
**Adoption of Social Media in Agricultural Extension: An Empirical Study of
Agriculturalists and ICT Technologists in Nigeria**

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ABSTRACT

The study sought to examine the adoption of social media in agric extension. The study was conducted in Nigeria. The population of the study comprised of all ICT technologist and the agriculturist in Nigeria. Stratified sampling technique was used to select 100 ICT technologists and 100 agriculturists in Nigeria making a total of 200 respondents that constituted the sample size for the study. The Instrument used in this study for data collection was a questionnaire titled: "Social Media and Agric Extension in Nigeria Questionnaire (SMAENIGQ). Descriptive and content validation of the instrument was carried out by an expert in test, measurement and evaluation from Nigeria to ensure that the instrument has the accuracy, appropriateness and completeness for the study. The reliability coefficient obtained was 0.80 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as independent t-test analysis. The test for significance was done at 0.05 alpha levels. Conclusion was made in the study that in the present digital age, social media such as Facebook, whatsapp, twitter, instagram, youtube, LinkedIn etc, has been the engine room that helps in facilitating business transactions in all sectors of the Nigeria economy, most especially in the agricultural sector. In addition, social media is an innovation that will explore the use of social media as an extension tool in the agricultural sector. Recommendations were also made in the study one of which is that, farmers should employ the use of social media in showcasing their product globally for easy access by the general public.

KEYWORDS: Social Media, Agric Extension, Agriculturalists, ICT Technologists and Nigeria

Introduction

Social media has been one of the important elements that has established and maintained human relations across the globe. Over time, problems among countries of the world have been attributed to a breakdown in communication. Hence, social media plays a pivotal role in the modern society, especially in the development process both in agriculture

and rural development. This makes it imperative to provide adequate, relevant and up-to-date information in order to transform agricultural production in many developing countries, Nigeria inclusive (Banmeke and Ajayi, 2008). It is difficult to create an exhaustive list of all types of social media, some of the most common social media include, weblogs, (Shortened as blogs), microblogs, social networks, Nikis and media sharing sites (Pascu, Osimo, Ulbrich and Burgelman, 2007). Social media can be a great tool for farmers to share information and build relationship with customers, social medial platforms such as blogs, Facebook and twitter are great tools for business, which can be easily used to share information about products and services. Social media is very important in creating awareness about the availability of farm produce and also used in caring for customer's satisfactions.

Social media in every society today cannot be overemphasized. Society needs social media on every aspect of life ranging from health, agriculture, commerce, business, education, etc. However, it is pertinent that Agriculture and social media fit together, social media is the platform of engagement and agriculture is the content. Social media is giving farmers and rural business voice and provide invaluable networking opportunities for continuous two-way communication with instant feedback. Agricultural programmes are key development strategies for countries with large and broadly unsophisticated agricultural base. Nigeria has adapted various strategies which include agriculture extension. This is justified by the fact that agricultural extension is getting weaker in Nigeria as a result of underfunding, neglect, and mismanagement by successive administration combined with the ineffective and expensive system which has resulted in a situation where it is difficult for agriculture to grow further in Nigeria (Oladosu, 2005).

Statement of the Problem

It is becoming an important part of the rural community with or without outside help to employ digitalization in commercial agriculture and transactions. And this digital revolution can provide a much needed boost to agriculturist in their development effort. And being at the forefront of rural development, it is very important to understand the perception agricultural extension stakeholders have towards use of social media in agricultural extension. Therefore, this material will serve as a route to the initialization of social media in the agricultural extension in Nigeria.

Objective of the study

1. To assess the extent of utilization of social media in agricultural extension in Nigeria.
2. To find out the influence of social media on the extent of success in agricultural extension in Nigeria.

Research Question

1. What is the extent of utilization of social media in agricultural extension in Nigeria?
2. What is the influence of social media on the extent of success in agricultural extension in Nigeria?

Hypothesis

H0₁: There is no significant influence of social media on the extent of success in agricultural extension in Nigeria?

