



An Analysis of Farmer's Perception Towards WhatsApp as a Farm Technology Dissemination Tools

G. Balaji ^{a++*} and M. Kavaskar ^{b#}

^a Department of Agricultural Extension, Annamalai University, Tamil Nadu, India.

^b Department of Agricultural Extension and Communication, Agricultural College and Research Institute, TNAU, Tiruvannamalai, Tamil Nadu, India.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/jeai/2024/v46i92829>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/122227>

Original Research Article

Received: 27/06/2024

Accepted: 29/08/2024

Published: 01/09/2024

ABSTRACT

Quick dissemination of technological information from agricultural research systems to the farmers and reporting of farmers' feedback to the research system has always been one of the critical inputs in transfer of agricultural technologies leading to increased production. At present the ratio of farmers to extension workers is very less. The cost factor in face to face information dissemination at the right time and the difficulties in reaching the target audience have also created the urgency to introduce Information and Communication Technology (ICT). Agricultural news and communication be spread using social media platforms popular in the farming communities [1]. Social media is essential for closing the communication gap and instantly disseminating information to anyone

⁺⁺ PG scholar

[#] Associate Professor

^{*}Corresponding author: E-mail: balajibala1510@gmail.com;

Cite as: Balaji, G., and M. Kavaskar. 2024. "An Analysis of Farmer's Perception Towards WhatsApp As a Farm Technology Dissemination Tools". *Journal of Experimental Agriculture International* 46 (9):330-35. <https://doi.org/10.9734/jeai/2024/v46i92829>.

anywhere in the world. Social media networks are used to share and discuss user-generated content such as opinions, videos, audio and multimedia. These networks are widely accessible, even in remote areas of the country. Among the many social media platforms, WhatsApp is especially useful for forming groups of people with similar interests, enabling the sharing of information. For farmers, WhatsApp has not only become a tool for information dissemination but also created a kind of support system. Hence, the present study was taken to assess the farmer's perception towards WhatsApp as a farm technology dissemination tools. In this study was conducted in Cuddalore district of Tamil Nadu with the sample size of 100 respondents. The results indicated that more than two-third (68.00 %) of the respondents had high level of perception towards WhatsApp.

Keywords: Social media; whatsapp; perception; farm technology; dissemination tool.

1. INTRODUCTION

Agriculture information is crucial for the overall development of agriculture as well as for enhancing farmers' quality of life in a dynamic and changing agricultural environment [2]. Information plays a vital role in keeping farmers abreast with the latest innovations in agriculture. The continuous global food crisis is putting unprecedented pressure on conventional farming systems and farmers to adapt to emerging technologies to increase productivity [3]. Social media are digital tools that individuals use on the internet to share and debate information with each other. An average active user spends two hours and thirty-nine minutes a day on various social media platforms.

According to the Global Statistical Report [4] in India WhatsApp have 531.46 million active users which is the highest among all social media apps. Followed by Instagram 513.92 million users, Facebook 492.70 million users and telegram 384.06 million users. There is nothing new to learn about technology in order to use WhatsApp. It provides a quick and easy means of interacting with other users. Additionally, those who don't speak English can still converse thanks to the voice messaging tool. This can assist rural residents in utilizing the advantages of social media and the internet. WhatsApp can be used to stay up to date on global events, agricultural industry news, government policies, programs and subsidies, weather predictions, farm produce market value addition and new farm equipment and technology etc., [5]. This allows for discussions about issues that farmers may be facing in relation to their farming. Suriyapriya *et al.*, [6] observed that 80.00 per cent of the farmers agreed that technological information provided by mobile agro advisory service was highly relevant to farming system

and the technological information received through mobile agro advisory service has increased the yield. About three-fifth (61.67 per cent) and marketing information received through mobile agro advisory service has increased the price of produce. In the twenty-first century, WhatsApp is one of the world's most popular communication applications, sending real-time messages. Farmers see WhatsApp as an appropriate communication application for problem resolution using audio-visuals and providing an on-time response during disasters in agriculture activities [7].

