



Establishing Connections and Networking: The Role of Social Media in Agricultural Research in Nigeria

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Abstract:

Agriculture is important to Nigeria's economy, as it engages about 70% of her labour force and contributes over 40% of the Gross Domestic Product (GDP). The need for current and relevant information by professionals in this sector for sustainable agricultural production is a crucial issue for the nation. Information communication technology facilities are greatly influencing how information is sourced and disseminated these days, and the latest trend is to use social networking sites. This study therefore examines whether agricultural researchers in Nigeria use social media as a means of networking and collaboration in their endeavours as researchers in the agricultural industry. The study was conducted among agricultural researchers in six agricultural research institutes and a university of agriculture in south-west Nigeria. Questionnaire was the main instrument of data collection. 140 copies of the questionnaire were administered to the target audience and 101(72%) copies were returned and used for the study. The findings reveal that majority of the respondents are middle aged, while the most used social media among agricultural researchers in Nigeria is Facebook. Their major reason for using social media is to establish connection with their professional colleagues. The major benefit derived from using social media is exposure to the latest skills and knowledge in their profession. Recommendations are also proffered to encourage effective use of social media for networking and communication of research results among agricultural scientists in Nigeria.

Introduction

Nigeria is often described as a predominantly agricultural society. This is because 70% of her population still engage in agriculture. Even though more than 70% of this population still operate on a subsistence level, the importance of agriculture to Nigeria as a nation lies in the fact that it contributes over 40% of the Gross Domestic Product (GDP). Hence, successive governments have continued to invest in the agricultural sector in order to boost agricultural production. In 2008, for instance, the Federal government of Nigeria spend twenty-four billion naira on agricultural research and development (ASTI, 2010). Various governmental and academic agencies are also involved in agricultural research (Flaherty, Ayoola, Ogbodo and Beintema, 2010). Despite this, the sector is yet to live up to expectations. One of the factors said to be responsible for this is poor communication of agricultural research results.

In every human society, communication is important because it is a means through which man interacts and makes meaningful relationships. Hence, communication among professional groups, friends and associates gives room for people to define their collective interest, identities and common goals. The Longman Dictionary of Contemporary English defines the word “connect” as joined together. It is a known fact that if two people or events are joined together they will definitely affect each other -no wonder the adage “two heads are better than one”. The Holy Book of Christians even confirms this when it says that one will chase a thousand, while two will put ten thousand to flight. This therefore suggests that no man can stand aloof.

Individuals and professionals across disciplines therefore establish connections with one another for diverse reasons. These reasons include avoidance of loneliness, exchange of ideas or information, mentoring and career development. The connection formed between two or more people is often referred to as networking, while the group formed is a network. With the introduction of information technologies, networking among different groups has been made easier through Internet connectivity and this is being exploited by people in every walk of life, including agriculture.

Prior to the advent of information technology, a study by Dudu and Anyanwu (2009) reveals some mediums of communication used for connection and networking in agricultural circles in Nigeria. These include folk songs, town crier, farm size, relations and association. Agricultural research findings and reports were passed down to farmers through the use of town criers, posters, radio, newspapers and television. The scenario with agricultural researchers is

different from this. This is because agricultural researchers connect and share information pertaining to their research findings and experiences at seminars, workshops and annual conferences. However, this medium of connection was limited in nature as it could not cover large audiences and may not have tackled the challenges of on-going individual or institutional research work. Furthermore, these channels did not allow for the individual's prompt contribution, positive criticism or a platform for global discussion.

The evolution of social media (SM) provided a visible solution to this challenge. This is premised on the fact that social media enables blogging, tagging, discussion, networking, and so on. Since the past decade, social networking sites have become a mainstream cultural phenomenon (Boyd and Ellison, 2007), and Agricultural Researchers (ARS) have caught a glimpse of the tremendous role social media and even mobile phones can play in establishing connections, facilitating dissemination of agricultural research findings and exchange of information. SM has, therefore, become extremely popular because it allows people to connect in the online world to form a group, a forum and a community where ideas and information can be exchanged without any geographical barrier. Thus, SM is useful for everything from keeping in touch with friends to dating, to research collaboration and political activism. CIARD (2009) emphasises that "SM is a shift in how people discover, read and share news, information and content; it supports the human need for social interaction with technology, broadcast media monologues ... into social media dialogues"

The use of SM is rapidly spreading among different professionals, including librarians, lawyers, doctors, marketers and researchers to mention a few. This is because it has different applications that enable fast connection and networking irrespective of the geographical location.

