
Social Media Trends and Collaborative Learning for Scholarly Research among Postgraduate Students in a Nigerian University

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Abstract

The growth in information technology as embedded in Web 2.0, has redefined the way people communicate, interact and participate in the creation and re-use of content. This empirical study investigated social media trends, interactive and collaborative learning for scholarly research among postgraduate (PG) students in a Nigerian university. The utilization of social media and networking tools is crucial for PG students and very helpful in the course of conducting scholarly research and is invariably a key to accomplishing set scholarly targets. A descriptive survey research design was adopted. The sampling frames for the study were postgraduate students at Federal University of Agriculture, Abeokuta, Nigeria for the 2017 academic session. It has a population of 1,361. The 803 (59%) respondents were randomly sampled. The instrument for data collection was a structured questionnaire. A Statistical Package for Social Science (SPSS) was used to interpret the data with frequency counts, percentages, mean, standard deviation and Pearson moment correlation analysis. Results showed that the researchers had a strong preference for the using Academia ($\bar{x}=1.94$, $SD=1.40$). Other social media sites used were Facebook, Twitter, Flickr and Research gate etc, where knowledge contents were collaboratively shared by colleagues and used frequently for research. The results also revealed that social media has made a significant impact on respondents' research output ($\bar{x}=3.63$, $SD=0.62$). Challenges which constrain effective social media usage by PG students include poor internet connectivity, respondents low level of ICT skills etc. The study recommends that regular seminars and training be organized for PG students to attune them with new developments in social media sites so that they can appreciate and maximally utilize the opportunities they offer. Regular overhauling of the electronic devices is recommended.

Keywords: Social media, Social network sites, Scholarly research, Information resources use, PG students,

Introduction

In reference to Media and MediaLive International Conference which was held in San Francisco, October 2004, where the discovery of Web 2.0 and its features by Tim O'Reilly and his colleagues were presented. This was recognised as a second generation of web development and design that facilitates communication, secures information sharing, interoperability and collaboration on the World Wide Web such as Blogs, Wikis, social networking, images and other social media forms. The concept of collaborative work, social networking and the ease of the usage of these applications have brought a significant change in human history and new era of knowledge explosion and globalization. Among contemporary innovations in information and communication technology is the social media which is viewed as a cluster of internet based applications that builds on the ideological and technological foundations of Web 2.0 and allows the creation of user-generated content (Kaplan and Haenlein, 2010).

Web 2.0 or Library 2.0 serve the library community and, makes services between library workers and patrons more interactive and interesting and facilitates knowledge creation and sharing in virtual communities. It promotes on contents among themselves in virtual communities. Web 2.0 provides more interaction, collaborative learning, and user modifications (Kaplan and Haenlein, 2010) compared to Web 1.0 which is characterized as a static resource that allows less interaction (Naik and Shivalingaiah, 2008).

In recent years, social media has become a huge and integral component of how students spend their time online. Some of these social media include Wikis, Blogs, Facebook, Twitter, Myspace, Skype and many others which are beneficial to researchers as well as people interested in getting and sharing information with one another (Acar, 2008). Not surprisingly, students are connecting more with fellow students and are sharing information more than ever before. Most scholars' use social media to get news, research information and friendship update, sometimes even before breakfast from the comfort of their cell phones, computers and tablets (Boyd, 2008). Today's postgraduate students incorporate online networking systems into all parts of their lives for

different purposes, Social media networks are also useful in that they offer unique opportunities for promoting socialization to the institution's environment and at the same time, meeting research and educational needs of users. It is not surprising that scholars are exploring the use of social media for academic purposes, and specifically for academic community development through Blogs, online comments to articles, social bookmarking sites, Wikis and websites to post slides, text and videos.