Conceptual Review

Concept of Social Media

Social media is a computer-based technology that facilitates the sharing of ideas, thoughts, and information through the building of virtual networks and communities (Maya, 2020). Social media refers to interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. Social media are interactive digitally mediated technologies that facilitate the creation or sharing/exchange of information, ideas, career interests, and other forms of expression via virtual communities and networks (Kietzmann, & Kristopher 2011). Social media is any digital tool that allows users to quickly create and share content with the public. Social media encompasses a wide range of websites and apps. Social media refers to websites and applications that are designed to allow people to share content quickly and efficiently (Matthew 2020). Many people access social media through smartphone apps, this communication tool started with computers, and social media can now refer to any internet communication tool that allows users to broadly share content and engage with the public.

Social media is the term often used to refer to new forms of media that involve interactive participation. Often the development of media is divided into two different ages, the broadcast age and interactive age. In the broadcast age, media are almost exclusively centralized where one entity such as radio or television station, newspaper company, or a movie production studio distribute messages to many people. Feedback to media outlets was often indirect, delayed, and impersonal. Mediated communication between individuals typically happened on a much smaller level, usually via personal letters, telephone calls, or sometimes on a slightly larger scale through means such as photocopied family newsletters (Manning 2014). Now a day's social media has been the important part of one's life from shopping to electronic mails, education and business tool. Social media plays a vital role in transforming people's life style. Social media also includes social networking sites and blogs where people can easily connect with each other. Since the emergence of these social networking sites like Twitter and Facebook as key tools for news, journalists and their organizations have performed a high-wire act (Asough, 2012). These sites have become a day to day routine for the people. Social media has been mainly defined to refer as many relatively inexpensive and widely accessible electronic tools that facilitate anyone to publish and access information, collaborate on a common effort, or build relationship. Social media connect different races and making distant communication reachable in a shortest period of time. It has been trends already around the world to maximize the utilization of social media through variety of information sites. with motivating features, essentialities and importance, there is a growing number of users interacting with online social networks (Stock, 2018).

Concept of Agriculture

Agriculture is the most comprehensive word used to denote the many ways in which crop plants and domestic animals sustain the global human population by providing food and other products. The English word agriculture derives from the Latin ager (field) and colo (cultivate) signifying, when combined, the Latin agricultura: field or land tillage. But the word has come to subsume a very wide spectrum of activities that are integral to agriculture and have their own descriptive terms, such as cultivation, domestication, horticulture, arboriculture, and vegeculture, as well as forms of livestock management such as mixed crop-livestock farming, pastoralism, and transhumance. The term agriculture is occasionally restricted to crop cultivation excluding the raising of domestic animals, although it usually implies both

activities. The Oxford English Dictionary (2001) defines agriculture very broadly as “The science and art of cultivating the soil, including the allied pursuits of gathering in the crops and rearing live stock (sic); tillage, husbandry, farming (in the widest sense).” In this entry, we too use the term in its broadest, inclusive sense. There is need to clarify much agricultural terminology to avoid confusion (Harris 2007), particularly because the multidisciplinary nature of research on the subject leads to many concepts being used that derive from disparate disciplines; principally archaeology, anthropology, biogeography, genetics, linguistics, and taxonomy.

Concept of Agriculture Extension

Agriculture extension is the application of scientific research and new knowledge to agricultural practices through farmer education. The field of 'extension' now encompasses a wider range of communication and learning activities organized for rural people by educators from different disciplines, including agriculture, agricultural marketing, health, and business studies (Wikipedia 2018). Agriculture extension is the service that provides technical advice to farmers, helps farmers acquire required inputs including credit for farming, provides training and evaluates new agricultural technologies on farmers' fields in close collaboration with farmers, helps link farmers to supply chain and markets, forwards farmers' concerns and problems to decision makers and thus helps in formulation new and favorable agricultural policies suitable for different regions (Vethaiya & Kelly 2016).

Agriculture Extension is one of the program areas of research and study of the cooperative extension service that is charged with the duty and responsibility to take research from the land-grant university system, out to the people of the state they serve. Each state got a land grant from the federal government to develop a university and hence the term land grant. The cooperative part comes into play because it brings together resources from local, state, and federal resources into one functioning unit that is tied together under USDA. The other program areas are Family and Consumer Science, Youth Development (4-H), and Community Development. There may not be a full staff with the representation of each program in every county, but there are resources available in each county from each program area. Agriculture extension is essentially the means by which new knowledge and ideas are introduced into rural areas in order to bring about change and improve the lives of farmers and their families (FAO 2019). Agriculture Extension, therefore, is of critical importance. Without agricultural extension, farmers would lack access to the support and services required to improve their agriculture and other productive activities.

