ASSESSMENT OF KNOWLEDGE SHARING AND ACADEMIC USE OF SOCIAL MEDIA AMONG STUDENTS OF AGRICULTURE: A CASE FOR BRIDGING THE NIGERIA DIGITAL DIVIDE

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Abstract

Social media, although largely perceived as an informal interaction platform has over time proved a veritable source of academic information for students in agriculture. The study assessed knowledge sharing and academic-related use of social media among Students of Agriculture. The study was conducted in the Plateau state of Nigeria. A multistage sampling procedure was used. Two colleges of agriculture were selected for the study - The Federal College of Forestry (FCF) Jos and the Federal College of Animal Health and Production Technology (FCAHPT), Vom. Departments offering agriculture and related courses were selected for the study. Seventy respondents were randomly selected from FCAHPT, Vom, while 50 respondents were also randomly selected from FCF, Jos proportionately. A structured questionnaire was used for the study. Results showed that there were more male respondents (63.6%) and the modal age was between 21-30 years (86.3%). The majority of the respondents (61.8%) owned personal computers. All the respondents (100%) indicate that they had access to the internet and 99.1% use social media. Only 35.5% indicated that information from social media was reliable. The cost of accessing the internet was rated the most serious constraint by (55.5%). Regression results showed that use of social media for academic information was influenced by the location of the respondents (t=10.908, p<.05) and their ownership of personal computer (t=-4.285, p<.05). While specialization of the respondents showed some degree of influence on the dependent variable (t=-1.785, p>.05). The study concluded that effort to strengthen alternative sources of information must include enhancing access to personal computers for students.

Keywords: Social media, information, agriculture, internet, computer

Introduction

Sustainable agricultural development is a direct product of the growth of a critical mass of requisite human resources along the various segments of the development chain. This expansion in the capacity of the human component of the development process relies considerably on the provision of timely and accessible information, especially at the formative stage of producing the key players in the sector, including agricultural extension personnel, agropreneurs, agricultural scientists,

processors and farm business managers. Unfortunately, Madu *et al* (2012) observed that the perception that information exchange problems still constitute a major constraint to agricultural development remains widespread, and gives rise to negative views of the prospects for improvement. With the emergence of innovative platforms for the sharing of agricultural information, the prospects for leveraging information as a tool for development may not be as dreary as originally perceived. Social media has inadvertently lent itself as a veritable platform for students and apprentices in the field of agriculture to relate to other key players both vertically and horizontally. There is an unprecedented availability of agricultural information in quality and quantum most especially without the borders of time and space. While the internet is awash with very helpful farm information for the student, social media brings in the added advantages of timeliness, timelessness and interaction to the knowledge-sharing process. Further, there is no strong empirical evidence that students are committed to eLearning, that is, to using the technology-based tools they know how to use to maximize their learning experience and outcomes (McNaught et al, 2009).

In general, social media simply refers to the means of interaction among people in which they create, share, exchange and comment among themselves in different networks (Ifeanyi-obi et al., 2014). Technically speaking, Bassuk (2013) defined Social media as including web-based and mobile technologies used to turn communication into interactive dialogue between organizations, communities, and individuals. In laying further credence to its use as an attractive source of information for students, Bassuk (2013) used the functional perspective in redefining social media stating that definitions fail to give a useful picture of why social media has become so important in such a short time, which can be illustrated in several ways:

- i. Numbers are staggering and generally wellknown. For example, from a standing start in the mid-1990s, reputable estimates suggest there are close to 200 million public bloggers; if Facebook was a state it would be the fourth largest; and Twitter has grown from 0 to 140 million users and 340 million tweets per day in only four years.
- ii. Numbers are global: except for China and one or two other language territories, English-language social media like Facebook dominate the globe.
- iii. People spend time in social media spaces: the standard for Facebook users is at least daily visits, spending on average 20 - 40 minutes onsite.
- iv. It has been seen as a young person's medium and is undoubtedly true that the

exponential growth and emergent culture of social media owes a lot to its rapid adoption by under-25s. However, there is plentiful evidence that use is growing in all demographics.

