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ANALYSIS OF WHATSAPP AS AN EMERGING PLATFORM FOR INNOVATIVE EXTENSION SERVICE USAGE AMONG SMALL SCALE RICE FARMERS IN WUKARI LOCAL GOVERNMENT AREA, TARABA STATE, NIGERIA

***Williams, P.G[1]; Sa'adu, M[1] ; Egbeadumah, M. O[1]. and Jolly, A[2].**

[1]Department of Agricultural Economics and Extension, Faculty of Agriculture and Life sciences, Federal University, Wukari, Taraba State, Nigeria.

[2]Department of Agricultural Technology, Taraba State Polytechnic, Suntai.

Email: williamsgamfe@gmail.com Phone no: +2348160667615

Abstract

This study analysed WhatsApp as an Emerging Platform for Innovative Extension Service delivery among small scale Rice Farmers in Wukari Local Government Area, Taraba State, Nigeria. A multi-stage sampling technique was used to collect primary data from 107 small scale rice farmers through a well-structured questionnaire. The Ordinary Least Square (OLS) results shows cost of WhatsApp social media (X_1), gender (X_2), age (X_3), farming experience (X_6) and educational level (X_7) were the significant variables influencing farmers' adoption of WhatsApp. Test of hypothesis shows that there was significant association ($P > 0.05$) between the socioeconomic characteristics of the respondents and the utilization of WhatsApp for extension service access in the study area. Also, 65.4% of the respondents were males, 84.1% had tertiary education, 82.2% had smart phone, 95.3% had no access to steady network services, 93.5% lacked ability to effectively operate smart phone. The study indicated that 97.2% had no access to constant electricity supply, and 82.2 % had no active whatsApp page. Furthermore, 51.41% identified WhatsApp platform as the most frequently used, 72% had experiences in accessing agricultural information through WhatsApp, 90.7% identified activities of online scammers/yahoo boys as a major reason for not utilizing WhatsApp, 87.5 lacked access to internet coverage, 87.9 identified been computer illiterate as a reason for not using WhatsApp, while 93.5% did not used WhatsApp in the last 12 months more than 20 times. The study further ranked increased online criminal activities as a major (1st) constraint, ranked high cost (2nd) of smart phones as a major constraint and ranked 3rd inadequate awareness about the use of WhatsApp platform for agricultural information dissemination. The study concluded that there was lack of access to the WhatsApp platform among rice farmers and recommended that the cost of smart phones for agricultural extension service delivery through whatsApp should be subsided by the government for small scale rice farmers.

Keywords: WhatsApp, Extension, Service, Emerging, Platform, Innovative

1.0 Introduction

There has been a major transformation of agricultural extension service utilization enabled by whatsApp, build on Information and Communication Technology (ICT) including mobile phones and internet platforms (Nyamwkye *et al.,* 2021). Whatsapp social media are internet-based technologies, platforms that allow a group of persons to communicate and network more easily. It has the capacity of moving quickly across a community (Ogunlade, 2017). Globally, millions of farmers have gained access to the best agricultural knowledge and advice through the use of Whatsapp platform as an emerging innovative platform. The paradigm shift from traditional to the whatsApp digital agricultural extension has made knowledge accessible to farmers in a cost-effective, fast and efficient manner (Khan *et al.,* 2020).

Across Nigeria, whatsApp groups are not only connecting rice farmers to their extension workers in the virtual field, virtual community, virtual market they are creating a network of resources and support for the country's farmers who need it most (Ganesan *et al.,* 2015).

WhatsApp is one of the most popular and most widely used and can enhance the interaction among researchers, extension personnel and rice farmers. Extension agents and farmers today are hooked to the internet and their first major activity on the web is social networking (Anonymous, 2018; Klerkx *et al.,* 2019). Mobile phones WhatsApp are among the most popular form of Information and Communication Technologies as has been proven by the sheer number of subscribers worldwide. Information and Communication Technologies can be an important part of communication strategies, connecting the extension agents to rice farmers and research professionals. It is true that

the 'WhasApp won't plough the fields' but they will definitely help rice farmers do the job better. WhasApp can prove to be a great catalyst in engaging agricultural community, making agriculture attractive and sustainable again (Anonymous, 2018).