The role that social media play in the agricultural research community cannot be overlooked. It allows researchers to get feedback on research outcomes at their fingertips. It proffers a fast platform for information dissemination. It has broken down the physical barriers in reaching one another and extended the mileage of exposure from one-to-one-person, one-to-many-persons, and many-to-many-persons instant dialogues online. Social media helps to transfer information to large audiences at the same time.

From the foregoing, one can say that social media plays the role of boosting communication among a large number of people at the same time by making reports visible instantly. It can create awareness of new research reports to large audiences. Also, individual and

organizational profile can be created and made available to establish connection with interest groups, such as scientists, that can work together. In addition, it also helps to engage people and gather information to support and bring research reports together. It is a tool that brings experts and talents together for collaboration on research work, which they can carry out without meeting one another apart from exchanging ideas through social media network.

In Nigeria, the use of social media is growing in importance among agricultural researchers, peers, colleague, professionals and the youth. People source information directly from their peers in a climate of trust through which suggestions and recommendations can be made. The availability and easy accessibility of direct connection through mobile phones make social media friendlier to use in sourcing or generating information or hosting research reports. This paper therefore explores the use and role of SM in establishing connections and networking among Agricultural Researchers (ARS) in Nigeria.

Problem Statement

Agricultural Researchers (ARS) need to keep abreast of information and developments in their areas of specialization. This is because they are actively involved in improving animal and plant species, technology and sustaining best practices necessary for meeting production in the agricultural sector. There is a paradigm shift in the way people now collaborate and network with the advent of the internet, which indeed is a network of networks. Although a lot of professionals are on Facebook, no study has been able to provide empirical data on the use of social media among researchers in the agricultural industry and the purpose for which they use social media.

Objectives

The study seeks to achieve the following objectives:

1. To find out the social media that are mostly utilized by agricultural researchers in Nigeria;
2. To determine the purpose for which they use the social media in their career and professional development; and
3. To discover the problems they have been able to solve using social media.

Review of Related Literature

The importance of establishing connections and networking in Agricultural Research (AR) cannot be over-emphasized. This is because a nation feeds her populace through agriculture. The Nigerian government is not compromising on the relevance of agriculture to the survival of the nation; hence, there are various agencies, research institutes, agricultural universities/colleges and non-governmental organizations that carry out agricultural research in Nigeria (Ilevabaoje, 1998). On the other hand, Okwu and Daudu (2011) observe that Nigeria has an elaborate agricultural research and extension system but the result of these researches are not fully made available to the end users; hence, the researchers, extension workers, farmers, etc., are not sufficiently exposed to new knowledge. This therefore necessitates a need for establishing connections among stakeholders for proper dissemination of current and relevant information/knowledge for sustainable agricultural production.

The traditional method of transferring information through print and face-to-face meetings is now often supplemented and/or replaced by web-based outlets. In Alabama, for instance, The Alabama Precision Agriculture Program initiated social media and web campaign as a method of distributing educational information while gaining recognition as a source of precision agriculture (PA) resources.

The use of social media (SM) and social networking sites (SNS) has speedily increased (Bian, 2008; Boyd and Ellison, 2007). Facebook, a popular SNS, had over 400 million active users in 2010; hence, the social media are gaining more popularity for communication and dissemination of information (Gakuru, 2009). These social networking sites allow individuals to create a public profile or semi-public profile and articulate a list of other users with whom they share a connection. In Africa, social networking sites are becoming more widely spread than they have ever been before, especially among the youth (Olusegun, Vincent, Adekoya, and Ogunde, 2009). Cleveland (2010) reported that Nigerians are enthusiastic about the Internet. He reiterated that 82% connect at least once a day and 25% connect round the clock while a minimum of two hours is spent surfing the web per day. He claims that participating in social networking is the single most important activity among these Internet users, while 95% of them are members of one or more social networks.