Roles of Social Media

The role of social media is primarily to connect people. It is a tool designed to connect people from all across the globe. The secondary function is to connect those people with ideas, services, products, and answers they may be searching for. Social media can provide businesses with a means of building relationships with clients and customers. Ambitious individuals can find the means to become entrepreneurs. And businesses can seek out and connect with other businesses to collaborate and share knowledge. While social media's main role is that of communication, there is so much more that it offers.

- ❖ **Reach a Larger Audience:** The reach of social media is overwhelming i.e. According to Wikipedia 3.2 billion have access to the internet and with over 2.32 billion monthly active users on Facebook. With the click of a mouse, you have the potential to reach billions of people Alao (2020)

- ❖ **Brand Awareness:** One major reason why you need social media is it makes brand awareness easier. For an entrepreneur just starting a business, may come to understand that, only a few persons have knowledge about his product-which may include friends, family members and probably neighbours, there are still billions of untapped traffic out there, what happens to them... the good news is, that's where social media comes in play. Take a second and think about this, how many times have you seen a brand for the first time on a social media post and a few days/weeks later you see that same brand in a shop...frankly, you are likely going to try it out, especially if you don't see the brand you came for. Having a social media presence puts you in a better position over competitors that are not taking advantage of social media platforms.
- ❖ **Feedbacks:** Feedbacks are good for any business; it gives room for improvement on a product or service. Businesses that interact with their consumers are likely to do better and the best way to get feedback is through social media platform-should know not all feedbacks will be free from prejudice but just have to filter and know the most common criticism. Getting feedback about your product from consumers through social media platforms is easier than you think with social media platforms such as Twitter, Instagram, YouTube, Facebook, LinkedIn are making it easy for businesses to connect with customers.
- ❖ **Cost Effective:** There is a belief that something free might be taken for granted, which might be true because having a social media account is easy and free to use. If you know how to strategically create your campaign on social media, you will be able to reach thousands of people for a fee less than \$20 doing but trying to get the same reach through an offline campaign will cost far more. Businesses with social media presence will automatically drive traffic to their website through social media platforms. If you provide a link to your site on Twitter, Instagram or LinkedIn page or post, you will get some clicks on that post which will land customers to your website or blog.

Table 1: Applications of Social Media in Agricultural Extension

Type of platform	Target users	Functions	Advantages	Limitations
Social networking sites	Literate farmers, extensionists, gripreneurs, development practitioners, consumers	Enabling farmers and others to gain a voice” Enabling collaboration, sharing and partnerships for innovation among extension actors Offering localized and customized information, advisory and other services Helping to create, document, store, retrieve, share and managethe information Facilitating capacity development of farmers, extensionprofessionals and other AIS actors	High media richness Scope of peer toper communication is very high Easy content creation and sharing Capacity development	Illiteracy

Blogs and vlogs	Literate farmers, extensionists, agripreneurs, development practitioners, consumers	Enabling farmers and others to gain a voice” Offering localized information, advisory and other services Helping to create, document, store, retrieve, share and manage the information Facilitating capacity development of farmers	Users can share experiences, stories and their views in details and discuss them with audiences Capacity development	Technical and educational Illiteracy Unavailability of highspeed internet connection and recording equipments
Micro-blogs	Literate farmers, extensionists, agripreneurs, development practitioners, consumers	Enabling farmers and others to gain a voice” Offering localized and customized information, advisory and other services Facilitating capacity development of farmers, extension professionals and other AIS actors	Short messages can have higher impact Capacity development to some extent	Illiteracy Word limit can hinder discussions
Collaborative projects	Literate farmers, extensionists, agripreneurs, development practitioners, consumers, researcher, academicians, policy makers	Enabling collaboration, sharing and partnerships for innovation among extension actors Helping to create, document, store, retrieve, share and manage the information	Broad based content due to involvement of many users	Illiteracy Unauthentic information
Social bookmarking	Literate farmers, extensionists, agripreneurs, development practitioners, consumers, researcher, academicians, policy makers	Helping to create, document, store, retrieve, share and manage information	Rich source of information on specific topic	Illiteracy
Content communities	Farmers, extensionists, agripreneurs, development practitioners	Facilitating capacity development of farmers, extension professionals and other AIS actors Enabling collaboration, sharing and partnerships for innovation among extension actors Offering localized and customized information, advisory and other services Helping to create, document, store, retrieve, share and manage the information	Technology transfer Capacity development of AIS actors Training of farmers and extensionists through videos	Data charges and accessing device can be a limitation
Forums, discussion boards and groups	Literate farmers, extensionists, agripreneurs, development practitioners, consumers, researcher, academicians, policy makers	Helping to create, document, store, retrieve, share and manage the information	Highly useful for discussion and content sharing Capacity development	Illiteracy