2. METHODOLOGY

Cuddalore district was purposively selected for conducting the research. On discussion with the experts in the field of statistics and Agriculture Officers of State Department of Agriculture, it was decided to select two blocks, and five villages were ultimately selected from each block. The number of respondents was limited to 10 per village, considering the number of contacts that could be made within the time available for a student researcher. Therefore, a random sample of 100 WhatsApp using farmers was selected for the study.

It would be somewhat difficult to select WhatsApp user farmers by following the normal procedure. Hence, the snowball sampling technique and secondary sources of information were used to identify WhatsApp user farmers in these selected villages. Additionally, Agriculture Officers from the State Department of Agriculture and conveners of farmers' discussion groups in the study area were consulted to enlist WhatsApp user farmers. A pre-tested interview schedule was used as the research instrument on order to collect the perception of farmers towards WhatsApp as a farm technology dissemination tool.

According to Taneja (1989) perception is the process of understanding sensation or attaching meaning based on past experience to signs. It referred to the amount to which the receiver perceives correctness, usefulness and timeliness of the information communicated through WhatsApp. The components viz., text, picture, illustration and video clipping components was constructed with the help of extension scientists, computer experts and other related field personnel. To measure the perception of respondents on WhatsApp, a list of items relating to different components were prepared. These listed items were administered to the respondents. The individual farmer was asked to state on a five -point continuum as strongly agree, agree, undecided, disagree and strongly disagree and assigned the score of 5,4,3,2 and 1 respectively. Mean was calculated based on the frequency of respondents. Based on the mean value rank was given in descending order. Frequency and percentage were calculated for the overall perception and suggestions for better utilization of the WhatsApp tool.

3. RESULTS AND DISCUSSION

Perception is the process of attaining awareness or understanding the information, where one receives, collects, makes an action for possession and apprehension with the mind. Perception quantifies the relationship between the intensity of physical stimuli and their perceptual effects.

3.1 Overall Perception

The overall perception of the respondents towards WhatsApp was studied and the results are given in Table 1.

It could be seen from the Table 1 that, more than half (68.00 %) of the respondents had high level of perception towards WhatsApp, whereas 17.00 and 15.00 per cent of the respondents had medium and low level of perception towards WhatsApp, respectively. It could be concluded

that more than half of the respondents had high level of perception towards WhatsApp. This might be due to farmers may have a high level of perception towards WhatsApp due to its role in facilitating timely agricultural information exchange and market updates. Farmers can effectively connect, exchange knowledge, and stay updated about weather, crop prices, and best practices thanks to its easy-to-use design and broad accessibility, which has helped to build a favourable opinion of it as a useful instrument for agricultural support and communication. This finding is in accordance with the findings of Kath and Mezhatu [8].

3.2 Statement Wise Perception of the Respondents towards WhatsApp

A detailed analysis on statement wise perception of the respondents towards WhatsApp are discussed in the Table 2.

The results pertaining to the perception of respondents towards WhatsApp are presented the above Table 2, it was found that the statement 'WhatsApp is a suitable platform for technology dissemination in agriculture' received first rank followed by the statements such as 'WhatsApp messages are easy to read and understand' (Rank II). This finding is similar with the findings of Sharma *et al.*, [9]. 'WhatsApp motivates to learn the new agricultural technologies' (Rank III), 'Messages shared on WhatsApp are relevant and useful to the farming' (Rank IV). This finding is similar with the findings of Kath & Mezhatu, [8]. WhatsApp promotes fast and better agriculture solutions (Rank V), 'WhatsApp saves time, money and energy of farmers' (Rank VI), 'WhatsApp motivates to adopt technologies' (Rank VII) and 'WhatsApp as a user-friendly platform for obtaining agricultural information' (Rank VIII). This aligns with findings of Naruka *et al.*, [10]. This might be due to the receiver perceives correctness, usefulness and timeliness of the information communicated through WhatsApp. This may be the probable reason for high level of perception towards WhatsApp.