Social media encourage collaborative learning among users and the sharing of knowledge r. Unlike individual learning, people engage in collaborative learning to exploit others resources, skills, information, and intellectual ideas for effective use. More specifically, collaborative learning is rooted on the premise that knowledge can be created within a population where members actively interact by sharing experiences. It provides learners with the opportunity to direct their own problem-solving process, build connections with a wide variety of people and knowledge. And to interact and collaborate with one another. Media usage in schools, universities, and colleges has the potential to raise the standard of education, facilitate learning and teacher-student participation in the classroom and to enhance collaborative and constructive teaching and learning in tertiary institutions (Olatubosun, 2013). In addition, social media networks fosters collaboration among individuals, institutions and countries of the world such joint efforts are important in realization of important improvements through shared ideas and resources (Zavazana, 2012). This platform not only enables users to build personalized social and knowledge network during the process of learning, and to connect a networks of users with social and knowledge networks. Other academic sites helpful to researchers and that enhance collaborative learning are Mendeley, Zotero, Academia, ResearchGate, etc. There are open platforms like Twitter, Skype, Google plus etc. In view of this, social interaction is an important aspect of research activities which researchers talk about and comment on each other's work. They evaluate the work of others for production and for prizes, and they unite co-authored contributions. The utilisation of social media and networking tools encourages spontaneous collaborative learning which is crucial to postgraduate students keeping in mind that it is key to accomplishing their scholarly targets and is very helpful in the course of conducting scholarly research.

In Nigeria, the rate and use of social media by internet users for collaborative learning activities such as research, education, information and entertainment is on the rise. Researchers and postgraduate students sometimes faced difficulties in their quest for scholarly research simply because of information overload and inconsistencies in information available on the internet. Not only that, many students have never effectively used the forum for meaningful interactive probably because of poor internet connectivity and due to low level of ICT skills, etc.

By and large, this study, among other things is set to methodically examine social media trends and collaborative learning for scholarly research among postgraduate students in the Federal University of Agriculture, Abeokuta (FUNAAB), and Nigeria. Therefore the aim of this academic inquiry is to unravel some of the fundamental purpose for which postgraduate students use social media.

Objectives of the study

The objectives of the study are:

1. To find out social media sites accessible and utilized by postgraduate students in research.
2. To investigate the frequency of use of social media by postgraduate students at the Federal University of Agriculture, Abeokuta.
3. To find out why postgraduate students at the Federal university of Abeokuta use social media sites by postgraduate students at the Federal University of Agriculture, Abeokuta.
4. To examine the impact of social media of postgraduate students scholarly research at Federal University of Agriculture, Abeokuta.
5. To investigate the impact of collaborative learning on scholarly research of postgraduate students scholarly research.
6. To find out the challenges preventing postgraduate students at Federal University from using of social media.

Research hypothesis

- H1. There is no significant relationship between postgraduate students' ability to access and use social media

- H2. There is no significant relationship between purpose and impact of social media on scholarly research productivity.
- H3. There is no significant relationship between collaborative learning and level of use of social media among postgraduate students.

Literature review

Social media, access, collaboration and usage of scholarly research

Social media is being observed by scholars argue that social media has facilitates growth of interactive dialogue and communities of users, regardless of their physical location and thus social media is viewed as a means for interaction among users in virtual communities. Similarly usage of social media networks by students is on the rise. Spencil and Gitimu (2011) cited in Aramide, Ladipo and Adepoju, (2015) expressed concern over heavy usage and dependence On social media networks {ies, which might interfere with students' learning academic success, conventional social interaction, due to exposure to desirable and undesirable cultural experiences. This is because, with social media, postgraduate students can collaborate and share publications, information, and ideas with counterparts, researchers and other interested scholars for worldwide who also share view s and opinions with researchers about research being shared.

Many studies have been conducted by scholars on the general usability of social media among students in the tertiary institutions. Rowlands et al (2011) cited in Owusu-Ansah et al (2015) showed that the use of social media tools by researchers were at a maximum level with Facebook being by far the most popular service. A study conducted by Rowland (2011), revealed that one third of the researchers use social networking sites for scholarly research, with the exception of Wikis and Blogs. Gu and Widén-Wulff (2011) also explored whether social media has any impact on scholarly research processes using a survey which was administered to students, researchers and employees at a Finnish university. Findings from this study revealed that academics are aware of social media, but they use social media more for other things in than for research or teaching.