Prominent social media

Owing to the unlimited nature of internet-based innovations, bordering on online and cybernetic technology, there may not be an exhaustive compendium of social media. Platforms are developed all the time to meet perceived social and other needs. Chisaenga *et al* (2014) gave prominent examples of social media tools. Briefs from those examples are as follows:

- i. Blogs –"personal Web diaries where users can offer their ideas, experiences and opinions on any topic. A typical blog combines text, images, and links to other blogs, websites or sources. Sound or video can also be added". Platforms for creating blogs include Blogger (www.blogger.com) and WordPress (www.wordpress.org).
- ii. Facebook (www.facebook.com) –a Social Networking Service (SNS) "where users create personal profiles, add other users as friends and exchange messages, including automatic notifications when they update their profiles. Additionally, users may join common-interest user groups, organized by common characteristics (e.g. workplace)". Facebook users can also chat, share experiences, photos and videos, and send emails to each other.
- iii. Flickr (<u>www.flickr.com</u>) -a platform for managing sharing and storing photos. Flickr account owners can decide whether to keep the photos private or to share them with other users. Users can rate, comment on and rank the photos.
- iv. LinkedIn (<u>www.linkedin.com</u>) "a business-related social networking site mainly used for professional networking. Users maintain a list of contact details of people with whom they have some level of relationship, called connections. lists of connections can be used to build up a contact network, follow different

companies and find jobs, people and business opportunities"

- v. Twitter (twitter.com) a micro-blogging platform that lets users broadcast short messages (called tweets) of up to 140 characters to their followers. Twitter users can also specify which users they want to follow and re-tweet (re-send) the tweets they receive to their followers.
- vi. YouTube (<u>www.youtube.com</u>) –a videosharing platform. YouTube users can upload, watch and/or download videos, rate and comment on them.
- vii. Wikis-websites that allow users to freely add, remove, edit, and change content directly from the Web browser. An example of a wiki is Wikipedia (Wikipedia.org), a collaborative web-based encyclopedia project.

Use of social media among students

Underscoring the relevance of developments in social media to students, it must be noted that while the platforms listed above are available to all stakeholders in the agricultural development circle, current ICT infrastructure means that, for the short foreseeable future, most social media in extension will likely be used by those at a training or policy level and not by clients (Vignare, 2013). The most available infrastructure, for now, is the mobile phone and computer based. Africa at the moment still suffers from a massive deficit in support facilities for computer-based access to social media. Such deficits include lack of broadband internet services, inadequate supply of electricity and rather unaffordable costs of acquiring computers. Mobile phones have proven to be a ready option for participating in social media networks and accessing information among students.

In what appears to be a paradox, there has been increasing concern over the balance between the use of social media for recreational purposes and their use for academic purposes among students. Valid as this concern is, social media has dramatically changed the way research is organized. They allow the creation of communities of practice among researchers and students to exchange ideas, expertise and bibliographies. Students have the possibility of following lectures from home and will have access to reading lists, assignments, and online forums, among others (*EU SCAR*, 2013).

While students patronize all the social media, Facebook is widely used in Nigeria by both students and non-students. The increased usage of Facebook and other social media in the country is facilitated by the improvement in the communication industry in the country especially in the aspect of mobile telephony. This gives students easy access to internet networks even on their mobile phones making accessibility to Facebook easier (Ifeanyi-obi *et al.* 2013). It is facilities like these that contribute significantly in narrowing down the so-called digital divide which accounts for poor access to the internet in lowincome countries.

The digital divide

In its generic sense, the concept of the digital divide can be explained from two perspectives: (1) the existing gap between those countries that have ample access to electronic research information and those that do not, and (2) the difference in Internet literacy and aptitude between the citizens of developed versus underdeveloped countries (Brooks et al., 2005). The concept has however evolved to capture differences existing even within the same country. It is within this context that digital divide can refer to the disparity between social, ethnic, racial, and economic sectors of society that are *fully enabled online* versus those which have been systematically neglected by the online revolution. The Digital divide is the gap between people with effective access to digital and information technology and those with very limited or no access at all. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen (Ukpebor and Emojorhor, 2012). This phenomenon is particularly important in infrastructure-deficient countries, characterized by economic and social disparities like Nigeria. Lucky and Achebe (2012) citing Internet World Statistics (2010) further explicated the concept by stating that the digital divide is not indeed a clear single gap which divides a society into two

groups. It can be seen more as a continuum, on which the digitally enabled are on one extreme and the grossly deficient are on the other extreme. In between are various shades of access. Researchers report that disadvantages can take such forms as lower-performance computers, lower-quality or high-price connections (i.e., narrowband or dialup connections), difficulty in obtaining technical assistance and lower access to subscription-based content etc. These disadvantages most aptly describe the situation for the Nigerian situation. Any attempt to put the country on the global digital map must be deliberate in addressing these issues.