Socially integrated messaging platforms	Literate farmers, extensionists, agripreneurs, development practitioners, consumers, researchers, academicians, policy makers	Offering localized and customized information, advisory and other services Helping to create, document, store, retrieve, share and manage the information Enabling farmers and others to gain a voice”	Interest and peer groups can be formed Media richness is high	Illiteracy Limited scope of adding diverse actors
Professional networking	Researchers, academicians, policy makers	Helping to create, document, store, retrieve, share and manage the information Facilitating capacity development of researchers and academicians	Important for faster dissemination of research findings Professionalism can be maintained	Not all stakeholders can be included in the discussions
Social news	Researchers, academicians, policy makers, extensionists, farmers	Offering information	Discussion on information can be carried out	Illiteracy Limited scope in AEAS

Modified from the classification of Kaplan and Hainle in (2010).

Another way that businesses use social media is through posting articles and quotes that relate to their niche, as well as other unique ideas. These kinds of pieces of content will entice and intrigue your audience and will result in them researching further about your brand and exploring your website (increasing traffic to your website). Social media connect different races and making distant communication reachable in a shortest period of time. It has been trends already around the world to maximize the utilization of social media through variety of information sites. It is a very useful vehicle to gather data addressing the need of the internet citizens (netizens) in this contemporary era. With motivating features, essentialities and importance, there is a growing number of users interacting with online social networks (Stock, 2018). In the present digital age, social media such as Facebook, WhatsApp, Twitter, Instagram, YouTube, LinkedIn etc, has been the engine room that helps in facilitating business transactions in all sectors of the Nigeria economy, most especially in the agricultural sector. The roles of social media can never be overemphasized in our present era.

Roles of Agriculture Extension

Agricultural extension programmes have been one of the main conduits of addressing rural poverty and food insecurity. This is because, it has the means to transfer technology, support rural adult learning, assist farmers in problem-solving and getting farmers actively involved in the agricultural knowledge and information system (Christoplos & Kidd 2000). Extension is defined by FAO (2010) as; “systems that should facilitate the access of farmers, their organizations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and assist them to develop their own technical, organizational and management skills and practices”. By this definition, an extension is deemed as a primary tool for making agriculture, its related activities as well as other economic activities more effective and efficient to meet the needs of the people. It is, therefore, regarded as a policy tool for promoting the safety and quality of agricultural products. Agricultural extension is aimed primarily at improving the knowledge of farmers for rural development; as such, it has been recognized as a critical component for technology transfer. Thus, agricultural extension is a major component to facilitate development since it plays a starring role in agriculture.

Bonye et al (2012) argued that extension provides a source of information on new technologies for farming communities which when adopted can improve production, incomes

and standards of living. Extension service providers make an innovation known to farm households, act as a catalyst to speed up adoption rate and also control change and attempt to prevent some individuals in the system from discontinuing the diffusion process (Alemu et al 2016). In reaching farmers, extension officers demonstrate a technology to farmers but with much concentration on early adopters since the laggards would learn later from the early adopting farmers. Through extension services, farmers' problems are identified for further investigation and policy direction. Swanson (2008) argued that extension service goes beyond technology transfer to general community development through human and social capital development, improving skills and knowledge for production and processing, facilitating access to markets and trade, organizing farmers and producer groups, and working with farmers towards sustainable natural resource management. Where market failures such as limited access to credit and non-competitive market structures that provide a disincentive to farmers to produce exist, extension services tend to provide solutions.