Furthermore, Bosch (2009) cited Owusu-Ansah et al (2015) in his study on the use of Facebook at the University of Cape Town foundthat Facebook was used more to connect members of student societies, student groups, and halls of residence. Other benefits of using Facebook

include; sharing information about social events, pictures, and videos; academic purposes such as finding learning materials on the internet; sharing information about holiday programmes; and sharing lecture and study notes during holidays. It is clear from the findings of this study students have a better understanding of the use of social media and this has helped to improve their academic work and performance.

Similarly, collaborative learning combined with social media tools is used in the research cycle in to identify research problems and to disseminate research results. According to the results of a large international survey conducted by Rowlands, et al (2011) cited in Nandez and Borrego (2013), the most popular social media tools are those that permit collaborative authoring, conferencing, virtual meetings, discussions and dissemination of information and ideas with people in the social space. Social media does not merely allow knowledge transfer but also facilitates students' collaborative learning to create understanding among students, discussions with peers, lecturers, increase knowledge sharing, and improve students research skills (Redecker et al.,2010). In a similar view, Fewkes and McCabe, (2012); Junco et al., (2012) and Top (2012) observe that social media facilitates collaboration among researchers in and contributes to the strengthening of student relationships , and provides opportunities for curriculum dissemination and enhancement outside the classroom .

Chen (2015) observed that social media such as Facebook, which is very popular, has the potential to function as an educational tool because it enables peer feedback, interaction and learning in a social context. Lecturers and supervisors desirous of using social media in their academic courses f to promote student learning must be prepared to support students learning and to play a vital role in facilitate collaborative learning .Furthermore findings of, a study by (Niu et al., 2010) cited in (Nandez and Borrego, 2013), revealed that researchers and students use social media to share information using collaborative technology. Persistent use of social media networks by researchers in the pursuit of research standards is aimed at providing a more collaborative and user-centered learning environment (Wasike, 2013 cited in Owusu-Ansah, 2015).

Methodology

This study adopted a descriptive survey research design. Study populations were drawn from postgraduates students at FUNAAB enrolled in the 2015/16 .During this academic session, student enrollment at FUNAAB Postgraduate School Calendar), was 1361 comprising both male and student in varying years and courses of study. The sample population was 803 (59%). The instrument used for data collection is a structured questionnaire. The questionnaire was divided into two sections. Section A comprising demographic information of the respondents, and section B consisted of research questions. For purposes of thorough data analysis a, descriptive statistical tool (SPSS) was used to derive, frequency counts, percentages, mean, standard deviation and Pearson Moment Correlation.

Presentation of Findings

This section presents findings from primary data generated using a questionnaire which was administered to postgraduate students at Federal University of Agriculture Abeokuta which operates a collegiate system similar to a Faculty system in some Universities, with the respective Departments under each. To date, Federal University of Agriculture Abeokuta has nine (9) Colleges as indicated earlier.

Data Presentation and Interpretation

Table 2: Demographic variables N=803

S/N	Age range	Frequency	Percentage (%)
1	21-30	547	68.1
2	31-40	200	24.9
3	41-50	48	6
4	50 and above	8	1
	Total	803	100

S/N	SEX	Frequency	Percentage (%)
1	Male	451	56.2
2	Female	352	43.8
	Total	803	100

S/N	Course of study	Frequency	Percentage (%)
1	M. Sc	420	52.3
2	M.Agric	100	12.5
3	Ph.D	283	35.2
	Total	803	100

Source: Field data, 2017

Table 2 above shows range the distribution of respondents. According to the results 547(68.1%) of the respondents are within the 21-30 age range and 8(1%) are 50yrs and above. Impliedly, a majority 68 percent of postgraduate students surveyed are young and are within the 20=30 age range .451 (56.2%) of the respondents surveyed are male, and 352(43.8%) are female. The distribution by course of study of the respondents, shows that 420 (52.3%) are enrolled in Master of Science, 100 (12.5%) in Masters of agriculture, while 283(35.2%) are doctorate degree students. By implication, respondents with the highest response were Master's degree students.

