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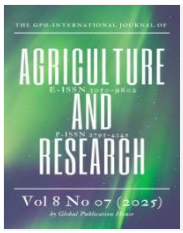

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ANALYSIS OF SOCIAL MEDIA AS AN EMERGING PLATFORM FOR ACCESS TO EXTENSION SERVICES AMONG SMALL SCALE FARMERS IN SOUTHERN TARABA-NIGERIA

By:

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Abstract:

This study analysed social media as an emerging platform for access to extension services among small scale farmers in southern Taraba, Nigeria. The major objective was to analyse social media as an emerging platform for access to extension services among small scale farmers in southern Taraba, while specific objectives were to describe the socioeconomic characteristics, identify benefits, determine ease of usage and identify constraints of using social media among the respondents. A multi-stage sampling technique was used to collect primary data from 216 farmers through a well-structured questionnaire. Data were analysed using inferential and non-inferential statistics. The Multiple Regression result revealed access to social media (0.910), social media experience (0.021), and educational experience (0.054) to be significant at 1% and income (0.413) to be significant at 5%. Also, 72.7% were males, 93.1% had 1-10 household size, 81.5% had 1-20 years farming experience and 46.8% frequently used Facebook. On benefit of using social media, disseminating information to friends, accessing information on farm inputs and accessingknowledge about agriculture activities top the list. Furthermore, 63.4% accessed agricultural extension services using Facebook easily and 56.5% accessed extension services using WhatsApp easily. Also high cost of handsets and lack of trust on information from social media were serious constraints of using social media. The study conclude that social media has emerged as a widely acceptable tool for extension services access and recommend that all stakeholders in the agricultural industry should package capacity building programmes to educate farmers on the use of social media.

Keywords:

Farmers, Social Media, Extension Services, Access and Emerging Platform.

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INTRODUCTION

Social media is internet-based technology platform that allow a group of persons to communicate and network more easily. It has the capacity of moving quickly across a community. Social Media is the most recent form of digital communication and is on a global scale. Social Media refers to the internet-based digital tools for sharing and discussing information among people. Social Media involve the user generating information, opinion, video, audio, and multimedia that is shared and discussed over digital networks (Ogunlade, 2017). Social media platforms are regarded as the powerhouse of communication and the main channel for mass marketing and broadcasting (Suchiradipta and Saravanan, 2016). Social media offers major opportunities that have the power to allow millions of small scale farmers to gain access to the same information without being prevented by geographical discrepancy and other localized constraints (Chnder*et al.*, 2018; Agwu*et al.*, 2022).

Since the introduction of social media on the global stage, communication is becoming more and more dynamic every day. Platforms like Facebook with over 2.9 billion monthly users, Whasap with over 2.7 billion active users, YouTube with over 1.1 billion users, Twitter with 316 million users, Tiktokt with over 900 users and several bloggers active users as of 2024. Communication has become more virtual than physical. More and more people – young and old, farmers and extension workers alike– are fascinated by the social media and it is a trend that is not going down very soon, we can love it, we can hate it but it can't be ignored anymore (Suchiradipta*et al.*,, 2016; Bhalchandra and Deshmukh, 2017).

There has been a major transformation of agricultural extension service accessing enabled by social media network, build on social media platforms including mobile phones and internet platforms (Ahmad *et al.*, 2018; Nyamekye *et al.*, 2021). Social media are internet-based technologies platforms that allow a group of person to communicate and network more easily. It has the capacity of moving quickly across a community (Ogunlade, 2017; Bite and Anand, 2017). Millions of small scale farmers have gained access to the best agricultural knowledge and advice through the use of social media platform as an emerging innovative platform for agricultural information dissemination. The paradigm shift from traditional to the social media digital agricultural extension has made knowledge accessible to small scale farmers in a cost-effective, fast and efficient manner (Khan *et al.*, 2020). Social media has made conventional agricultural extension system more effective in discharging its duties, especially as it concerns emergencies and agricultural risk management. This is useful for small scale farmers improved and informed decision-making process for agricultural productivity and improved standard of living (Tata and McNamara, 2018).

In Southern Taraba, agricultural sector suffers from low growth rates and low productivity due to issues of weak points of access to effective and efficient information service dissemination by extension workers to small scale farmers in agricultural supply chain. For small farmer-based economy, access to information can possibly enable better productivity and incomes to small scalefarmers. Social Media network is not only used for information sharing tool-it has also created a kind of support network among small scale farmers and extension workers. On the level of daily interaction, the social media groups are successful at

providing a sounding board of assistance and in motivating small scale farmers thereby creating an online community of farmers and farmer's related platform including small scale farmers in remote areas in southern Taraba (Heri*et al.,* 2021).