Table 1. Distribution of respondents according to their overall perception on WhatsApp (N=100)

S.No.	Category	Number	Per cent
1	Low (46 – 49)	15	15.00
2	Medium (50 – 53)	17	17.00
3	High (54 – 57)	68	68.00
	Total	100	100.00

Table 2. Distribution of the respondents according to their perception about the whatsapp

S.No.	Statements	Mean score	Rank
1.	Messages shared on WhatsApp are relevant and useful to the farming	4.35	IV
2.	WhatsApp messages are easy to read and understand	4.53	II
3.	WhatsApp as a user-friendly platform for obtaining agricultural information	4.01	VIII
4.	Messages shared on WhatsApp are complete in nature	3.73	XIII
5.	WhatsApp messages have a higher practical utility	2.92	XIX
6.	WhatsApp provides up to date information	3.60	XIV
7.	WhatsApp saves time, money and energy of farmers	4.12	VI
8.	WhatsApp audio files as a convenient and efficient way to share spoken information, allowing for easy communication in areas with low literacy rates	3.32	XVII
9.	WhatsApp video files as a practical tool for demonstrating agricultural techniques and sharing real-time farming practices	3.82	XII
10.	The visual nature of WhatsApp photos as an effective means for farmers to exchange knowledge and learn from each other's experiences	3.98	IX
11.	WhatsApp increases social contact	3.43	XVI
12.	WhatsApp provided the need based information	3.57	XV
13.	WhatsApp creates awareness of modern farming technologies	3.89	XI
14.	WhatsApp motivates to learn the new agricultural technologies	4.49	III
15.	WhatsApp helps convince farmers to adopt modern technologies	3.91	X
16.	WhatsApp motivates to adopt technologies	4.09	VII
17.	WhatsApp promotes fast and better agriculture solutions	4.22	V
18.	WhatsApp as an unbiased tool for information dissemination	3.25	XVIII
19.	WhatsApp is a suitable platform for technology dissemination in agriculture	4.67	I

Table 3. Distribution of the respondents according to their suggestions in receiving information through whatsapp

S.No.	Suggestions	Response (N = 100)	
		Number	Per cent
1	More video messages than text messages	81	81.00
2	Location specific message dissemination	89	89.00
3	Text messages should be short and understandable	72	72.00
4	Video messages should be short and understandable	93	93.00
5	More messages on new/improved technologies	91	91.00

With regard to the statement 'The visual nature of WhatsApp photos as an effective means for farmers to exchange knowledge and learn from each other's experiences' (Rank IX), 'WhatsApp helps convince farmers to adopt modern technologies' (Rank X), 'WhatsApp creates awareness of modern farming technologies' (Rank XI), 'WhatsApp video files as a practical tool for demonstrating agricultural techniques and sharing real-time farming practices' (Rank XII), 'Messages shared on WhatsApp are complete in nature' (Rank XIII), 'WhatsApp provides up to date information' (Rank XIV), 'WhatsApp provided the need based information' (Rank XV), 'WhatsApp increases social contact'

(Rank XVI), 'WhatsApp audio files as a convenient and efficient way to share spoken information, allowing for easy communication in areas with low literacy rates' (Rank XVII), 'WhatsApp as an unbiased tool for information dissemination' (Rank XVIII) and 'WhatsApp messages have a higher practical utility'(Rank XIX).

3.3 Suggestions for Better Utilization

The respondents were requested to propose their valuable suggestions against constraints faced by them for making modifications to the WhatsApp use. The information regarding

suggestions made by the respondents were collected and the findings are presented in Table 3.

It is concluded from Table 3 that, majority (93.00 %) of the farmers suggested that video messages should be short and understandable followed by more messages on new/improved technologies (91.00 %), location specific message dissemination (89.00 %), more video messages than text messages (81.00 %), text messages should be short and understandable (72.00 %). Creating video content is one of the best ways to expand our reach and engage with farmers. If done correctly, a good short and crisp video can yield the multitude of benefits from boosting website traffic to increasing the adoption of scientific practices by the respondents. They also suggested to post messages on improved technologies, relevant information, location specific, short and understandable messages. If the video/text message doesn't give respondents a definite takeaway, farmers will lose their interest and approval. Hence extension agencies should try to focus on one particular idea/topic at a time. We live in an age of low attention spans and immediate gratification. Studies have shown that 90.00 per cent of the people click away from a video within first 10 seconds if the content is not engaging enough, so state Agricultural department, extension agencies, Universities and NGOs should keep the points in mind while preparing and sending the messages through social media. The findings are in accordance with Tupsoundare [11] and Anand [12].