Major Issues of Social Media in Agricultural Extension

Information and Communication Technologies [ICT] are important elements in promoting connectivity among the community in contemporary society (Bin-Abbas and Bakry 2012). Farmers in developing countries, in particular, constitute economically and geographically marginalised groups (Cecchini and Scott 2003). These vulnerable rural populations are at risk of digital exclusion and thereby social exclusion (Warren, 2007). Several ICT initiatives face challenges like affordability, simplicity, accessibility, scalability, relevant and localised content in inappropriate language and form (Keniston 2002; Dossani et al 2005; Glendenning et al (2010). However, current mobile usage pattern is leapfrogging in developing countries such as India (Watkins et al 2012) and ensure use of the affordable mobile internet, utilisation of social media by information poor, particularly older, less educated, less affluent people. This, a new wave of ICT innovations had a lesser barrier in terms of skills and cost to the farmer and can be the decisive factor of ICT adoption process in agriculture. The use of smartphones in agriculture becomes even more important as farmers are constrained to travel in gaining necessary information or for using available public services in their disposition (Chatzinotas et al 2006; Ntaliani et al (2008). The access to a Smartphone has a positive significant influence on gaining agricultural knowledge among farmers by smallholder farmers in India (Landmann et al 2017).

Major issues of using social media that were identified from an extensive literature review and the global survey are:

- *Cyber insecurity*: Due to the fraudulent society we are into, most farmers are duped by some internet fraudsters who claim ownership of products that does not belong to them.
- *Farmer level of literacy*: Not all farmers are educated and as such, limit them from using social media.
- *Lack of skills and competency among extension personnel*: Social media are comparatively new medium of communication and even though more and more young people are using them, the online presence of the older generation is still low, especially in rural areas of developing countries. In India, women and older men constitute 27 per cent of the social media users in urban India and in rural areas, the trend is lower (Bhargava, 2015). Field level extension personnel of these areas also fall in this group and because of their low levels of skill and competency in using social media, they altogether prefer to avoid using them. In the global survey too, lack of skill and competency in using social media to effectively communicate with clients is an issue that came up again and again in the comments of the respondents. Basic skills in using social media are particularly easy to

acquire for anyone with regular use of these tools. Expertise is difficult due to constant evolution of the platforms and integration of new features (Andres and Woodard, 2013), but it is neither very much necessary nor important for day to day communication purposes.

- *Organizational guidelines:* Social media use by individuals and organizations are completely different. While for individual users posting opinions and views have the luxury to be random and 'personal', for organizations, following some norms is important to maintain the quality of information shared. To utilize the potential of social media platforms, building a following is the first step for organizations to ensure successfully reaching the intended audience by building trust and reputation in a community of users. Especially for organizations in AEAS, content shared is considered as opinions of the organization and so being credible, professional and respectful to the target audience is very much important. Also, politically correct content sharing to avoid unwanted controversy is another important aspect and all these intensify the need of social media policies and guidelines at organizational level. This gives a clear norm for the organization as a whole and persons representing the organizations on how to conduct online so that the organization's reputation will not be harmed. Social media is constantly evolving and so is the interaction pattern online and this necessitates an adaptable policy guideline to accommodate new changes and keep pace with the continuing evolutions. Kevin Gamble, an academic from USA opined that Social media is not necessarily a tool for reaching large audiences. It is an opportunity to develop relationships. In this regard, organizations need a much more coordinated strategy to reach scale" (Gamble, 2015).

- *Infrastructure:* Proper physical infrastructure needs to be in place for getting access to social media and utilization of information in farm life, if access is possible. Lack of mobile networks or poor connectivity, faulty internet connections, high data charges, low bandwidth limits the access of social media to a large extent. Joseph Sekiku, a member of civil society organization from Tanzania, expressed the same problems "We still have a lot to do to better use social media in least developed country like Tanzania, where problems of poor and costly internet connection are big problems along with lack of awareness and expertise" and these are not just the problems of Least Developed Countries (LDCs) but developing countries as well (Sekiku, 2015). The problem is more than that though. Even if access to information is possible, generic infrastructural issues in developing countries leave very little scope for rural community to practically implement them. Access to markets, road and transportation, storage facility, access to credits, input availability are still major issues that needs to be addressed before putting much hype into social media use.

- *Training needs:* Training extensionists, farmers, and other actors in using social media is important to impart required skills to efficiently use them. At present, an important force that is stopping more people at rural level from using social media are psychological barriers and concerns that arise due to lack of knowledge about how social media works. In the global survey, 26 per cent of the respondents have specifically mentioned the need for trainings, awareness programs, and workshops to properly understand social media and use it professionally. Proper trainings, workshops, and awareness programs can take care of these concerns helping them understand and use social media better. Training is also needed at top level of hierarchy in AEAS organizations to make social media policy guidelines more encouraging to its use. When organizations use social media profusely to communicate with their clients, the trickle down effect on rural people will encourage them to take it up to stay updated. And to encourage this positive attitude and behaviour towards social media at individual and institutional level, training need of users needs to be addressed immediately.

