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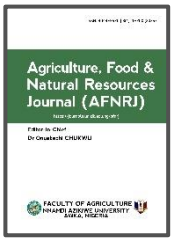

Original Article

Assessment of social media usage among cashew farmers in Kwara State, Nigeria

OPEN ACCESS

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ABSTRACT

The rapid rise in social media usage presents opportunities for cashew farmers to access market information and improve productivity. This study investigated social media usage among cashew farmers in Kwara State, Nigeria. A two-stage sampling technique was employed. In the first stage, Offa, Oyun, and Asa Local Government Areas (LGAs) were purposively selected for their high concentration of registered cashew farmers. In the second stage, proportionate sampling was used to allocate the sample size across these LGAs of the State based on their share of registered cashew farmers. Using Yamane's formula, a total sample size of 162 farmers was determined at a 6.6% precision level from a target population of 550 registered cashew farmers. Data were collected through structured questionnaires. The collected data were then analyzed using descriptive statistics and ordinal logistic regression. Findings revealed that respondents were predominantly male (56.8%), with a mean age of 41 years, and most were married (78.4%) with an average household size of 7 persons. Secondary education was the highest level attained by 40.7% of respondents, and farming experience averaged 11 years. The level of social media usage among cashew farmers was found to be moderate. However, significant constraints hindered usage, including difficulty engaging clients with a Weight Average Index (WAI) of 2.62 and limited time availability (WAI = 1.95). The study recommends targeted educational programs by agricultural extension services and investments in rural infrastructure, particularly electricity and internet connectivity, to enhance social media usage and improve market reach among cashew farmers.

KEYWORDS: *Cashew farmers, Digital skill, Social media, Usage*

INTRODUCTION

Agriculture remains the backbone of Nigeria's economy, contributing significantly to the Gross Domestic Product (GDP)and providing livelihoods for millions of rural households (World Bank, 2021). Beyond its role in food security, the agricultural sector generates foreign exchange, supplies raw materials to industries, and promotes economic diversification. Among the key cash crops in Nigeria, cashew (*Anacardium occidentale*) holds a prominent position. As the second-largest producer of cashew nuts globally, Nigeria generates significant revenue from this commodity, with Kwara State playing a major role in its production (Ajayi *et al.*, 2019). Despite its importance, cashew farming in Kwara State faces several challenges, particularly in market access. Farmers often depend on middlemen, limiting their bargaining power and reducing their profit margins (Asobie*et al.*, 2018). These constraints have fueled discussions on innovative approaches to enhance farmers' market reach and improve their incomes. Social media, with its wide-ranging applications, offers significant potential to address these challenges.

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Social media platforms such as Facebook, WhatsApp, Instagram, and X (formerly Twitter) play a crucial role in real-time information sharing, marketing, and networking within the agricultural sector. These platforms enable farmers to connect with buyers, agricultural experts, and policymakers, fostering knowledge exchange and market accessibility (Kotey et al., 2020). Each platform serves distinct agricultural functions. Facebook is widely utilized for networking, group discussions, and knowledge sharing among farmers and experts (Aker & Mbiti, 2019). WhatsApp facilitates quick information exchange, allowing farmers to receive weather updates, pest control tips, and price alerts through dedicated groups (Ospina et al., 2021). Instagram has become a powerful tool for marketing agricultural produce, enabling farmers to showcase their products through photos and videos to attract potential buyers (Adegbidi *et al.,* 2020). Meanwhile, X serves as a platform for agricultural advocacy, policy discussions, and real-time market trend analysis (Mabaya *et al.,* 2018). Beyond these functions, social media also enhances agricultural extension services by providing farmers with access to training materials and expert guidance. This, in turn, contributes to improved productivity and better market access (Saravanan *et al.,* 2020). While social media has been recognized globally as a transformative tool in agriculture, its extent of usage among cashew farmers in Kwara State is yet to be fully explored. This study investigates the extent of usage of social media among cashew farmers in Kwara State, Nigeria. Specifically, the study examines the socio-economic characteristics of cashew farmers, knowledge of social media usage among cashew farmers, extent of social media usage and constraints faced by cashew farmers on social media usage. Additionally, the study identifies key socio-economic factors influencing their extent of usage.

