaction level of the farmers on different parameters which were frame for the study *viz.*, information on use of pest management practices, information on judicious use of fertilizer, information regarding effective cost of cultivation, information on right & quality seed selection technique, information on new cropping pattern, information on diverse subjects, information to access to financial support, information on accessing soil health and its management, information to easiness in marketing of farm produce, information on organic farming and information on weather forecasting (Lotfy and Adeeb, 2016).

Table 6 unveiled satisfaction level of farmers on the selected parameters farmers considering about information on use of pest management practices, information on judicious use of fertilizer, information regarding effective cost of cultivation and information on diverse subjects of the farmers responds satisfied with 80%, 75%, 60% and 83% respectively. This might be due to the fact that the agro-advisory services from the various institutes like KVKs, ICAR, line departments were highly responds to this area. Further with the increased in social media exposure farmers tends to learn from the YouTube videos which they were getting online on their smartphones.

Further, information on right & quality seed selection technique, information on new cropping pattern and information on organic farming and information on organic farming were satisfied with 50%, 68% and 48% respectively. The result for this satisfaction might be due to information seeking and information sharing behaviours of the farmers were very much high as the information sharing over the smartphones were much effective in time management and cost of sharing.

Beyond and above, the study also divulged that information on organic farming and information on weather forecasting were satisfied with majority of the farmers with 55% and 50% respectively. The above satisfaction level might be due to the fact that with the current climate change issues, farmers tends to seek more information based on their sustainability and future forecasting nature of the farming with organic and environment friendly farming system with the system of weather prediction so as to acquire a security livelihood.

On contrast to the above satisfaction level of the farmers, information to access to financial support and information to easiness in marketing of farm produce were showing negative

Table 6: Satisfaction Level of farmers on Agricultural and Extension Services getting through Social media					
Sl. No.	Raw Overall Satisfaction level	Raw Score		Aggregated score	
		Frequency (100)	Percentage (%)	Percentage (%)	Category
1	<u>Information on use of pest management practices</u>				
	Strongly Dissatisfied	0	0.00	10.00	Dissatisfied
	Dissatisfied	10	0.00		
	Normal	10	10.00	10.00	Normal
	Satisfied	65	65.00	80.00	Satisfied
	Strongly Satisfied	15	15.00		
2	<u>Information on judicious use of fertilizer</u>				
	Strongly Dissatisfied	0	0.00	0.00	Dissatisfied
	Dissatisfied	0	0.00		
	Normal	25	25.00	25.00	Normal
	Satisfied	55	55.00	75.00	Satisfied
	Strongly Satisfied	20	20.00		
3	<u>Information regarding effective cost of cultivation</u>				
	Strongly Dissatisfied	0	0.00	5.00	Dissatisfied
	Dissatisfied	5	5.00		
	Normal	30	30.00	30.00	Normal
	Satisfied	45	45.00	65.00	Satisfied
	Strongly satisfied	20	20.00		
4	<u>Information on right &amp; quality seed selection technique</u>				
	Strongly Dissatisfied	7	7.00	22.00	Dissatisfied
	Dissatisfied	15	15.00		
	Normal	28	28.00	28.00	Normal
	Satisfied	36	36.00	50.00	Satisfied
	Strongly Satisfied	14	14.00		
5	<u>Information on new cropping pattern</u>				
	Strongly Dissatisfied	0	0.00	4.00	Dissatisfied
	Dissatisfied	4	4.00		
	Normal	28	28.00	28.00	Normal
	Satisfied	46	46.00	68.00	Satisfied
	Strongly Satisfied	22	22.00		
6	<u>Information on diverse Subjects</u>				
	Strongly Dissatisfied	0	0.00	0.00	Dissatisfied
	Dissatisfied	0	0.00		
	Normal	17	17.00	17.00	Normal
	Satisfied	53	53.00	83.00	Satisfied
	Strongly Satisfied	30	30.00		
7	<u>Information to access to financial support</u>				
	Strongly Dissatisfied	35	35.00	75.00	Dissatisfied
	Dissatisfied	40	40.00		
	Normal	15	15.00	15.00	Normal
	Satisfied	10	10.00	10.00	Satisfied
	Strongly Satisfied	0	0.00		

Table 6: Continue...

Sl. No.	Raw Overall Satisfaction level	Raw Score		Aggregated score	
		Frequency (100)	Percentage (%)	Percentage (%)	Category
8	<u>Information on accessing Soil Health and its Management</u>				
	Strongly Dissatisfied	12	12.00	35.00	Dissatisfied
	Dissatisfied	23	23.00		
	Normal	17	17.00	17.00	Normal
	Satisfied	40	40.00	48.00	Satisfied
	Strongly Satisfied	8	8.00		
9.	<u>Information to Easiness in marketing of farm produce</u>				
	Strongly Dissatisfied	35	35.00	63.00	Dissatisfied
	Dissatisfied	28	28.00		
	Normal	20	40.00	20.00	Normal
	Satisfied	10	10.00	17.00	Satisfied
	Strongly Satisfied	7	7.00		
10.	<u>Information on organic farming</u>				
	Strongly Dissatisfied	0	0.00	17.00	Dissatisfied
	Dissatisfied	17	17.00		
	Normal	28	28.00	28.00	Normal
	Satisfied	39	39.00	55.00	Satisfied
	Strongly Satisfied	16	16.00		
11.	<u>Information on weather forecasting</u>				
	Strongly Dissatisfied	0	0.00	18.00	Dissatisfied
	Dissatisfied	18	18.00		
	Normal	32	32.00	32.00	Normal
	Satisfied	44	44.00	50.00	Satisfied
	Strongly Satisfied	6	6.00		

result with 75% and 63% dissatisfaction respectively. This might be due to the fact that the information getting about the financial and credit facilities were not fully understood by the farmers as well as they were not much benefitted with the incomplete information on these aspects (Navinkumar *et al.*, 2018). Again, as the farmers were new to the social media, they were not much aware of the online marketing or they were not willing to take the risk of e-marketing channels.

**Conclusion**

The outcome of the study shows that the Agricultural and Extension services provided through social media are reliable, high quality and satisfactory. Farmers mostly were satisfied with supervision approaches and information content on the social media was appropriate with the present farming practices. The needs and demands of the farmers varies from region to region and place to place and research institutes like ICAR and extension system of KVKs plays a key role in fulfilling the location specific needs and demand of farmers for development of agriculture other than the information received from the social media. Regardless of high satisfaction level the farmers in various parameters there is still room for the improvement in

terms of financial and credit opportunities and marketing behaviour through online over social media in order to accelerate the satisfaction level of the farmers. To bring long lasting sustainable improvement in farming, we need to look in where farmer’s express dissatisfaction especially to financial and credit opportunities and marketing behaviour through online. To convey a complete change and development in farming a secluded approach to the problem will not be effective, instead convergence with the different stockholders like line department, banks, NABARD, input dealers, R&D institution and extension machinery are very important.

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