

## PARTICIPATION PATTERN AND INFORMATION SHARING BEHAVIOUR OF FARMERS IN SOCIAL MEDIA

M. Jothilakshmi <sup>1\*</sup>, N. Narmatha<sup>2</sup>, B. Mohan<sup>3</sup>, N Akila<sup>4</sup>  
and V. SenthilKumar <sup>5</sup>

*Department of Veterinary and Animal Husbandry Extension Education  
Veterinary College and Research Institute  
Tamil Nadu Veterinary and Animal Sciences University  
Namakkal 637 002*

### ABSTRACT

*This research study was undertaken to find out the Participation pattern and information sharing behaviour of farmers in WhatsApp social media. The data were collected by both interview method and participant observation technique. The collected data were analysed using descriptive statistics; association with participation pattern and the variables were captured by using chi square and Mann Whitney U test; relationship between selected independent variables and tendency to access and share information in WhatsApp group was studied using logistic regression model. The results revealed that 51.70 % of the farmers used WhatsApp mainly for sharing of farm related information, had a WhatsApp usage period of ranging from 0.3 to 10 years, possess membership in seven groups and as group admin in more than one group with 10 to 360 minutes time spent per day. Selected independent variables viz., type of group, number of membership and admin status, WhatsApp and internet usage period, relationship with group members, role in content generation, age and involvement in specialized farming all together explained 60 per cent of variations in tendency to access and share information in social media.*

**Key words:** Digital extension, social media platform, Farmers WhatsApp group, Participation pattern, Tendency to access and share information

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### INTRODUCTION

Information is an important resource to manipulate factors of production (Camble,

<sup>1</sup>Assistant Professor, \*Corresponding author e-mail: drjothi80@gmail.com

<sup>2</sup>Professor and Head,

<sup>3</sup>Professor and Head, Department of Animal Nutrition, MVC, Chennai

<sup>4</sup>Professor and Head, Education Cell, VCRI, Namakkal

<sup>5</sup>Professor and Head, Department of Animal Husbandry Economics, VCRI, Namakkal

1992). In twentieth century, agricultural information exchange has been dominated by traditional and broadcasting media which played a key role in rapid and effective dissemination of scientific information with passive participation of farmers. But these mass media have low impact on adoption of technologies (Adhiguru *et al.*, 2009 and Thirunavukkarasu and Narmatha, 2016). On the other hand, accessibility of farmers to information remains a big challenge in

agriculture production (Sharma, 2002). As per National Sample Survey Office-NSSO (2005), only 40% of households in India accessed various sources of information for farming from conventional sources. In recent years, increase of awareness on Information and Communication Technologies (ICTs) across all demographics makes access of various forms of social media. Thus, ICT tools act as an important element in promoting connectivity among the community in contemporary society (Bin-Abbas and Bakry, 2012) and are relatively easier to use and are gaining popularity in agriculture sector (Saravanan and Bhattacharjee, 2016) and can improve farming practices (Pradhan *et.al.*, 2018). WhatsApp is one of the utmost popular social media; this cross-platform mobile messaging app allows users to create groups and helps to share real-time information which allows users to exchange information to one person, or to a group, removing distance, time zones and even language barriers. These farmers in WhatsApp group act as optimistic opinion leaders as they serve both as role models and sources of information (Leonard-Barton and Kraus, 1985). In this backdrop, an attempt was made to understand participation pattern, tendency to access and information sharing behaviour of farmers in WhatsApp social media.

## MATERIALS AND METHODS

*Ex - post facto* research design was adopted for this research study. This research was primarily focused on participation pattern and information sharing behaviour among the farmers. For this study four WhatsApp groups were purposively

selected based on the nature of WhatsApp group. In this, two groups were promoted by formal institutions organisations namely KVK Namakkal farmers group and RFIS-Namakkal farmers group. The other two groups were promoted by amateurs (non-formal informal groups) namely, Uiyurnaadi Vivasayam and Groundwater and farm development. These WhatsApp groups were studied during June 2019 to August 2019. From each group, 15 active members were selected randomly thus a total of 60 farmers formed the sample respondents of this study. Data were collected by using pretested semi structured interview schedules and observation techniques. The collected data were analysed using descriptive statistics and association between nature of group with participation pattern and information sharing were tested using Chi-square ( $\chi^2$ ) test and Mann-whitney U test. The relationship between selected independent variables and tendency to access and share information in WhatsApp group was analyzed through logistic regression model.