Despite the available potential and myriad of benefits of social media has to offer, coupled with the efforts of private and public organizations to connect with farmers through social media, many farmers in southern Taraba do not seem to fully leverage the potential derived from their use. This lag behind of small scale farmers in the use of social media in Southern Taraba, in a world moving towards digitalized agriculture will further reduce their relevance and competitiveness in the agricultural production space.
However, there is a dearth of research on social media usage among small scale farmers, especially in southern Taraba of Nigeria, which is one of the main hub of food production in not just Taraba state but the country at large. Therefore, as a response to all these very important views and roles of social media usage among small scale farmers in Southern Taraba, it is pertinent to analysed social media as an emerging platform for access to extension services among small scalefarmers in Southern Taraba, Nigeria.

Materials and Methods

The study Area

The study was carried out in southern Taraba, Nigeria. Southern Taraba is made up of five local government areas and one special development area. These are Ussa, Takum, Donga, WukariIbi and Yangtu special development area. The region lies between latitudes 8^0 30^0 and 9^0 30^0 N of the Equator and between longitude $8^0 30^0$ and 10^0 30^0 E of the Greenwich Meridian. It covers a land area of 14,099km^2.The National Population Commission (NPC) had projected the population estimate to 969,189 people as of 2022. The area shares boundaries with Gassol, Bali, Kurmi, Gashaka and Karim-Lamido local government area in the North, Nassarawa State and Plateau State to the North-West, Benue State in the South-West and republic of Cameroon in the South-East. The area has a tropical wet and dry seasons, well drained alluvial soil, characterised by both savannah and rain forest vegetation. It dry season last for a minimum of four months (December to March) while the wet season spans early March and late November toward the south.

Sampling Techniques

Multi stage sampling technique was adopted for this research work. The first sampling stage involved the purposive sampling of three (3) out of five (5) local government areaswith wide internet area network coverage that constitute southern Taraba. The second stage involved the random sampling of four (4) wards from each local government areas sampled in the first stage. The third stage involved the random sampling of two (2) communities (villages) out of the four (4) wards sampled in the second stage. The fourth and final stage involved the purposive sampling of nine (9) small scale farmers with smart phones from the selected communities (villages) sampled in the third stage. This gave a total of 216 small scale farmers population sample size for the study.

Method of Data Collection

Primary data was used for this study. The primary data was collected through the administration of well-structured questionnaires.

Validity and Reliability of theresearch instrument

The instrument for this study was validated by passing the research instrument through expert. In the Department of Agricultural Economics and Extension Service, Federal University Wukari to ensure that it possesses both face and content validity. The Cronbach's alpha was used to determine the reliability of the research instrument.

Data Analysis Techniques

The Data was analysed using both descriptive and inferential statistics. Data were analysed using frequency count, percentage, mean, and Likert scale and multiple regression. The specification of the multiple regression is as follows:

$Y = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + \mu$

Where:

Y = Number of Social Media Access (in Number)

X_1 = Access to Social Media (Yes = 1, No = 0)

X_2= Cost of Handset (in Naira)

X_3= Cost of Data (in Naira)

X_4= Social Media Experience (in Years)

X_5= Ease of using Social media (Yes = 1, N0 = 0)

X_6= Educational Experience (in Years)

X_7= Income (in Naira)

X_1…..X_7 = Independent variables

μ = error term.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Small Scale Farmers

The socio economic characteristics of the respondents considered in the study were gender, age, marital status, household Size, farming experience, educational experience, farm size, membership of Cooperative, access to extension services, access to financial credit and social media platform frequently used by small scale farmers. Descriptive statistics of percentage, mean and frequency were used in analyzing the socio-economic characteristics.

Table 1 shows that majority (72.7%) of the respondents were males, while 27.3% were females. This shows that more males were involved in small scale farming activities than the female in the study area. This implies that small scale farming enterprise in the study area is dominated by male since they are said to have stronger aspiration to invest in farming than females. This result is similar with Williams*et al.*, (2025) findings in which majority (84.1%) of their respondents were male in their study on use of WhasApp as emerging platform for

accessing extension services among small scale farmers in Wukari local government area of Taraba State, Nigeria.

It is revealed from Table 1 that most of the small scale farmers in the study area were between the age group of 21-40 years (61.1%) followed by 27.3% belong to 41- 60 years age group. The findings implies that most of small scale farmers in the study location are young and middle age people with high vigour and strength to deploy their willingness to use social media platform as an emerging platform for innovative agricultural extension services access for increase production. This study also implies that majority of the farmers were within their active productive years and minds set as the age mean is 36. Meanwhile, about 7.4% were of the age brackets (1-20), 4.2% were of the age bracket (61-80) with a mean age of 36 years. This result is similar to Adejo and Opeyemi (2019) findings in which majority of the farmers were in their productive years with a mean age of 36 years.