- *Knowledge management:* The term knowledge management was for the first time introduced at a European Management Conference by International Labour Organization (ILO) in 1986. It refers to acquisition, recording, organizing, storage, dissemination, and

retrieval of information. The process requires collection of information from one or more sources and its distribution to many so that it can be acquired at the right time in the right format by any user (Mondal, 2013). Social media helps in all the functions with varying degrees of efficiency. While features like hashtags and tweet lists make collecting, organizing, and storing information easier, dissemination of information is the special advantage of social media. Due to the huge amount of content generated every minute in any given platform, retrieving the right content may become time consuming though. Other than that, information shared in interest groups also gets automatically archived. Facebook provides special features of saving content by users on their profile for easy locating and retrieval after a considerable time lapse. Using the features that all the social media platforms have to offer in varying degree of effectiveness, knowledge management can be made much easier on social media for users.

- *Attitude towards social media:* Social media is still a novel idea to many so people hesitate, feel shy, avoid going public, and don't take it seriously. But slowly many are realising it is worth investing time in social media to remain updated and socially and professionally relevant" (Chander, 2015). Due to lack of understanding on working of social media, privacy concerns, and control of digital footprint, many researcher, extensionists and academics host a feeling of negativity towards social media. Along with that, many a times, individuals use social media personally but avoid using it professionally either due to lack of interest or awareness. And age is a factor that sometime affects the attitude towards social media and some-times don't. Popularizing social media needs awareness and training for each stakeholder. Understanding the incentives of communicating through social media first hand can play a critical role in increasing its use. Also, as Nallusamy Anandaraja, a researcher from India, points out social media needs more research on usage, hands on exposure of extension personnel, and studies on potential impact of various tools as too many tools may be confusing" (Anandaraja, 2015) to understand and promote the use of social media to bring a positive attitude about its use among the stakeholders of AIS.

- *Engaging rural community:* The most important part of using social media in AEAS is engaging the rural community continuously. Social media is all about user engagement and involving the rural community in the platforms needs strategic planning. While using multiple social media platform can be confusing to rural clients, it may also result in redundancy of efforts in communicating single information, (Madan, 2015). Choice of social media platforms needs to consider client preference as well as content. As social media platforms are evolving, content support is becoming a minor problem, making user preference the most important consideration. Also, target users' needs to be selected beforehand depending on prior exposure to social media, frequency of use, and comfort level on the platforms so that their engagement will be high.

Method

Descriptive survey design was adopted for the study. The study was conducted in Nigeria. The population of the study comprised of all ICT technologist and the agriculturist in Nigeria. Stratified sampling technique was used to select 100 ICT technologists and 100 agriculturists in Nigeria making a total of 200 respondents that constituted the sample size for the study. The Instrument used in this study for data collection was a questionnaire titled: "Social Media and Agric Extension in Nigeria Questionnaire (SMAENIGQ). Descriptive and content validation of the instrument was carried out by an expert in test, measurement and evaluation from Nigeria to ensure that the instrument has the accuracy, appropriateness and completeness for the study. The reliability coefficient obtained was 0.80 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for

this study to appropriate statistical techniques such as independent t-test analysis. The test for significance was done at 0.05 alpha levels.

Results

Research Questions 1: The research question sought to find out the extent of utilization of social media in agricultural extension in Nigeria. To answer the research question, percentage analysis was performed on the data, (see table 1).

Table 1: Percentage analysis of the extent of utilization of social media in agricultural extension in Nigeria

EXTENTS	FREQUENCY	PERCENTAGE
VERY HIGH EXTENT	62	31**
HIGH EXTENT	51	25.5
LOW EXTENT	46	23
VERY LOW EXTENT	41	20.5*
TOTAL	200	100%

** The highest percentage frequency

* The least percentage frequency

SOURCE: Field survey

The above table 1 presents the percentage analysis of the extent of utilization of social media in agricultural extension in Nigeria. From the result of the data analysis, it was observed that the highest percentage (31%) of the respondents affirmed that the extent of utilization of social media in agricultural extension in Nigeria is very high, while the least percentage (20.5%) of the respondents stated that the extent of utilization of social media in agricultural extension in Nigeria is very low.