4.CONCLUSION

It can be concluded that more than half of the respondents had a high level of perception towards WhatsApp, and that WhatsApp motivates them to learn new agricultural technologies. The WhatsApp messages were deemed understandable and appropriate by farmers, suggesting that WhatsApp's social media integration is enhancing their digital literacy and enabling them to deal with challenges related to farming more effectively. In addition to serving as a marketing tool, WhatsApp has evolved into a support system for farmers. This study indicates that farmers have a positive perception of WhatsApp as a farm technology dissemination tool.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models

(ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES

1. Ramavhale PM.1, Zwane, E.M. and Belete, A. The Benefits of Social Media Platforms Used in Agriculture for Information Dissemination. South African Journal of Agricultural Extension. 2024. 52(2);77-90
2. Mittal S, Mehar M. Socio-economic factors affecting adoption of modern information and communication technology by farmers in India: Analysis using multivariate probit model. The Journal of Agricultural Education and Extension. 2016;22(2):199-212.
3. Eremi EO, Eta HC, Eremi TO, Evey MI. Analysis of training needs agricultural extension workers on agroforestry in Cross River State, Nigeria. Global Journal of Agricultural Sciences. 2023;22 (1):71-80.
4. Global Statistical Report. India Social Media Statistics; 2024. Accessed on 05 March 2024. Available:<https://www.theglobalstatistics.com/india-social-media-statistics/>
5. Ghatare A. Utilization of WhatsApp as an information delivery tool for dairy farmers in Palghar district of Maharashtra. M. V. Sc thesis, Bombay Veterinary College, Mumbai, MAFSU, Nagpur; 2019.
6. Suriyapriya E, Kavaskar M, Santha Govind. Effectiveness of Mobile Agro Advisory Service as Perceived by the Members of Farmer Producer Organisation. Bull. Env. Pharmacol. 2018; 7(7):32-36.
7. Jayanta Dutta and Biswajit Goswami. WhatsApp in Agricultural Sector: A Potent Extension Tool. In Jayanta and Biswajit (Ed.), Impact of Social Media on Agriculture. 2020;(31-50).
8. Kath S, Mezhatu R. Perception of farmers towards mobile based extension agro advisory services in Nagaland, India.

- Journal of Extension Education. 2022;34:(2).
9. Sharma, Neha and Chaturvedi, SK, Chaturvedi, Abhimanyu and Shukla, Rashmi. Effectiveness of the use of WhatsApp for Dissemination of Ideas of Improved Crop Production Techniques. Archives of Current Research International. 2024;24(5);150-156. ISSN 2454-7077.
10. Naruka PS, Shilpi Verma SS, Sarangdevot CP. Pachauri1, Shilpi Kerketta JP. Singh. A study on role of WhatsApp in agriculture value chains. Asian Journal of Agricultural Extension, Economics & Sociology. 2017; 20(1):1-11.
11. Tupsoundare. Knowledge and utilisation behaviour of farmers regarding smartphones, M.Sc. (Ag.) Thesis, Vasantao Naik Marathwada Krishi Vidyapeeth, Parbhani; 2020.
12. Anand MS. Role of WhatsApp in transfer of agricultural technology. Master of science (agriculture) in agricultural extension and communication. M.Sc. (Ag.) Thesis. Post Graduate Institute Mahatma Phule Krishi Vidyapeeth Rahuri, Ahmednagar, Maharashtra, India; 2021.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the publisher and/or the editor(s). This publisher and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.

© Copyright (2024): Author(s). The licensee is the journal publisher. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:

<https://www.sdiarticle5.com/review-history/122227>