Table 1 indicated that 93.1% of the respondents which constitutes majority of the household size had 1-10 persons. This finding implies that large household size could decreases the chance of accessing agricultural extension services through social media platform. The study also revealed 6.5% has (11-20) and 0.5 percent had 21-30 person per household.

From Table 1, it is observed that 81.5% of the respondent's members had the least experience of (1-20) years of small scale farming experience with a mean experience of 13.9. Also, 16.2%of the respondents had 21-40 years of farming experience, followed by respondents with 41-60 (1.9%) and 61-80 years farming experience, constituting 0. 5%, had the most farming experience in the study area with a mean farming experience of 13.9 respectively. This finding implies that the small scale farming experience could serve as an advantage in using social media platform as an emerging platform for agricultural extension services access in the study area. This finding agreed with Sa'adu *et al.,* (2025) findings on Socio-economic factors influencing the use of Whatsapp as emerging platform for access to extension services among small scale farmers which found farming experience (X_6) as a significant variable influencing small scale farmer's utilization of social media in Wukari Local Area, Taraba State-Nigeria.

As shown in Table 1, 70.8% of the respondents had tertiary education and a majority response of 153. This result agreed with Pratik *et al.,* (2022) findings that greater proportion of 65% of farmers had tertiary education with high level of education about social media and would definitely enhance the use of social media as an emerging platform for agricultural extension access. The result implies that additional years of education enhances the use of social media as an emerging platform for accessing agricultural extension services by small scale farmers in the study area.

Table 1 shows that majority (71.8%) of the respondents had no access to agricultural extension services in the study area, while only 28.2% representing 61 respondents had access to agricultural extension services in the study area. This implies that majority of the small scale farmers may not access agricultural extension services through the use of social

media as an emerging platform for agricultural extension services dissemination in the study area.

Table 1: Distribution of Socio-economics Characteristics of the Respondent (n=216)

Variable	Frequency	Percentage (%)	Mean
Gender			
Male	157	72.7	
Female	59	27.3	
Age Groups			
<20	16	7.4	
21-40	132	61.1	
41-60	59	27.3	36
61>	9	4.2	
Marital Status			
Single	89	41.2	
Married	127	58.8	
Household Size			
1-10	201	93.1	
11-20	14	6.5	
21-30	1	0.5	
Farming Experience (Years)			
1-20	176	81.5	
21-40	35	16.2	13.9
41-60	4	1.9	
61-80	1	.5	
Educational Experience			
Non Formal Education	5	2.3	
Primary Education	10	4.6	
Secondary Education	48	22.2	
Farm Size (ha)			
1	91	42.1	
2	47	21.8	
3	31	14.4	
4	21	9.7	
5	26	12.0	
Membership of Cooperative			
No	130	60.2	
Yes	86	39.8	
Access to Extension Services			
No	155	71.8	
Yes	61	28.2	
Frequently Use Social media			
No	171	79.2	
Yes	45	20.8	

Source: Field Survey Data, 2024

Benefits of using social media among Small Scale Groundnut Farmers

The benefits of using social media among the respondents considered in this study were accessing information on farm inputs, planting date, market prices, source of loan availability, information on method of herbicides application, processing, information on weather condition, market location and knowledge about agricultural activities. Also, posting of relevant agricultural information on farmers group, dissemination of information to friends and farming families, dissemination of information on climate change, and posting of information on climate change adaptation strategies to farmers group were considered as benefits of using social media among the respondents.

Table 2 revealed a mean value of 3.63 (ranked 1st) using social media to disseminate information to friends as benefit of using social media among small scale farmers. This finding indicates that small scale farmers are using social media to disseminate information to friends and farming families in the study area. This result confirmed Mamgain and Chauhsn (2020) findings that 95% of the respondents believed social media can play an important role in bridging the gap between stakeholders in Agricultural Innovation Systems (AIS). Overall, the survey found that social media is a very useful tool in agricultural extension and rural advisory services. To quote one respondent, "Social media is not only a tool for reaching large audiences; it is also an opportunity to develop relationships."

A mean value of 3.56 (ranked 2nd) identified accessing information on farm inputs (seeds, fertilizer herbicides etc.) via social mediaas benefit of using social media among small scale farmers.This result confirm Williams *et al.*,, (2025) findings of the benefits of social media where farmers can access social media and get information assistance on accessing farm inputs such as seeds, fertilizer, herbicides, and machines. Thus, extension officers must be equipped with skills to package relevant information to disseminate to small scale farmers via the instrumentality of social media respectively.