MATERIALS AND METHOD

Study Area

This study was conducted in Kwara State, North Central Nigeria, covering an area of 36,825 km². The state lies between latitudes 8°30' and 8°50'N and longitudes 4°20' and 4°35'E, bordered by the Republic of Benin to the west, Niger State to the north, Kogi State to the east, and Ekiti, Osun, and Oyo States to the south. It comprises 16 Local Government Areas, with Ilorin as the capital, and has a population estimated at 3,390,330 as of July 2024, representing 1.69% of Nigeria's total population. Kwara State has a tropical climate characterized by a rainy season (March–November) and a dry season (November–February), with annual rainfall between 1,000–1,500 mm and maximum temperatures of 30–50°C. The vegetation is predominantly derived savannah with forested regions in the south, making it suitable for various agricultural activities, including cashew farming (Akpenpuun, 2013).

Sampling Procedure and Sample Size

A two-stage sampling design was employed for this study. In the first stage, three Local Government Areas (LGAs) in Kwara State with a high number of registered cashew farmers Offa, Oyun, and Asa were purposively selected. In the second stage, proportionate sampling was employed to allocate the sample size across the selected Offa, Oyun and Asa, based on the proportion of registered cashew farmers in each LGA. The proportionate allocation (29.45%) for each LGA was calculated to ensure appropriate representation of registered cashew farmers in the study area. The sample size was determined using Yamane's formula at a 6.6% precision level.

Data Collection

Primary data and secondary information were utilized in this study. Primary data were collected through the use of structured questionnaires and interview schedules. The questionnaires were administered using a mixed approach, literate farmers filled them out independently, while face-to-face interviews were conducted for those who required assistance. A total of 162 respondents participated in the study. Secondary information was sourced from journals and other relevant literature.

Data Analysis

The data collected were analyzed using both descriptive and inferential statistics (ordinal logistic regression)

RESULTS AND DISCUSSION

Socioeconomic Characteristics of the Respondents

The result from Table 1 shows that more than half (56.8%) of the respondents were male while 43.2% of the respondents were female. This implies that most of the cashew farmers in the study area were predominantly male. The finding agrees with the studies which indicated that about 84.5% and 78.4% of the respondents respectively were males (Uwagboe *et al.,* 2012, Oladejo 2015). Similarly, Girei *et al.,* (2013) reported that in Africa, men are more in a crop that is perceived to have commercial value. The implication of this is that cashew farming in the study area is largely dominated by male gender and probably because cashew is a cash and perennial crop.

The mean age of the respondents is 41 years, implying that farmers are in their productive and youthful age which could lead to an increase in the production of cashews in the study area. This result partially agrees with that of Enwelu *et al.* (2014), who reported a mean age of 33.42 for cashew nut farmers in Benue State, Nigeria. While both studies indicate that cashew farming is undertaken by individuals within their active and productive years, the difference in mean age suggests possible variations in the demographics of cashew farmers across different regions.

The result revealed that 78.4% of the respondents were married, 8.0% of the respondents were single and 1.6% while 13.6% were widowed. This result is in line with that of Salau *et al.* (2017) and Girei *et al.* (2013). This implies that the majority of

the respondents were married, this is expected because married people are supposed to provide daily meals to their children.

The result on household size revealed that respondent had a mean household size of 7 members. The result is in line with a study by Salau *et al.* (2017), who reported that majority of cashew nut processors and marketers in Kwara State has relatively large household size. This result implies that majority of the households had large number of members which is an indication of availability of labor for cashew processing.

Findings from Table1 shows that 23.5% of the respondents have tertiary education, 40.7% attained secondary education, 19.1% had primary education while 16.7% of the respondents had no formal education. This implies that, the respondents are relatively knowledgeable and will be open to adopting new technology and innovations. This is in consonance with the findings of Enwelu *et al.,* 2014. The educational profile of the farmer decides the relative exposure of the farmer to latest technologies (Samaripitha *et al.*, 2016).

The result on years of experience reveals a mean farming experience of 11 years which shows that respondents had considerable years of experience which is an advantage towards production and adoption of technologies. Specifically, 58.0% of the respondents had 1– 10 years of farming experience, 25.3% of the respondents had 11 – 20 years, 13.6% had 21 – 30 years while 3.1% had above 30 years of cashew farming experience. This agrees with Samaripitha *et al.* (2016) and Enwelu *et al.* (2014), who reported that more experienced farmers are knowledgeable and more likely to adopt new techniques.

Additionally, only 11.7% of the respondents had access to credit while 88.3% did not. This suggests that farmers receive little or no support from government and non-governmental organizations. This report agrees with Okogbaa *et al.* (2018).