Agbamu and Van den Ban (2000) observe that communication linkage of research reports in Nigeria is the top-down linkage connection of passing down research reports to the farm

families at different local areas through extensions, with distance as major hindrance. It is very important that researchers get connected on professional and interpersonal relational levels to channel the course for fast information release to assist in the sharing of knowledge of research reports despite distance and extension efforts.

In another vein, Yahyah (2005) opines that such communication channels may be too complicated for use in practice and for effectiveness. Corroborating this assertion, Agbamu (2000) observes that Nigerian agricultural research linkages open up researchers annually through representations to participate in discussing national problems, a channel that is less effective to research growth and development. This suggests that despite the wealth of agricultural research churned out from research institutions in Nigeria, there is the challenge of prompt availability, awareness and full use of professional research reports, prompt connection and networking with a wider medium to capture a larger audience among agricultural researchers. To establish such professional connections, different e-media channels will be effective as possible opportunities for electronic networking. These include e-mail, twitter, blogs, MySpace, LinkedIn, Flickr, among others. All these are classified as social media which individuals and institutions can connect with to effectively boost research.

Alabi (2006) states that telecommunication facilities are increasing tremendously in Nigeria, making people to connect to one another and exchange information and interests to meet specific need. Fulton (2000), on the other hand, states that social media help to disseminate research reports and the challenges therein among researchers nationally and internationally faster than the long chain method of those days.

Methodology

A survey research design was adopted for the study. The population of the study comprised agricultural researchers in the Agricultural Research Institutes and Federal University of Agriculture in southwest Nigeria, as shown in Table 1. South-west Nigeria was chosen because a good number of Agricultural Research Institutes, both national and international, are domiciled in this geopolitical zone. It was also chosen because of its current relatively peaceful environment compared with other zones at the time of this study. A self-designed questionnaire was used as the major research instrument. A purposive sampling method was used to select 140 respondents from the six agricultural research institutes in addition to one University of

Agriculture. The questionnaire was administered over a period of three weeks by a research assistant. One hundred and one copies of the questionnaire were returned, giving a response rate of 72%. Data were analysed using descriptive statistics.

Table 1: PROFILE OF SELECTED AGRICULTURAL RESEARCH INSTITUTES FOR THE STUDY

Name of Research Institute	Year Established	Mandate
Institute of Agricultural Research and Training (IART) Ibadan	1956	Soil and water management research, genetic improvement of kenaf and jute, and improvement of the productivity of the entire farming system of the South West Zone
National Horticultural Research Institute (NIHORT) P.M.B 5432 Idi-Ishin, Ibadan	1975	Research into genetic improvement, production, processing and utilization of fruits and vegetables, as well as ornamental plants
Cocoa Research Institute of Nigeria (CRIN) P.M.B 5244 Idi-Ayunre Ibadan	1964	Genetic improvement, production and local utilization research on cocoa, cashew, kola, coffee and tea
Nigerian Institute for Oceanography and Marine Research (NIOMAR) P.M.B 12729 Victoria Island Lagos	1975	Research into the resources and physical characteristics of Nigerian territorial waters and the high seas beyond; genetic improvement, production and processing of brackish water and marine fisheries
International Institute of Tropical Agriculture, Ibadan (IITA)	1968	A preliminary mandate of working on important African crops and cropping systems pioneered by cowpea and other grain legumes as well sweet potato and yam. IITA was expected to collaborate with IRRI on rice, CIMMYT on maize and CIAT on cassava. As time went on, IITA expanded its mandate to include banana and plantain.
Forestry Research Institute of Nigeria, Ibadan (FRIN)	1954	It has mandate to conduct research into all aspects of forestry, wildlife management, watershed management, Agro forestry, environmental protection, and forest products utilization.
Federal University of Agriculture, Abeokuta (FUNAAB)	1988	mandate and mission of improving agricultural education in a scientific and practical way; coupled with applied research and such extension services as would assist in achieving self-sufficiency in food production in the minimum time, while also catalysing and sustaining rural development.