Also, a mean value of 3.49 (ranked 3rd) indicated accessingknowledge about agriculture activities as benefit of using social media. This results implies that small scale farmers have access to knowledge about agricultural activities via social media. This finding agrees with Mamgain and Chauhan (2020) research thatsocial media are tools meant for digital communication that aids in the interaction among a group of people and acts as information exchange media across the globe. Since ages newspapers, television, and magazines have been the most used source of information in the agriculture sector.

Table 2: Benefits of Using Social Media among Small Scale Farmers

S/N	Item	Mean Score	Rank
1	Accessing information on farm inputs	3.56	2nd
2	Accessing information on planting date	3.32	10th
3	Accessing information on market prices	3.47	5th
4	Accessing information on loan availability to farmers	3.38	9th
5	Accessinginformation on herbicides application	3.31	11th
6	Accessing information on processing	3.27	12th
7	Accessing information on weather condition	3.48	4th

8	Accessing information on market location	3.38	9th
9	Accessingknowledge about agriculture activities	3.49	3rd
10	Posting relevant agricultural information	3.44	6th
11	Using social media to disseminate information to friends	3.63	1st
12	Accessing information on climate change adaptation	3.42	7th
13	Accessing climate change information on social media	3.41	8th
14	Posting climate change adaptation to farmer groups	3.23	13th

Source: Field survey data, 2024

Ease of Using Social Media among Small Scale Farmers

The ease of using social media considered in this study were having easy access toTiktok, WhatsApp, Facebook, Twitter, YouTube and Blogs. Data presented in Table 3 indicated that 63.4% find it easy to access agricultural extension services using Facebook, 56.5% had easy access to agricultural extension services using WhatsApp, 47.7% find it easy to access agricultural extension services using YouTube, 44.4% find it easy to access agricultural extension services using Twitter, 42.6% find it easy to access agricultural extension services using Blogs and 40.7% find it easy to access agricultural extension services using Tiktok social respectively. This finding implies that Facebook and whatsApp are the most popular social media application among small scale farmers in the study area.These results are similar to Pratik and Vinaya, (2022) findings that 65% of farmers had a high level of knowledge about the ease of using social media.These results confirms Bite (2017) findings that Facebook is one of the prominent social media applications for pages and profile creation. Also, Williams *et al.*, (2025) revealed that Facebook (71.7%) and whatsApp (53.3%) were the major types of social media used easily.

But YouTube videos are an excellent source of dissemination of knowledge using audio-visual aids, WhatsApp is the handy use of social media and mostly preferred for related groups. Thus, these findings implies that Tiktok, Blogs, Twitter and YouTube are the most difficult social media application that are not easy to use among small scale farmers in accessing agricultural extension services in the study area.These results on ease of using social media are similar to Suchiradipta and Saravanan(2016) findings that 95% of small scale farmers believed using social media can play an important role in bridging the agricultural information gap between stakeholders in the Agricultural Innovation System (AIS)

Table 3: Ease of Using Social Media among the Respondents (n=216)

S/N	Statement	Yes	%	NO	%
1	It's easy to access agricultural extension services using Tiktok	88	40.7	128	59.3
2	It's easy to access agricultural extension services using WhatsApp	`122	56.5	94	43.5
3	It's easy to access agricultural extension services using Facebook	137	63.4	79	36.6
4	It's easy to access agricultural extension services using Twitter	96	44.4	120	55.6
5	It's easy to access agricultural extension services using YouTube	103	47.7	113	52.3

6	It's easy to access agricultural extension services using Blogs	92	42. 6	124	57.4

Source: Field survey data, 2024

Factors Influencing Use of Social Media among Small Scale Farmers

In analyzing the factors influencing the utilization of social media among small scale farmers in the study area; the Multiple Regression function was used.Table 4 reports the factors that influence the number of social media accessed in the study area. The R^2 of 79.3% obtained indicates that the explanatory variables explained that 79.3% of the influencing number of social media accessed in the study area. The F-Value was high and significant at 1% level indicating that the model is best fit to solve the problem at hand. Access to social media, social media experience, cost of handset, educational experience and income were significant parameters.