## RESULTS AND DISCUSSION

### **Participation pattern of members and its association with nature of WhatsApp group**

More than half (51.70%) of the respondents used WhatsApp mainly for sharing of farm information and 46.60 per cent mainly opted as communication tool. This is also supported by Naruka *et al.* (2017). Nearly two-third (65.00%) of them had membership only in farmer's WhatsApp group along with other non-farming WhatsApp groups and 35.00 per cent had membership in farmer's WhatsApp forum. However, only 38.30 per

cent had admin status and the rest majority (61.70%) had no admin status in WhatsApp forum. Coming to the reasons for being the member/ admin of the group, 51.70 per cent quoted the purpose was to access information and for 45.00 per cent, it was for both to access and share information. In case of personal relationship, 60.00 per cent knew members/ admin personally and 40.00 per cent of them did not know other members in the group. In social relationship, majority (81.60%) of them were fellow farmers followed by friends (13.30%) and meagre of them were relatives.

Concerning periodicity of checking message, 39.30 per cent of them checked WhatsApp message less than three times followed by 36.70 per cent of them checked more than six times in a day and the rest (18.30%) checked 3 to 6 times per day. More than half (53.40%) of the respondents preferred text message, followed by 21.70 per cent preferred video, 13.30 per cent preferred text with illustrations and 8.30 per cent preferred audio. Overwhelming majority (96.70%) of them preferred to see only the farm related messages and the rest prefer to see other messages also. More than one third (36.70%) of them preferred crop/livestock related package of practices, followed by weather related information (23.30%), crop/livestock husbandry related disease information (18.30%) marketing (8.30%) and all the above type of messages (11.30%). Majority (88.30%) of the respondents checked the originality and correctness of the messages before adoption.

More than half (52.70%) of the members were not involved in content generation and the remaining (46.70%) were involved in content creation. Among the content creators, more than half (57.10%) of them created contents in agriculture and allied sector, followed by organic farming (39.30%) and agriculture with marketing related content (3.60%). Further, majority (82.20%) of them produce content based on their own farming experiences, while a portion of them created content from experiences of fellow farmers (7.10%) and from knowledge gained at KVK/ University (7.10%) and a meagre (3.60%) of them created based on the information available in the internet. These results are in line with Shao (2009) and Baumgarten (2012). Use of WhatsApp by line departments (26.70%), minimizing query response time (20.00%), Awareness on WhatsApp (16.70%), improvement in net connectivity (10.00%) and tariff reduction of internet package (10.00%), reducing irrelevant messages (8.30%), subsidized smart phone for farmers (6.70%) and encouraging enrolment of farmers in WhatsApp group by formal organizations (1.70%) were the recommendations given by the farmers for improving WhatsApp communication. These results are contradicting with that of Thakur and Chander (2018) who reported that improvement in internet connectivity was the top most ranked suggestion.

The close perusal of Table 1 revealed that reasons for being members in agriculture WhatsApp groups (Organisational and amateur), personal relationship with group

members and role in content generation of WhatsApp group had highly significant associations with nature of WhatsApp group (organisational and amateur). The findings suggested that farmers who concerned with content generation and sharing it with known peer group have opted amateur WhatsApp groups rather than formal organisation promoted WhatsApp groups. Furthermore, subject interested within farm content had significant association with nature of groups. The farmers who are interested in husbandry, health, marketing and other diversified information were more associated with amateur groups. While farmers interested in weather, husbandry and health are more likely to be closely associated with organisational groups. The admin status had significant association at 10% level with nature of WhatsApp group. The reasons need to be explored further to understand the association between admin status and choice of group.

The respondents had an average WhatsApp usage period of 0.30 to 10 years membership in seven groups, group admin in more than one group and time spent in WhatsApp ranged from 10 to 360 minutes per day (Table 2). This is in line with Datareportal (2019) and E marketer (2019). WhatsApp usage period had highly significant association with nature of WhatsApp group (formal and amateur). Further, membership in number of group, admin in number of groups and time spent in WhatsApp had significant association with nature of WhatsApp group (formal and amateur)

Thus from above all, it can be summed up that the variations between organizational and amateur groups in terms of member in number of WhatsApp groups and admin status and role in content generation existed. Furthermore, WhatsApp usage period, membership and admin in number of groups and time spent in WhatsApp also varied appreciably.

From the above results, it could be inferred that farmers association with varying WhatsApp groups are determined by WhatsApp usage period, membership in number of groups, admin in number of groups and time spent in WhatsApp. The direction and strength of the relationship between choice of group and above factors needs to be further explored.