Findings and Discussion

Biographical Data of Respondents

Sixty (or 59%) of the respondents were male while forty-one (or 41%) were female. This indicates that there are more male agricultural researchers in Nigeria than there are females. This does not come as a surprise, as agriculture is generally regarded in Africa as an occupation for men. The data collected for the study also reveal that 50 of the total respondents were between 20-30 years of age; 45 respondents were between the ages of 31-40; while only 6 (7%) respondents were between the ages of 50-60. None of the respondents was above 60 years. Hence majority of the agricultural researchers that participated in the study were in their middle age, which implies that they are still young and active people who are growing gradually in their career. It is therefore expected that they will be able to exploit all avenues, including social media, to inform the wider audience about their researches.

Table 2: THE SOCIAL MEDIA THAT ARE MOSTLY UTILIZED BY AGRICULTURAL RESEARCHERS IN NIGERIA

Social Media	Frequency	Percent (%)	Rank
Facebook	68	41.4	1 st
Twitter	10	6.1	5 th
Blog	3	1.8	7 th
Flickr	2	1.2	8 th
LinkedIn	30	18.3	2 nd
My space	3	1.8	7 th
Wikis	3	1.8	7 th
RSS Feeds	1	.6	9 th
Forum news Group	3	1.8	7 th
Online professional Group	8	4.9	6 th
Google+	18	11.0	3 rd
Academia	15	9.2	4 th
Total	164		

As shown in Table 2, all the respondents claimed that they had accounts with at least one of the social networking sites. This shows that agricultural researchers in Nigeria are not just aware of the existence of social media, but they actually subscribe to their use. The result in Table 2 reveals that 68(41.4%) out of the total responses are on Facebook, 30 are on LinkedIn, 18 are on Google+, and 15 on academia. The social media where Agricultural researchers are least present is the RSS feed. This implies that Facebook is the most popular social media platform used among agricultural researchers in Nigeria. This may be because Facebook provides an easy way of sharing information with friends, acquaintances and even strangers (Boyd, Ellison 2007). The result also confirms Facebook as the most used social media in the world (Christofides, Muise and Desmaraias, 2008). However, agricultural researchers should be encouraged to open multiple accounts on the various social networking sites so that they can collaborate and network with a larger audience.

Table 3: PURPOSE FOR WHICH SOCIAL MEDIA IS USED FOR BY AGRICULTURAL RESEARCHERS

	frequency	Rank
Communication of research output	37	4 th
Sharing information with colleagues	41	3 rd
Creating awareness on new methods and species	11	9 th
Advertising agricultural productivity or services	1	10 th
Linking up with agricultural extension officers	17	8 th
Asking questions from professional colleagues anywhere in the world	36	5 th
Establishing professional relationship with other colleagues	56	1 st
Sharing knowledge with others	42	2 nd
Improving organisational visibility	11	9 th
Sharing photos, videos and slides	26	7 th
Reaching out to people outside regular circle to gain valuable ideas or get feedbacks	31	6 th

The agricultural researchers that participated in this study were asked their purpose for maintaining accounts with the social networking sites, as shown in Table 3. The responses of the

agricultural researchers indicate that establishing relationship with their professional colleagues ranks first on the list, while sharing knowledge and information comes second. Communication of their research work ranks fourth. One can then conclude that most of the researchers do not maintain accounts with social media primarily for communicating their research output, but mainly for connecting with their colleagues. However, in connecting with their colleagues they gradually began to communicate agricultural research results.

Table 4: PROBLEM SOLVED BY AGRICULTURAL RESEARCHERS USING SOCIAL MEDIA IN THEIR CAREER AND PROFESSIONAL DEVELOPMENT

Problem solved with social media	frequency	Rank
It has helped in finding a mentor.	27	9 th
It has helped in publishing my research work faster than before.	49	3 rd
I have gained more visibility in my area(s) of research.	41	4 th
It has helped greatly in disseminating information between/among groups.	3	10 th
I have been able to connect with agricultural researchers with similar research interest in/outside my country.	66	2 nd
It has exposed me to latest knowledge, skills and technology in my research endeavours.	78	1 st
I have been able to obtain information on crop or animal species or soil types.	11	8 th
I have been able to gain information on increasing crop production.	13	7 th
I have been able to solve the problem of soil fertility.	7	9 th
I have been able to find the right methodology for my research.	35	5 th
I have been able to find location/ institution suitable for my research.	30	6 th