Knowledge level of social media usage among cashew farmers

The results in Table 2 indicate that half of the respondents (50.6%) acknowledged being aware of how to use social media for activities such as information sharing, marketing, and accessing improved techniques, while 49.4% reported no awareness. Among those aware, 21.6% demonstrated a high level of knowledge, 31.7% exhibited a medium level, and 42.7% had a low level of knowledge. These findings suggest that although many respondents recognize the potential of social media, their limited knowledge hinders effective utilization for improving agricultural practices, promoting their products, and leveraging opportunities for skill development. This aligns with earlier studies, such as Adejo *et al.* (2019), which highlighted low levels of knowledge among farmers about leveraging social media platforms for diverse purposes.

Table 1: Socio-economic Characteristics of Respondents

Socio-economic characteristics	Frequency (n=162)	Percentage (%)	Mean
Sex			
Female	70	43.2	
Male	92	56.8	
Age (years)			
<30	23	13.0	
31-40	36	25.9	
41-50	49	29.6	41years
51-60	34	19.1	
>60	20	12.3	
Marital Status			
Single	13	8.0	
Married	127	78.4	
Widowed	22	13.6	
Household Size			
>5	27	16.7	
5-10	123	75.9	7members
<10	12	7.4	
Level of Education			
No formal education	27	16.7	
Primary	31	19.1	
Secondary	66	40.7	
Tertiary	38	23.5	
Farming Experience (years)			
1-10 years	94	58.0	
11-20 years	41	25.3	11.17years
21-30 years	22	13.6	
31 years and above	5	3.1	
Access to Credit			
Yes	170	74.1	
No	59	25.9	

Table 2 Knowledge Level of Social Media Usage among Cashew Farmers

Variable	Frequency	Percentage (%)
Knowledge of social media		
Yes	82	50.6
No	80	49.4
Total	162	100.0
Knowledge level		
High	96	59.3
Medium	29	17.9
Low	37	22.8
Total	162	100.0

Extent of Social Media Usage Among Cashew Farmers

Results reveal varying extent of social media usage among cashew farmers, with Facebook weight average index (WAI) of 2.12 and WhatsApp (WAI = 2.05) being the most frequently used platforms. The widespread use of these platforms is crucial for improving market access and price information. Farmers leverage WhatsApp for real-time communication and market updates, helping them negotiate better prices and find buyers more efficiently (Arokoyo *et al.,* 2020). Similarly, Facebook enables farmers to access broader markets by promoting their products to a larger audience, facilitating direct sales and market linkages (Muthoni *et al.,* 2022). Instagram (WAI = 1.89) is moderately used, likely for showcasing cashew products to attract urban and international buyers, enhancing market visibility. In contrast, Twitter (X) (WAI = 1.72) and YouTube (WAI = 1.67) show lower usage, possibly due to platform limitations or connectivity challenges. These platforms, however, could still serve as valuable tools for marketing and price discovery if digital literacy were improved (Muthoni *et al.,* 2022).

Motive for use of social media among cashew farmers

Findings revealed a significant number of the respondents in the study revealed that their main motive for using social media was for advertisement and marketing (40.1%). Other motives recorded were improved farming technique (29.0%), education and training (18.5%), information sharing (12.3%). This is contrary to Aliyu and Alfred (2017), who reported social media to be the modern medium of communication and sharing of information among people. The study also showed the reliability of agricultural information on social media. The mean score was 2.75. specifically, 28.4% considered it to be very reliable, 38.9% considered it to be reliable, 11.7% considered it to be not very reliable while 34% considered it to be not very reliable at all. This implies that most farmers considered social media to be a reliable source for agricultural related information.

Table 3 Extent of Social Media Usage Among Cashew Farmers

Social media	Always	Rarely	Never	Weight average index	Rank
Facebook	53	75	34	2.12	1st
WhatsApp	50	70	42	2.05	2nd
Instagram	45	55	62	1.89	3rd
Twitter (X)	30	57	75	1.72	4th
YouTube	29	50	83	1.67	5th

Table 4: Motive for use of Social Media Among Cashew Farmers

Variable	Frequency	Percentage
Motive for use		
Improved farming technique	47	29.0
Advertisement/Marketing	65	40.1
Education / Training	30	18.5
Information sharing	20	12.3
Total	162	100.0
Reliability of agricultural information on social media		
Not reliable at all	34	21.0
Not very reliable	19	11.7
Reliable	63	38.9
Very reliable	46	28.4
Total	162	100.0

Constraints Associated with the Usage of Social Media

Table 5 shows the challenges cashew farmers face in the usage of social media for agricultural information. The result revealed that engaging with potential client was the most severe constraint cashew farmers face. This could be attributed to the limited time to engage with social media farmers face as well as difficulty in using the platform, which recorded high mean scores, 1.95 and 1.94 respectively. This result agrees with Ifabiyi*et al.,* 2023, who also found inadequate technical knowhow to be a major constraint to farmers' usage of social media. Other constraints recorded were High cost of data (mean = 1.62), lack of reliable internet access (mean = 1.83) and lack of mobile phones (1.62).