Traditional extension service delivery approaches have been ineffective due to poor funding and insufficient number of extension staff to reach out to rice farmers. WhatsApp digital mobile phone technology can be utilized to provide agricultural advisory and market information services needed by farmers (Danso *et al.,* 2018). Due to the limited number of extension agents, WhatsApp could be used in providing rice farmers with important resources that could enable them to get more information on their farm operations and also clarify issues about crop diseases (Naruka *et al.,* 2017). The number of extension workers has been decreasing while farmers numbers have been increasing; hence the need for innovative services to address this gap. The agriculture sector is becoming increasingly knowledge intensive. Researchers at the global, continental and national levels continue to generate new information. As agriculture systems become more complex, rice farmers' access to reliable, timely and relevant information sources becomes more critical to their competitiveness. Information must be relevant and meaningful to rice farmers, in addition to being packaged and delivered in a way preferred by them (Newbury *et al.,* 2014)

However, the power of WhatsApp can be harnessed and will be beneficial for the farming communities. WhatsApp can transform agribusinesses to record sales and generate revenue (Naruka *et al.,* 2017). The rising number of WhatsApp mobile phone internet usage even amongst the rural populace in Nigeria as one indicator of the "Future" train leaving the Station (World Bank, 2016). Keeping all these views in mind, this study

focused on the analysis of WhatsApp as an emerging platform for innovative extension service usage among small scale rice farmers in Wukari Local Government Area, Taraba State.

2.0 Objectives of the Study

The broad objective of this study was to analyse WhatsApp as an emerging platform for accessing extension services among small scale rice farmers in Wukari Local Government Area of Taraba State, Nigeria. The specific objectives were to ;

I. describe the socio-economic characteristics of the respondents

ii. identify social media platforms utilized by rice farmers.

iii. ascertain frequency of utilization of WhatsApp platform among small scale rice farmers in the study area.

iv. ascertain usage of WhatsApp in the last 12 months

3.0 Methodology

3.1 The Study Area

The study was carried out in Wukari Local Government Area of Taraba State. Wukari Local Government Area is located in Southern Taraba State. The Wukari people are predominantly farmers, hunters and partly fishermen, while some are civil servants. Geographically, Wukari Local Government Area is situated in the Southern part of Taraba State. Ibi Local Government Area borders it to the North, east by Gassol Local Government Area, from the south by Donga Local Government Area of Taraba State, and to the west by Ukum local government area of Benue State.

The Local Government Area has a total Landmass of 4,308 km2 (1,663 Square mile), located between latitude 7°51′ N 9°47′ E and longitude 10°E and 12°E. According to

2006 National population Census (NPC) figures, Wukari has a population of 241,546 people, projected to 374,800 people in 2022. Wukari lies on the Guinea Savannah zones vegetation, which is marked by mainly forests and tall grasses. The plain has fertile land and the consistent annual flood of the rivers and streams within the area make the land conducive for seasonal farming and grazing and all seasons fishing. These activities informed the distribution of cultural and natural resources of the area and also make Wukari LGA a very rich agricultural land. The Local Government Area has ten (10) wards. These are: Akwana Ward, Avyi Ward, Bantaje Ward, Chonku Ward, Hospital Ward, Jibu Ward, Kente Ward, Puje Ward, Rafin Kada Ward and Tsokundi Ward, respectively.

3.2 Methods of data Collection and analysis

Primary data were used for this study. The primary data were collected through the use of well-structured questionnaire. Frequency, percentages, Likert Scale, Ordinary least Square regression and chi-square were used for data analysis.