Research Question 2: The research question sought to find out the influence of social media on the extent of success in agricultural extension in Nigeria. In order to answer the research question, descriptive analysis was performed on the data collected as shown in table 2.

Table 2: Descriptive statistics of the influence of social media on the extent of success in agricultural extension in Nigeria

Variable	N	Arithmetic mean	Expected mean	R	Remarks
Success	200	19.18	12.5	0.73*	*Moderately strong Relationship
Social Media		18.03	12.5		

Source: Field Survey

Table 2 Present the result of the descriptive analysis of the influence of social media on the extent of success in agricultural extension in Nigeria. The two variables were observed to have moderately strong relationship at 73%. The arithmetic mean as regards Success (19.18) was observed to be greater than the expected mean score of 12.5. In addition to that, the arithmetic mean for Social media (18.03) was observed to be higher than the expected mean score of 12.5. The result therefore means that there is remarkable influence of social media on the extent of success in agricultural extension in Nigeria.

Hypothesis Testing

The null hypothesis states that there is no significant influence of social media on the extent of success in agricultural extension in Nigeria. In order to test the hypothesis, regression analysis was performed on the data, (see table 3).

TABLE 3: Regression Analysis of the influence of social media on the extent of success in agricultural extension in Nigeria

Model	R	R-Square	Adjusted R Square	Std. error of the Estimate	R Square Change
1	0.73	0.54	0.53	0.90	0.54

*Significant at 0.05 level; df= 198; N= 200; critical R-value = 0.139

The table shows that the calculated R-value 0.73 was greater than the critical R-value of 0.139 at 0.5 alpha levels with 200 degree of freedom. The R-Square value of 0.54 predicts 54% of the influence of social media on the extent of success in agricultural extension in Nigeria. This rate of percentage is highly positive and therefore means that there is significant influence of social media on the extent of success in agricultural extension in Nigeria. It was also deemed necessary to find out the influence of the variance of each class of independent variable as responded by each respondent (see table 4)

Table 4: Analysis of variance of the influence of social media on the extent of success in agricultural extension in Nigeria

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	186.91	1	186.91	228.51	.000 ^b
Residual	161.96	198	0.82		
Total	348.88	199			

a. Dependent Variable: Success

b. Predictors: (Constant), Social Media

The above table 4 presents the calculated F-value as (228.51) and the critical f-value as (.000^b). Being that the critical f-value (.000^b) is below the probability level of 0.05, the result therefore means that there is no significant influence exerted by the independent variables social media on the dependent variable which is success. The result therefore means that there is significant influence of social media on the extent of success in agricultural extension in Nigeria. Therefore, the result is cognate to the research findings of Pascu, Osimo, Ulbrich and Burgelman (2007), social media is a great tool for farmers to share information and build relationship with customers, social medial platforms such as blogs, Facebook and twitter are great tools for business, which can be easily used to share information about products and services. Social media is very important in creating awareness about the availability of farm produce and also used in caring for customer's satisfactions. The significance of the result caused the null hypotheses to be rejected while the alternative was accepted.

Conclusion

The study concluded that in the present digital age, social media such as Facebook, whatsApp, twitter, instagram, youtube, LinkedIn etc, has been the engine room that helps in facilitating business transactions in all sectors of the Nigeria economy, most especially in the agricultural sector. The roles of social media can never be overemphasized in our present era. It was also discovered that agricultural extension is aimed primarily at improving the knowledge of farmers for rural development; as such, it has been recognized as a critical

component for technology transfer. Thus, agricultural extension is a major component to facilitate development since it plays a starring role in agriculture. Finally, social media in agriculture is an innovation that will explore the use of social media (You tube, Face book, Twitter, etc.) as an extension tool in the agricultural sector. Therefore, the study reveals that there is significant influence of social media on the extent of success in agricultural extension in Nigeria.

Recommendations

Based on the study, the following recommendations were drawn.

1. Farmers should employ the use of social media in showcasing their product globally for easy access by the general public.
2. Because of high level of cybercrime in our society, illiterate farmer should be careful of internet fraudsters.
3. Regular training should be employed for uneducated farmers on the use of social media.

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