Table 5 Constraints Associated with the Usage of Social Media

Constraints	Severe F (%)	Not severe F (%)	Not a constraint F (%)	Weight average index	Rank
Engaging with potential clients	123	16	23	2.62	1st
Limited time to engage with social media	49	57	55	1.95	2nd
Difficulty in using the platform	69	15	78	1.94	3rd
High cost of internet data	63	23	76	1.92	4th
Lack of reliable internet access	66	3	93	1.83	5th
Lack of mobile phone	51	0	111	1.62	6th
Lack of government support	31	18	113	1.49	7th
Sociocultural factor	0	9	153	1.05	8th

Socio-economic Factors Influencing the Extent of Social Media Usage Among Cashew Farmers

Table 6 shows the socio-economic factors influencing the extent of social media usage by cashew farmers. The result revealed that age (p-value: .07), was negative and statistically significant at 10%. The negative relationship between age and usage of social media suggests that the younger the farmer, the higher the likelihood of usage of social media. This implies that the extent to which cashew farmers use social media decreases as they get older. The result agrees with a study by Katunyo*et al.,* (2018), who found age to have an inverse relationship with the extent of use of ICT tools, implying that younger farmers are more receptive to new ideas and innovations compared to older ones. Education (p-value: <.001) was positive and statistically significant at 1%. The positive relationship shows that a unit increase in education will lead to about 1.07 probability increase in the extent to which cashew farmers use social media. This means that the drive for the use of social media tools increases with higher education levels. It also implies that the more educated farmers are the more likely they are to use social media in cashew farming to a greater extent. this result also agrees with the study of Awhareno (2016)who found out that education was significant with the usage of ICT. The result also agrees with the findings of Akinpelu *et al.,* (2013) who reported that educational qualification influenced ICT utilization. Access to credit (p-value: <.001) was positive and significant at 1%. This means that a unit increase in farmers access to credit will lead to about 1.80 probability increase in the extent to which farmers use social media. This can be attributed to how credit availability helps lower production cost. Furthermore, the result revealed that farming experience with a p-value: .06 was positively significant at 10%. The positive relationship between farming experience and usage of social media suggests that farmers who have a longer farming experience are more likely to use social media. This implies that the extent to which cashew farmers use social media increases as their farming experience increases. This agrees with Samaripitha*et al.,* 2016 and Enwelu*et al.,* 2014, who reported that more experienced farmers are knowledgeable and more likely to adopt new techniques. All other factors were not significant (p-value > 5%).

Table 6 Factors Influencing the extent of Social Media Usage among Cashew Farmers

Variables	Coef.	Std. Error	Z	Sig.
Age	*-.40	.22	-1.84	.07
Extension services	.02	.64	0.03	.97
Level of education	***1.07	.32	3.31	<.001
Access to credit	***1.80	.56	3.19	<.001
Farming experience	*.05	.03	1.89	0.06
R^2 = 0.1712				

*Note: ***, ** and * implies statistical significance at 1%, 5% and 10% levels respectively.*

CONCLUSION AND RECOMMENDATION

This study found that many cashew farmers use social media, with Facebook and WhatsApp being the most popular platforms. Factors such as age, education level, and access to credit significantly influence social media usage. While social media enhances market access and price information, challenges like high data costs, unreliable internet, and limited technical skills hinder its full potential. To address these challenges, the government should collaborate with extension services to improve farmers' digital literacy through targeted training programs. Investment in rural infrastructure, particularly internet and electricity access, is crucial. Encouraging farmers to join cooperatives and providing structured support for social media adoption will further enhance its benefits. NGOs and agricultural stakeholders should also promote digital engagement through training and feedback mechanisms to maximize the impact of social media in cashew farming.

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Authors' Contributions
RYA conceptualized the study, designed the methodology, collected and analyzed the data, and drafted the manuscript. RSA provided critical revisions and contributed to data analysis. LKO assisted in literature review and manuscript editing. OJY contributed to refining the discussion and reviewing the final draft. All authors read and approved the final manuscript.

Ethical Statement
This study was conducted in accordance with ethical research guidelines. Necessary permissions were obtained, and respondents participated voluntarily after being informed of the study's purpose. Their privacy and confidentiality were strictly maintained throughout the research process.

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