3.3 Population, Sample Size and Sampling Procedures

The population of the study comprises all small scale rice farmers in Wukari Local Government Area. A multi-stage sampling technique was employed in this study to select a sample size of 107 rice farmers in the study area. The first stage involved purposive selection of four (4) out of ten (10) council wards where small scale rice farmers are found in large numbers in the study area. The second stage was the identification of registered small scale rice farmers through the Rice Farmers Association (RFA) in the selected wards from the Wukari Local Government, Department of Agriculture. The third stage involved random sampling of small scale rice farmers from each ward based on rice

farmers population as obtained from Wukari Local Government Agricultural Department. The Fourth and final Stage involved the purposive sampling of 30 rice farmers with smart phones from Puje ward, 31 from Hospital ward, 25 from Rafin Kada ward, and 21 from Tsokondi ward respectively (Table 1)

Table 1 (a): Sample size Sampling plan

Ward	No. of Farmers	Percentage
Puje	30	28.0
Hospital	31	29.0
Rafin Kada	25	23.4
Tsokondi	21	19.6
Total	**107**	**100**

Source: Field Survey 2024.

4.0 Results and discussion

4.1 Socioeconomic characteristics of the respondents

Table 1(b) shows that majority (65.4%) of the respondents were males, most (32.7) of the respondents fell within the age range of 20-29 years, 39.3% were married, 35.5% had household size of 3-6 persons, 30.8% had 5-6 persons. It is also observed that 41.1% of the respondents had the least (1-10 years) years of farming experience, majority (84.1%) had tertiary education, majority (49.5%) had 2-3ha farm size, most (50.5%) were not members of cooperative society, 82.2% had smart phone, 95.3% had no access to steady network services, 93.5% lack ability to effectively operate smart phone while 6.5% could perfectly operate their smart phone, majority (97.2%) had no access to constant electricity supply as 82.2% did not have an active whatsApp page, about (39.3%) had a monthly income greater than N50, 000.00, with an annual income that is more than N600, 000.00, about 33.6% and 45.8% of the respondents had smart phones that cost between N50,000 – N100,000.

Table 1(b): Respondents demographic profile (n=107)

Variable	Frequency	Percent
Sex		
Male	70	34.6
Female	37	65.4
Age (year)		
20-29	35	32.7
30-39	33	30.8
40-49	28	26.2
50-59	9	8.4
60 >	2	1.9
Marital status		
Married	64	59.8
Single	42	39.3
Divorced	1	.9
Farming experience (years)		
1-10	44	41.1
11-20	23	21.5
21-30	27	25.2
31-40	6	5.6
41-50	3	2.8
51 >	4	3.7
Educational level		
Primary	3	2.8
Secondary	14	13.1
Tertiary	90	84.1
Membership of cooperatives		
Yes	53	49.5
No	54	50.5
Farm size (ha)		
0-1	25	23.4
2-3	53	49.5
4-5	23	21.5
6 >	6	5.6
Have a WhatsApp Page		
Yes	18	16.8
No	89	83.2
Cost of Smart Phone (₦)		
0	5	4.7
1-50000	22	20.6
50001-100000	49	45.8
100001-150000	25	23.4
150001-200000	5	4.7
200001-250000	1	.9
Income (₦)		
> 50,000	42	39.3
51-100,000	36	33.6
101,000-150,000	16	15.0
151,000- 200,000	6	5.6
> 201,000	7	6.5

Source: Field Survey (2024)

4.2 Various Social Media Platforms Used by Small Scale Rice Farmers

Among the various social media outlined in Table 2, WhatsApp platform was the most (51.4%) frequently used, followed by Facebook (43.9%) Table also shows that YouTube and Twitter had 1.9% of frequency usage by the respondents. But Tiktok was not used by any small scale rice farmers in the study area. This result is in line with Bhuvaneswari and Sudhandradevi (2016) who stated that WhatsApp has attracted large volume of users because of the easy chat conversation.