### **Relationship between selected variables with tendency to access and share information**

The Table 3 reveals that 60 per cent of variations in the dependent variable tendency to access and share information was contributed significantly by selected independent variables such as type of WhatsApp group, number of membership holding in WhatsApp groups, age group (old) and age group (young). The variable, type of WhatsApp group was significant at 1 per cent level. It could be interpreted that if the respondent receives an unit change in type of WhatsApp group the tendency to access and share information would increase by a factor of 0.02 units keeping other variables constant.

The age of the respondents was significant at 1 per cent level. If it is of middle and young age group, the tendency to access and share information would increase by a factor of 0.01 and 0.03 units, respectively and ensuring remaining variables constant. Number of membership holding in WhatsApp groups was significant at 5 per cent level. If it is of membership holding, the tendency to access and share information would increase by a factor of 1.24 units respectively, keeping other variables constant

### CONCLUSION

Social networking through WhatsApp has proved to be potential medium to share farming information through farmer to farmer communication and exchange of information. Most of the content shared in WhatsApp social media was of farm related with a mix of personal farming experiences. This also strengthens not only innovative farmer led information exchange but also exploited to bring location specific and commodity oriented transformative technology transfer. The members smartphone, internet and WhatsApp usage period; members in no.

of groups; status within groups; reasons for in WhatsApp groups; role in content generation; type of content shared; time of sharing and share of forwarded messages had association with nature of group. The tendency to access and share information was determined by nature of WhatsApp group, number of membership holding and age group. This empirical evidence, underscores the need for governments, non-governmental organizations, and other stakeholders to collaborate in promoting WhatsApp group. Furthermore, the mere receipt of creation of WhatsApp group does not necessarily guarantee their effective functioning at grass root level. The healthy interactions should be serving the objectives of the group with focus on farming, original messages based on own experience as evinced by the results. Therefore, concerted efforts should be taken for enhancing farmers' satisfaction with social media based exchange of quality information for effective technology transfer and adoption of the same. Further, young and middle age farmers can be mobilised and organised through extension organisations for creating and sharing of agriculture information through amateur groups.

**Table 1 WhatsApp participation pattern among farmers**

(n1+n2=30+30)

Participation pattern (variable with categorical nature)	Frequency (%)	Nature of group		Chi square
		Organizational	Amateur	
Motive for usage				
Farming centred	31(51.70)	17 (56.70)	14 (46.70)	1.43
Communication centred	28 (46.60)	13(43.30)	15(30.00)	
Others	1(1.70)	0 (0.00)	1(3.30)	

Participation pattern and information sharing ..... in social media

<b>Type of group</b>				
Farmers group only	21(35.00)	8 (26.60)	13(43.30)	1.83
Farmers group+ other groups	39 (65.00)	22 (73.40)	17 (56.70)	
<b>Admin status</b>				
Yes	23 (39.30)	22 (73.40)	15(50.00)	3.46*
No	37(61.70)	8 (26.60)	15(50.00)	
<b>Reasons for being member/admin</b>				
To access information	31(51.70)	21(70.00)	10 (33.30)	12.16**
To access and share	27 (45.00)	7 (23.30)	20 (66.70)	
Make others to enrol in the group	2 (3.30)	2 (6.70)	0(0.00)	
<b>Personal relationship with group members</b>				
Known	36 (60.00)	24(80.00)	12(40.00)	10.00**
Not known	24 (40.00)	6 (20.00)	18(60.00)	
<b>Social relationship with group members</b>				
Relatives	2 (3.30)	1(3.30)	1(3.30)	1.02
Friends	8 (13.30)	4 (13.40)	4 (13.40)	
Fellow farmers	49 (81.60)	25 (83.30)	24(80.00)	
Mixed	1(1.70)	0(0.00)	1(3.30)	
<b>Periodicity of reading message</b>				
During receipt of message	4 (6.70)	0 (0.00)	4 (13.40)	4.66
More than 6 times /day	22 (36.70)	12 (40.00)	10 (33.30)	
3 to 6 times / day	11(18.30)	5 (16.70)	6(20.00)	
Less than 3 times /day	23 (39.30)	13 (43.30)	10 (33.30)	
<b>Nature of content interested</b>				
Audio	5 (8.30)	2 (6.60)	3(10.00)	3.75
Video	13 (21.70)	9(30.00)	4 (13.40)	
Text	32 (53.40)	13 (43.40)	19 (63.30)	
Text with illustration	8 (13.30)	5 (16.70)	3(10.00)	
All forms	2 (3.30)	1(3.30)	1(3.30)	
<b>Subject of content interested</b>				
Farming	58 (96.70)	30 (100.00)	28 (93.40)	2.06
Others	2 (3.30)	0 (0.00)	2 (6.60)	
<b>Subject of farm content interested</b>				
Husbandry	22 (36.70)	7 (23.30)	16 (53.30)	14.63*
Health care	11(18.30)	5 (16.70)	6 (20.00)	
Weather	14 (23.30)	13 (43.40)	1(3.30)	
Marketing	5 (8.30)	2 (6.60)	3(10.00)	
Above all	7 (11.70)	3(10.00)	4 (16.70)	
Others	1(1.70)	7 (23.30)	16 (53.30)	