Statement of the problem

McNaught et al. (2009) identified two general, often unstated, assumptions: that 'older' folk, the so-called 'digital immigrants', a group that contains most academic teachers, use technology less and are less digitally skilled; and that students can readily use technology in learning, and would welcome or even expect quite different educational environments and strategies than students before them. This paper seeks to confirm the second assumption, especially as it applies to a digital deficit environment like Nigeria, using students in a broad subject area like agriculture. The study aims at determining knowledge sharing and academic-related use of social media among students of agriculture. This will provide a reliable generalization for countries still making an effort

Results and discussion

Table 1:	Personal	characteristics	of r	espondents	
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to close the digital divide, as choices are made from the various platforms and options available. Specifically, the study will identify the social media choices of the respondents and their pattern of use of these media for academic information.

Methodology

The study was conducted in the Plateau state of Nigeria. The study population was students of agriculture in tertiary institutions. A multistage sampling procedure was used. Two colleges of agriculture were selected from two adjoining local government areas. The Federal College of Forestry, Jos, is located in the Jos North Local Government area and the Federal College of Animal Health and Production Technology, Vom, in the Jos South Local Government Area. The earlier is located within the Jos metropolitan centre while the latter is within a peri-urban location close to Jos. Departments offering agriculture and related courses were selected for the study. In the Federal College of Animal Health and Production Technology, 70 respondents were randomly selected on a proportionate basis from the selected departments, while 50 respondents were also randomly selected in the Federal College of Forestry from the selected departments, in a proportionate manner. A structured questionnaire was used to elicit information on access to the internet, choice and use of social media for academic purposes and patterns of use of social media.

Variables	Categories	Frequency	Percentage	
Location	FCAH&PT	63	57.3	
	FCF	47	42.7	
Sex	Male	70	63.6	
	Female	40	36.4	
Age	15-20	7	6.4	
	21-30	95	86.3	
	31-40	8	7.3	
Education	National Diploma	42	38.2	
	Higher National Diploma	68	61.8	
Religion	Islam	16	14.5	
	Christianity	93	84.5	
	None	1	.9	
Marriage	Single	89	80.9	

	Married	21	19.1	
Specialization	Animal production	13	11.8	
-	Animal Health	30	27.3	
	Agricultural			
	extension/economics	16	14.5	
	Forestry technology	30	27.3	
	Fisheries technology	9	8.2	
	Others	12	10.9	

Personal characteristics of respondents

From Table 2, there were more male respondents (63.6%) compared to females (34.4%), with a modal age of between 21-30 years (86.3%). More of the respondents had a Higher National Diploma (61.8%), were single (80.9%) and indicated Christianity as their religion (84.5%). The most predominant specializations were animal health technology (27.3%) and forestry technology (27.3%). While a higher percentage of the respondents are at the Higher National Diploma level, signifying a higher grade content for technical training, Brooks et al (2005) is of the opinion that in order for those in the developing world to catch up to the more advanced nations of the industrialized world, educational resources

must be improved, which in this case goes beyond limited access to the internet, to broadband service that is not only available but affordable. This would guarantee some form of bridging of the digital divide. Lanes and Lewis (2013) citing Prensky (2001) related access to the internet to age, stating that there is a "digital divide" between "digital natives" and "digital immigrants." Those who were born between the years 1980 and 2000 are deemed "native" speakers of the digital language of computers, video games and the Internet" The maximum age range of the respondents (31-40) indicated that they fall within the category of "digital natives', who expectedly would effectively utilize computers and knowledge facilities associated with it like the social media.

Variables	Categories	Frequency	Percentages
Own personal computer	Yes	68	61.8
	No	42	38.2
Access to internet	Yes	110	100
Use of social media	Yes	109	99.1
	No	1	.9
Purpose of use for academics	Find information	58	52.7
	Share information	8	7.3
	Discuss topics	4	3.6
	All of the above	39	35.5
Use of social media options	Facebook	74	67.3
	Twitter	3	2.7
	YouTube	4	3,6
	LinkeIn	5	4,5
	Wikipedia	15	13.6
	Whatsapp	9	8.2
Satisfaction with social media	Yes	101	91.8
	No	9	8.2

Use of social media for academics

The majority of the respondents (61.8%) owned personal computers. All the respondents (100%) indicate that they had access to the internet and 99.1% use social media. On their rating of academic activities they conduct on social media, 52.7% indicated that they use the facility or source academic information, while only 7.35 use it to share academic information. Another, 6% indicated that they use social media to discuss academic topics. The most widely used social media by the respondents was Facebook (67.3%)followed by Wikipedia (13.6%). On their rating of how much social media meets their need for information, 91.8% indicated that they were satisfied. While up to 38.2% of the respondents indicated that they did not own personal computers, it is not a true reflection of access to the internet as Stanley (2013) stated that the smartphone has become, whether we like it or not, a tool that every generation is starting to eat up in droves. In some climes such as Africa and India. they are skipping the stage of the home computer and laptop and entering the mobile age with the rest of the world. If used productively, it can