Table 2 Social Media Platforms Frequently Used by Small Scale Rice F

Social Media Network Platfo	Frequency	Percentage
WhatsApp	55	51.4
Facebook	47	43.9
YouTube	2	1.9
Tiktok	0	0
Twitter	2	1.9
Response	**Frequency**	**Percentage**
Yes	77	72.0
No	30	28.0
Total	**107**	**100**

Source: Field survey (2024)

4.3 Frequency of Utilisation

Data pertaining to opinion of respondents on how often they have used whatsApp as an innovative platform for agricultural information have been presented in Table 3. A majority (46.7%) of the respondents responded that they have used whatsApp always, 33.6% stated that they have used whatsApp sometimes ,while only 15.0% asserted that they have never used whatsApp in accessing agricultural information. This is in disagreement with Ganesan *et al. (*2015) that majority (62.50%) of the farmers did express that mobile voice messages were better as compared to WhatsApp sources of information that they were accessing. However, those who do not often used whatsApp always were represented by 53. 3% of the respondents, sometimes used was 66.4% representing 71 small scale rice framers and 85.0% comprising 91 respondents as shown in Table 3.

Table3: How often WhatsApp Social Media was used(n=107)

	Categories of Response					
Opinion	**Always**	**Percentage**	**Some Times**	**Percentage**	**Never**	**Percentage**
Yes	50	46.7	36	33.6	16	15.0
No	36	53.3	71	66.4	91	85.0
Total	**107**	**100**	**107**	**100**	**107**	**100**

Source: Field survey (2024)

4.4 Usage of WhatsApp platform in the last 12 months

Data presented in Table 4, clearly indicate that majority (93.5)% of the respondents has not used WhatsApp during the Last 12 months more than 20 times. This is followed by

90.7%, 79.4% and 68.2% respectively. It also shows only 31.8% of the respondents has used WhatsApp more than 20 times during the Last 12 months, 20.6% respondents has used WhatsApp 1-5 times during the Last 12 months, 9.3% of the respondents had never used WhatsApp during the Last 12 months and 6.5 per cent had used WhatsApp 16-20 times during the Last 12 months respectively.

Table 4: How Often Have You Used WhatsApp During the Last 12 Months?

	Categories of Reasons											
[illegible]	[illegible]	%	[illegible]		[illegible]	%	[illegible]	%	[illegible]	%	[illegible]	%
Yes	9	3	2	2	2	9	9	3	7	5	4	3
No	7	6	5	7	5	7	7	6	8	3	3	8
Total	**107**	**100**	**107**	**100**	**107**	**100**	**107**	**100**	**107**	**100**	**107**	**100**

Source: Field survey data, 2024

5.0 Conclusion and Recommendations

5.1 Conclusion

We cannot have more rice produced, processed, marketed and consumed unless small scale rice farmers are properly informed and equipped with the correct and current information about rice production, processing, marketing and consumption. The knowledge of the emergence of whatsApp as an innovative platform for information dissemination among small scale rice farmers is important. Thus, understanding the use of whatsApp as an innovative platform for agricultural extension information service access is critical to sustainability of the rice industry. WhatsApp has emerged as a widely acceptable media for agricultural extension information dissemination in Nigeria, and the surest way of maintaining optimum rice productivity is to ensure increased access to

timely information dissemination and accessibility by agricultural extension agents to small scale rice farmers.

5.2 Recommendations

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

1. The activities of online criminals/yahoo boys should be controlled to encourage small scale rice framers to fully utilize whatsApp as an innovative platform for agricultural information dissemination, thereby enhancing more rice production in the study area.

2.There is need to revive the informal sources of agricultural information dissemination among small scale rice farmers, as well as encourage formal agricultural extension sectors to wake up to their responsibilities in the areas of agricultural extension service information dissemination.

3. Government should endeavor to subsidize the cost of smart phones and provide every encouragement necessary to facilitate small scale rice farmers' utilization of whatsApp as an emerging innovation for agricultural extension information service access.

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