Table 3: Social media sites used by postgraduate students for scholarly research N=803

S/N	Social media	Frequency	%	Mean	Std. Dev.
1	Academia	609	65.8	1.94	1.40
2	Twitter	112	13.9	0.14	0.35
3	Facebook	232	28.9	0.29	0.45
4	Flickr	32	4	0.04	0.20
5	Linkedin	144	17.9	0.18	0.38
6	Myspace	40	5	0.05	0.22
7	Blogs	242	30.1	0.30	0.50
8	ResearchGate	360	44.8	0.45	0.50
9	Mendeley	184	22.9	0.23	0.42
10	Google plus	384	47.8	0.48	0.50

Std. Dev. = Standard Deviation

Source: Field Data, 2017

Table 3 above shows social media sites accessible and used by postgraduate students. Academia ($\bar{x} = 1.94$, $SD = 1.40$) is the social media highly preferred by postgraduate students for research, respondents also had a strong preference for Google plus ($\bar{x} = 0.48$, $SD = 0.50$) and ResearchGate ($\bar{x} = 0.45$, $SD = 0.50$). Other social media sites were Twitter ($\bar{x} = 0.14$, $SD = 0.35$), Facebook ($\bar{x} = 0.29$, $SD = 0.45$). This indicates that postgraduate students are fully engaged in social media activities.

Table 4: Level of social media accessibility to postgraduate students N=803

S/N	Social media	Mean	Std.Dev.
1	Academia	3.45	0.89
2	Twitter	2.72	1.18
3	Facebook	3.01	1.08
4	Flickr *	2.28	1.13
5	Linkedin	2.59	1.13

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6	Myspace *	2.52	1.12
7	Blogs	2.64	1,68
8	Researchgate	2.75	1.18
9	Google plus	2.79	1.15
10	Mendeley.com	2.43	1.17

*negative

Source: Field data, 2017

Table 4 above shows the level of social media accessibility to postgraduate students. Academia ($\bar{x}=3.45$, $SD=0.89$), Facebook ($\bar{x}=3.01$, $SD=1.08$) and Twitter ($\bar{x}=2.72$, $SD=1.18$) had a high level of accessibility with the exception of Flickr ($\bar{x}=2.28$, $SD=1.13$) and MySpace ($\bar{x}=2.52$, $SD=1.12$) which they considered not very accessible.

Table 5: Frequency of use of social media sites by postgraduate students N=803

S/N	Social Media	Daily %	Weekly %	Occasionally	Monthly %	Never %
1	Academia	46 5.7	451 56.1	72 9	56 7	178 22.2
2	Twitter	24 3	40 5	24 3	32 4	683 85.1
3	Facebook	72 9	72 9	32 4	56 7	571 71.1
4	Flickr	-	8 1	16 2	8 1	771 96
5	LinkedIn.	24 3	72 9	32 4	16 2	659 82.1
6	Myspace	8 1	16 2	24 3	-	755 94
7	Blogs	24 3	122 5.2	64 8	40 5	553 68.9
8	ResearchGate	64 8	200 24.8	24 3	72 9	443 55.2
9	Google plus	56 7	17621.9	80 10	48 6	443 55.1
10	Mendeley.com	56 7	112 13.9	64 8	24 3	547 68.1

Source: Field Data, 2017

Table 5 shows the frequency of use of social media sites by postgraduate students. The result shows that Academia 451(56.1%) and Research gate 200 (24.8%) had a high frequency of use occurring value on a weekly basis and was strongly preferred by postgraduate students to other social media sites. Thus, it can be inferred that postgraduate students are effectively using social media platforms. However, other social media sites that had a low frequency occurring value are Facebook 72(9%) and Myspace 16(2%).