therefore become quite powerful. With 99.1% of respondents using social media, it confirms the estimation of AESA (2014) that the fact that only young people and teenagers are most active in social media is turning into an urban myth. Irrespective of age, gender, religion, and geography, people are entering the world of social media. The versatility of information use and sharing makes it a particularly attractive medium for information-driven technology development systems. Facebook was the most widely used medium, with 67.3% of the respondents indicating that the source information was from the platform. This result confirms its rating by Ifeanyi-obi et al. (2014) who stated that it is a social media that is widely used in Nigeria by both students and nonstudents. Bassuk (2013) classified it as a social networking site, which allows individuals to connect with "friends" in their specializations and network on private and academic issues. Wikipedia on the other hand provides rather direct academic information, which would usually require corroboration by other sources.

 Table 3: Advantages of use of social media for academics

Variables	Frequency	Percentages	
Reliable	39	35.5	
Saves time	30	27.3	
Promptness	9	8.2	
Cost saving	26	23.6	
User friendly	3	2.7	
Mixes work and leisure	3	2.7	

Advantages of the use of social media for academics

Adjudging the advantages of the use of social media, 35.5% indicated that information from social media was reliable, while 27.3% indicated that it was a faster means of getting information. Only 2.7% agreed that it helps to mix work with pleasure. Stelzner (2014), in a survey, determined the benefits of spending time on social media and

concluded that time invested makes a difference. Of those spending at least 6 hours a week, 78% found benefit compared to 56% of those spending 5 hours or fewer per week. The advantages of spending time on social media far outweigh what some perceive as a 'waste' of time. This study found that in addition to finding reliable information and saving costs in sourcing information, social media also provides prompt information and is user-friendly.

Variables	Frequency	Percentages
High cost	61	55.5
Inadequate electricity	13	11
Cost of phones	8	7.3
Poor knowledge use of social media	L	
-	2	1.8
Time-consuming	2	1.8
Lack of personal computer	11	10
Poor knowledge of computer	5	4.5
Unreliable information	1	.9
Poor internet services	1	.9
Intellectual laziness	6	5.5

Table 4. Constraints to the use of social incuta for academics	Τa	able	4:	Coi	nstra	ints	to	the	use	of	social	medi	ia fe	or	academics
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Constraints to the use of social media for academics

The cost of accessing the internet which could be through data bundles provided by mobile phone companies or internet service providers was rated the most serious constraint by 55.5% of the respondents. This is followed by the challenge of inadequate electricity (11%) and lack of personal computers. Reliability of internet services (0.9%) and unreliable information (0.9%) were considered the least challenging. Most of the constraints identified in the study are the factors that created and are amplifying the 'digital divide" expatriated by Brooks and Rumble (2005) who pointed out that the concept of the digital divide can be explained from two perspectives: (1) the existing gap between those countries that have ample access to electronic research information and those that do not, and (2) the difference in Internet literacy and aptitude between the citizens of developed versus underdeveloped countries. The absence of basic facilitating conditions for the use of the Internet could very much affect the effective use of information platforms like social media.

Model	Unstandardize	d coefficient	Standardized	Sig.	
	В	Std. Error	В	Т	Sig
Constant	7.093	-618		12.784	.000
Location of respondents	2.629	.241	.698	10.908	.000
Specialization	111	.665	114	-1.785	.077
Ownership of computer	-1.065	.249	277	-4.285	.000

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Dependent variable: Use of social media; Factors=location, specialization and ownership of computer

Regression results showed that the use of social media for academic information was influenced by the location of the respondents (t=10.908, p<.05) and their ownership of personal computer (t=-4.285, p<.05). While specialization of the respondents showed some degree of influence on the dependent variable (t=-1.785, p>.05). The strength of the influence of the location could be due to the availability of more internet access options in urban areas compared to non-urban

areas. An R square value of .647 and an adjusted R square value of .637 indicated a rather strong combined effect of location and ownership of a computer on the use of social media for academic purposes among students of agriculture.

Conclusion

Social media is gradually being mainstreamed as an important source of agricultural information. This is particularly so for students at the middle level, whose training orientation is technical. Making digital information accessible therefore becomes an imperative in the drive towards closing the widening divide between these students in technology-hungry developing agricultural systems and their counterparts in more developed parts of the world. The easily identifiable gap from the findings of the study borders on the availability of computers and the availability, accessibility and affordability of internet services. Closing the digital divide must therefore begin with addressing these deficiencies.

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