All the respondents claimed that social media have been useful to them in many ways. For instance, some claim it has helped them to solve problems by exposing them to the latest knowledge, skills and technology in their research endeavours, as shown in Table 4. Agricultural researchers also claimed in this study that they have been able to connect with researchers with the same research interest and who have helped them in publishing their

research works faster than ever before. Also agricultural researchers also claim to have been able to increase their visibility among their colleagues and the world at large. Another problem solved by social media for them is the issue of finding the right methodology for their researches.

Discussion

The study reveals that the majority of agricultural researchers in south-west Nigeria are male. This corroborates the study by ASTI-FIF-ARCN (2009-10) that female researchers constituted 23% of the total agricultural research staff in Nigeria in 2008. This may also be connected with the fact that traditionally in Nigeria farming is associated with men, while a woman is only allowed to assist her husband, who is the head of the family. The majority of the researchers fall between the ages of 20-40 years. Hence they are still young and active people who are supposed to be familiar with diverse information and communication technologies, which they should be able to exploit it to their greatest advantage for networking and communicating their research output.

All the researchers maintain at least one account with the social networking sites, but Facebook is the most popular social media used by agricultural researchers in south-west Nigeria. This supports the opinion of Christofides et al (2009) that Facebook is a popular social networking site; and that of Cleveland (2010) that Facebook is the most used social media in Nigeria. Ellison, Steinfeld and Lampe (2007) also establish the fact that Facebook provides a unique research environment because of its heavy usage patterns and ability to bridge online and offline connections. Though this study shows that the researchers are aware of and use at least one social media, they should be encouraged to maintain as many accounts as possible, as this will enhance the rate of networking among various groups and increase the rate of information flow for quality research results at the click of a mouse.

The study also shows that the purpose of joining a social networking site varies among researchers; however, the purpose of connecting with professional colleagues ranks first on the list. This confirms Dwyer et al (2007) view that social network services focus on building online communities of people who share the same interests or activities. However, researchers should be encouraged more on using social media to communicate their research results because this will give the result more mileage whilst supporting democratization of knowledge and information (CIARD 2009).

All the respondents also acknowledged that social media has been of benefit to them in one way or the other. Exposure to recent knowledge, skills and technology in their area of specialization came first, while collaboration for research purpose and publishing of research results followed. This is in line with CIARD's (2009) statement that people may not want to waste their time surfing the web or any other resources unless someone they trust points them in that direction. Hence, with the use of social media researchers can seek for recommendations and suggestions from colleagues, peers and experts and thereby acquire the latest knowledge and skill in their area of specialisation. With social media you can liaise with millions of people to share first-hand information and experience.

Recommendation

The following recommendations are therefore proffered to enhance connections and networking among agricultural researchers and other stakeholders in Nigeria:

- Every agricultural researcher should subscribe to and maintain multiple accounts on social networking sites.
- Agricultural scientists in Nigeria should be mandated to publish their result at least twice a week on the web.
- Agricultural scientists in Nigeria should be encouraged to network and collaborate with colleagues from institutes different from their own.
- Agricultural researchers should use SM to get mentors and mentees in order to keep their profession alive.

Conclusion

Agriculture is a key sector in most developing countries, as the general opinion is that a happy nation is one that is able to feed her citizens. However, there is a need to make researches available and accessible to people if agricultural research is to achieve real impact on productivity and livelihoods. Social media will be useful tools in that regard because they transcend geographical boundaries and are quickly becoming the new rave of online society. The role of social media is to establish connections, create awareness and promote individual or organizational projects or research reports and feedback. Social media also help to create the kind of researchers' environment that pulls knowledge and expertise together, thereby contributing knowledge and experiences to establish network. Social media can also help

researchers to establish their reputation as experts or consultants on research report. Their usage among Nigerians is reported to be on the increase; hence, agricultural researchers should increase their participation to connect, network and communicate agricultural research promptly on social networking sites.

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