Table 6: Purpose of using social media sites N=803

S/N	Purpose	Mean	SD
1	I use social media for research activities such as finding research articles and publications	3.63	0.62

2	I use social media for online learning, group discussions relating to issues like politics, education and religious matters	3.36	0.67
3	I use social media for communicating, collaborating and interacting with my colleagues	3.47	0.70
4	I use social media to check the latest update about current research in my field of study	3.31	0.84
5	I use social media for academic purpose like group discussion and downloading scholarly articles	3.53	0.59
6	I use social media to disseminate research output	3.04	0.89
7	I use social media to get relevant information related to my research work	3.54	0.65

Source: Field data, 2017

Table 6 shows the purpose of using social media sites. The result show a high response for purpose of using social media sites by postgraduate students as shown in the mean and standard deviation value. Impliedly respondents a reason for using social media sites.

Table 7: Impact of social media on scholarly research **N=803**

S/N	Impact	Mean	SD
1	Social media allows me to upload my publications and share them with scholars	3.49	0.55
2	Social media allows me to download articles and papers related to my research work	3.44	0.66
3	Social media enables me to solicit for immediate feedback from scholars in the networking environment	3.27	0.76
4	I can follow other academics and receive notifications about their papers and other research updates	3.37	0.63
5	I use social media sites to disseminate research outputs (conference papers) with colleagues	3.38	0.73
6	I share downloaded content and materials with other researchers	3.49	0.66
7	I use it for Group discussions with colleagues to share and ensure ideas relating to my research are fully exhausted in social media	3.38	0.68
8	Social media encourages me to plan virtual meetings with fellow researchers and scholars	3.26	0.78

Source; Field Data, 2017

Table 7 shows the impact of social media on research as shown in the mean and standard deviation value. The results, therefore, imply that all the statements listed in the table were considered as by respondents as impacts of social media on research as shown by the high mean standard deviation values. Impliedly social media positively contributes to their scholarly research.

**Table 8: Impact of collaborative learning on scholarly research of postgraduate students
 N=803**

S/N	Opinion	Mean	SD
1	Collaborative learning provides useful and relevant content for my research	3.64	0.64
2	Collaborative learning is open space for individual discussion	2.76	0.96
3	Collaborative learning forum facilitates knowledge sharing among my peers	2.82	0.94
4	I effectively share my knowledge with others	3.40	0.83
5	Collaborative learning meets my needs and interests	2.80	0.97
6	Through the collaborative learning environment, I can freely create and participate in group discussions	2.46	0.95
7	It contributes to the relationship development among peers.	2.92	0.91
8	It provides opportunities for curriculum dissemination and enhancement outside the classroom environment	3.26	0.87

Source; Field Data, 2017

Table 8 shows the impact of collaborative learning on scholarly research. This implies that all respondents agreed that collaborative learning had a positive impact on collaborative learning and had an influence on scholarly research

Table 9: Factors constrain usage of social media in research N=803

S/N	Challenges	Mean	SD
1	Poor internet connectivity/bandwidth	3.64	0.94
2	Erratic power supply	3.40	0.83
3	Level of ICT skills of students	2.29	0.91
4	High cost of data subscription	3.26	0.87

Source; Field Data, 2017

Table 9 shows factors constrain usage of social media by postgraduate students for research. This implies that all the factors were accepted by the researchers as factors constraining them from using social media networks.

Hypothesis 1: There is no significant relationship between postgraduate student access frequency of use of social media

Table 10: Relationship between postgraduate students' access and frequency of use. N=803

		Accessibility	Frequency of Use
Accessibility	Pearson correlation	1	.325**
	Sig (2-tailed)	-	.000
	N	803	803
Frequency of Use	Pearson correlation	.325**	1
	Sig (2-tailed)	.000	
	N	803	803

**Correlation is significant at the 0.01 level two-tailed

Source; Field data, 2017

Table 10 shows that there is a significant relationship between postgraduate students' access to and frequency of use of social media ($r = 0.325$, $P < 0.01$). Therefore, hypothesis 1 is rejected. Thus, postgraduate students' access to social media is positively related to the frequency of use. Hence, the higher the accessibility of social media to postgraduate students, the more the usage.