<b>Checking originality of the message</b>				
Yes	53 (88.30)	26 (83.30)	27 (90.00)	0.16
No	07(11.70)	4 (16.70)	3(10.00)	
<b>Role in content generation</b>				
Yes	28 (46.70)	4 (13.30)	24 (80.00)	26.79**
No	32 (52.70)	26 (86.70)	6 (20.00)	
<b>Subject of content generation (among content creators) n=28</b>				
Agriculture and allied sector	16(57.10)	4 (100.00)	12(50.00)	3.50
Agriculture and marketing	1(3.60)	0 (0.00)	1(4.20)	
Organic	11(39.30)	0 (0.00)	11(45.80)	
<b>Source of content (among content creators) n=28</b>				
Internet	1(3.60)	0 (0.00)	1(4.20)	2.61
Fellow farmers	2 (7.10)	0 (0.00)	2 (8.30)	
University/ KVK	2 (7.10)	1(25.00)	1(4.20)	
Own experience	24(82.20)	3(75.00)	20 (87.30)	
<b>Suggestions for improving WhatsApp communication</b>				
Better internet connectivity	6(10.00)	2 (6.60)	4 (13.30)	13.05*
Tariff reduction	6(10.00)	6 (20.00)	0 (0.00)	
WhatsApp usage by Line departments	16 (26.70)	5 (16.70)	11(36.70)	
Awareness on WhatsApp for farming	10 (16.70)	3(10.00)	7 (23.40)	
Reducing irrelevant message	5 (8.30)	3(10.00)	2 (6.60)	
Minimizing query response time	12 (20.00)	7 (23.40)	5 (16.70)	
Availability of low cost phone	4 (6.70)	3(10.00)	1(3.30)	
Enrolment by organizations	1(1.70)	1(3.30)	0 (0.00)	

\*\* Significant at 1 per cent level \* Significant at 5 per cent level \* Significant at 10 per cent level

**Table 2 Participation pattern of members and its association with nature of WhatsApp group**  
(n1+n2=30+30)

<b>participation pattern</b> (Continuous variable )	<b>Minimum</b>	<b>Maximum</b>	<b>M-W U test</b> (df=2)
WhatsApp usage period (Years)	0.30	10.00	209.00**
Membership in number of groups	1.00	51.00	289.50*
Admin in number of groups	0.00	14.00	334.00*
Time spent in WhatsApp (in min)	10.00	360.00	320.00*

\*\* Significant at 1 per cent level \* Significant at 5 per cent level

**Table 3 Relationship between selected variables and tendency to access and share information through WhatsApp**

(n=60)

S.No	Independent variables	B	S.E.	df	Sig.	Exp(B)
1	Type of WhatsApp group	-3.75	1.42	1	0.008	0.02**
2	Member in number of WhatsApp groups	0.22	0.11	1	0.050	1.24*
3	Admin status	-1.50	0.97	1	0.125	0.22
4	WhatsApp usage period	0.34	0.37	1	0.350	1.41
5	Internet usage period	-0.31	0.25	1	0.214	0.73
6	Relationship with members	-1.05	1.04	1	0.313	0.35
7	Role in content generation	-1.22	1.29	1	0.346	0.30
8	Age group (old)			2	0.005	
	Age group (middle)	-5.30	1.86	1	0.004	0.01**
	Age group (young)	-3.71	1.29	1	0.004	0.03**
9	Status of specialised farming	-2.02	1.16	1	0.081	0.13#
	Constant	6.31	2.68	1	0.018	552.48

Nagelkerke R Square = 0.60

\*-Significant at 5 per cent level \*\*- Significant at 1 per cent level

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