Access to social media was positive and significant at 1% level with coefficient of 0.910 indicating that an increase in access to social media will increase number of social media accessed by 0.910. This means that having access to social media through availability of network is a paramount factor to number of social media accessed by small scale farmers in the study area. Social media experience was positive and significant at 1% level with coefficient of 0.021 opining that an additional year of social media experience by small scale farmers will increase their number of social media accessed by 0.021. This suggests that experience of one social media will prompt farmers to attempt using other social media. Cost of handset was negative and significant at 1% level with coefficient of -0.015 revealing that an additional cost on handset will reduce number of social media accessed by 0.015 depicting that when there is high cost on handset small scale farmers could not acquire handset and it will restrict small scale farmers to the number of social media to be accessed because handset is the main hardware used by small scale farmers to access social media platforms.

Educational experience was positive and significant at 5% level with coefficient of 0.054 unveiling that an increase in year of education will increase number of social media platforms accessed by 0.054. This indicates that education give small scale farmer's knowledge on basic usage of handset and subsequently their access to social media platforms. Also, income was positive and significant at 1% level with coefficient of 0.413 indicating that an increase in small scale farmer's income will increase number of social media platforms to be accessed by 0.413. This opined that income of small scale farmer is the main determinant of farmer's ability to demand for handset and subsequently put into usage for social media platforms accessibility. But the Cost of data and usability of social media were not significant at conventional level.

This finding is similar to Williams *et al.,* (2025) regression results which showed cost of social media (X_1), age (X_2) and farming experience (X_3) were significant factors influencing small scale farmers use of whatsApp social media in Wukari local government area of Taraba State, Nigeria.

Table 4: Factors Influencing Use of Social Media among Small Scale Farmers

Item	Unstandardized Coefficients		Standardized Coefficients	t-Value
	B	Std. Error	Beta	
Constant	-1.052	0.545		-1.929*
Access to Social Media (X_1)	0.910	0.296	0.150	3.075***
Social Media Experience(X_2)	0.021	0.002	0.528	10.245***
Cost of Handset(X_3)	-0.015	0.004	-0.227	-3.689***
Educational Experience (X_4)	0.054	0.023	0.125	2.345**
Cost of Data (X_5)	-0.007	0.024	-0.014	-0.292
Usability of Social Media (X_6)	-0.011	0.002	-0.004	-0.058
Income (X_7)	0.413	0.072	0.272	5.776***
F-Value				44.956
R-Square				0.793(79.3)
Adjusted R-Square				0.780

Source: Field survey data, 2024

*******Significant at 1% level, ****** Significant at 5% level and *****Significant at 10% level

Conclusion

Objective of this study was to analyze Social media as emerging platforms for extension services access among small scale farmers in southern Taraba, Taraba State, Nigeria. The finding from this study showed that in the study area, majority of the small scale framers were male, majority were married. It was revealed that majority of the small scale farmers had tertiary education. It was revealed that majority were not members of cooperative society. This study further revealed using social media to disseminate information to friends,accessing information on farm inputs, accessingknowledge about agriculture activities, accessing information on market prices and posting relevant agricultural information as benefit of using social media among small scale farmers. Furthermore, majority finds it easy to access agricultural extension services using Facebook and major had easy access to agricultural extension services using WhatsApp. The study identified access to social media, social media experience, cost of handset, educational experience and income as significant parameters.The study concluded that high cost of handsets, inadequate access to Village Extension Agents (VEA) training on social media, lack of trust on information from social media,inadequate awareness of the role of social media, high cost of data subscription andlack of knowing social media site use for farming information dissemination as serious constraint militating against accessing agricultural extension services through the use of social media among small scale farmers in the study area.

Recommendations

Based on the findings of this study, the following recommendations were made.

i. The government should increase small scale farmer's access to financial credit through the provision of soft loan and credit scheme of the Bank of Agriculture, commercial banks etc. This will enable small scale farmer's access financial resources to buy smart phones for the purpose of using social media platforms for extension services access for increased agricultural production in the study area.

ii. Extension agents should organized workshop training on how to use smart phones fo small scale farmers to maximized benefits of using social media platforms among small scale farmers thereby solving the problem of lack of technical knowhow of using smartphones by small scale farmers for accessing agricultural extension services in the study area.

iii. Researchers and technologists should develop social media platform that are tailored made for extension services access for small scale farmers. This will solve the problem of inadequate tailored made social media platform meant for extension services information dissemination in the study area

iv. The Government and wealthy individual who are interested in agricultural development should subsidization cost of smart phones and cost of data subscription for small scale farmers. This will solve the problem of high cost of smart phones and high cost of data for small scale farmers to maximized utilization of smart phones and social media platforms in the study area.

v. The conversion of scientific term into local languages for effective extension information access by rural farmers is necessary. Extension agents should simplify some of the scientific language for small scale farmers to understand. This will go a long way in solving the problem of language barrier while using social media to access extension services in the study area.

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