Hypothesis 2: There is no significant relationship between purpose of using social media and its impact on postgraduate students

Table 11: Relationship between purpose and impact of social media N=803

		Purpose	Impact
Purpose	Pearson correlation	1	.715**
	Sig (2-tailed)	-	.000
	N	803	803
Impact	Pearson correlation	.715**	1
	Sig (2-tailed)	.000	
	N	803	803

**Correlation is significant at the 0.01 level two-tailed

Source Field Data, 2017

Table 11 above shows that there is a significant relationship between purpose and impact of social media ($r = 0.715$, $P < 0.01$). Therefore, hypothesis 2 is rejected. Thus, purpose and impact are positively related. The purpose of using social media is likely to have positive impact on scholarly research of postgraduate students.

Hypothesis 3: There is no significant relationship between frequency of use of social media among postgraduate student and collaborative learning

**Table 12: Relationship between frequency of use of social media and collaborative learning
 N=803**

		Purpose	Frequency of Use
Collaborative learning	Pearson correlation	1	.319**
	Sig (2-tailed)	-	.000
	N	803	803
Frequency of Use	Pearson correlation	.319**	1
	Sig (2-tailed)	.000	
	N	803	803

**correlation is significant at 0.01 level two-tailed

Source Field Data, 2017

Table 10 above shows that there is a significant relationship ($r = 0.319$, $P < 0.01$) between frequency of use of social media among postgraduate student and collaborative learning. Therefore, hypothesis 3 is rejected. Thus, frequency of use of social media and collaborative learning are positively related, because the more the utilization of social media sites for scholarly research, the more the more engagement in collaborative learning through social media sites with their counterparts.

Discussion of findings

This section discusses social media trends and collaborative learning as predictors of scholarly research among postgraduate students at FUNAAB. From the findings, respondents in the 21=30 years age range had the highest response rate. By implication, postgraduate students surveyed are young and had the highest responsive. It was observed in the various literature that researchers mostly youth, have a strong preference for social media used to in communicate, collaborate and to build a networking environment for researchers worldwide.

Results from this research show that Academia was overwhelmingly used for scholarly research by postgraduate students. Also frequency of use of Academia was higher compared to other

social media sites. Other social media sites which were used for research, but had less preference for frequency of use by the postgraduate students are Myspace, Twitter, LinkedIn, Blogs, Mendeley and ResearchGate.

Results of this study further revealed the purpose for using social media sites. Postgraduate students' use social media for research activities such as retrieving research articles and publications, online learning and group discussions relating to politics, education and religious matters. They also use social media for communicating and interacting with friends and to check for the latest updates on current research in their field. These findings correlate with those of Nandez and Borrego, (2013) who found that researchers also use social media to disseminate research output.

The result also revealed factors constraining postgraduate students from using social media. These include: poor internet connectivity/inadequate bandwidth, download delays, erratic power supply, inadequate ICT skills of students and high cost of data subscription, all these are bottlenecks that prevent postgraduate students from using social media for research.

Pearson's correlation on these hypotheses show, that there is a significant relationship between postgraduate students' access and frequency of use of social media ($r = 0.325$, $P < 0.01$). There is a significant relationship between purpose and impact of social media ($r = 0.715$, $P < 0.01$). There is a significant relationship between frequency of use of social media and collaborative learning ($r = 0.319$, $P < 0.01$). Thus, frequency of use of social media and collaborative learning are positively related and contribute to research output of postgraduate students.

Conclusion and recommendations

Based on these findings, it is clear social media is a predictor of scholarly research because postgraduate students at Federal University of Agriculture, Abeokuta utilize social media resources for scholarly research. The respondents have a strong preference for Academia.edu because it enables them to collaborate with counterparts with similar interest and to share intellectual ideas and experiences in this social space.

Recommendations

- It is recommended that regular formal courses of instruction in computer skills development through should be offered through workshops, seminars and conferences. To expose postgraduate students to social media and its importance in research.
- Given bandwidth problems universities should be linked to the Nigerian National Information Network to ensure universities have more access to a more bandwidth.
- Considering the high cost of information resources and the dwindling university budgets, it is therefore recommended that universities should collaborate more with international organizations to garner needed financial and technical assistance
- Given limited budgets and heavy reliance on electric power, it is recommended that universities should invest in alternative power supply such as solar energy and generators to minimize erratic power and frequent power cuts should be considered.

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