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# Librarians' Use of Social Media for Informal Scientific Communication in University Libraries in South-south Nigeria

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# **LIBRARIANS' USE OF SOCIAL MEDIA FOR INFORMAL SCIENTIFIC COMMUNICATION IN UNIVERSITY LIBRARIES IN SOUTH-SOUTH NIGERIA**

**BY**

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## **Abstract**

*This study investigated the use of social media for informal scientific communication among librarians in university libraries in South-South geo-political zone of Nigeria. The descriptive survey method was used for the study. The population of the study was 284 librarians in university libraries in South-South Nigeria. 284 copies of questionnaire were administered for this study. In response, 202 copies were retrieved and found useable, thereby indicating a response rate of 71%. The data was analysed using mean and frequencies. The hypothesis was testes using Pearson Product Moment Correlation Coefficient  $r$ . The findings indicated that librarians use social media tools such as Facebook, Whatsapp, twitter, blogs and LinkedIn for the purposes of informal scientific communication. The study also revealed that the extent to which librarians use social media for informal scientific communication is low as there are numerous challenges that hinders the effective usage of social media for informal scientific communication by librarians in university libraries in South-south, Nigeria. The study revealed that there exist a significant relationship between use of social media and informal scientific communication among librarians in university libraries in South-South Nigeria. The study recommends that university librarians and other library administrators should sensitize their library staff on the benefits of using social media for informal scientific communication. Librarians should cultivate the habit of using modern technologies (such as computers, social media tools) for information sharing and dissemination because it is relatively cheaper and allows for wider participation. The study also recommends that libraries should train staff periodically on the use of the different social media in carrying out library services as this will*

*also enhance librarians use social media for the purposes of scientific communication among professional colleagues.*

**Keywords:** Social Media, Scientific communication, Informal scientific communication, Use, Librarians, University Libraries, South-South Nigeria, Librarians

## **Introduction**

The term communication refers to the exchange of thoughts, messages, or information by speech, signals, writing, or behavior (Yourdictionary.om, 2016). It is also referred to as the act of conveying intended meaning from one entity or group to another through the use of mutually understood signs and semiotic rules (Popoola, 2014). Berge (2017) noted that the concept of communication have some basic steps which include the forming of communicative intent, message composition, message encoding, transmission of signal using a specific channel or medium, reception of signal, message decoding and finally interpretation of the message by the recipient. Communication could be verbal or non-verbal and it could be through formal or informal means.

Librarians and other professionals communicate to brainstorm ideas, to formulate research problems, solve experimental or theoretical problems, disseminate results, and get feedback. Kumar (2014) observed that the peer-reviewed journal article – polished, archived, and findable – is only one facet of the scholarly communication process. Science is inherently social and informal scientific communication forms the backbone that connects librarians and other professionals as well as enable scientific progress (Kumar, 2014).

Pikas (2009) noted that informal scientific communication is the interactive exchange of information, ideas and thoughts between professionals in order to establish or maintain relationships, exchange information, or work collaboratively. The channel, message features,

and social network influence the formulation, transmission, receipt, and understanding of messages; and also influences the selection of communication partners and timing of the communications. Pikas (2009) defined informal scientific communication as a scholarly communication that does not involve published materials that has been reviewed by peers, edited by publishers, and is retrievable through various information systems. Talja (2013) noted that Informal scientific communication refers to a communication between people (scholars) in a non-formal setting or through a non-formal means such as face-to-face discussion, exchange of personal communication, sharing views and opinions. Informal scientific communication is sometimes used to describe the informal communication network of people with like minds and similar interest. The channels established are fast and easy, while formal communication on the other hand uses public and permanent vehicles such as books, journals and monographs to transmit information (Raini, 2010).

Furthermore, Bullas (2014) observed that there are different channels through which informal scientific communication can be carried out. Such channels includes face-to-face communication among professional colleagues, seminars, reviewer notes, letters, telephone calls, and pre- and post-prints. However, with the advent of information and communication technology, professionals now communicate using social media tools such as twitter, Facebook, LinkedIn and WhatsApp. Bullas (2014) defined social media as an online tool that allow interaction among individuals. Examples include LinkedIn, Facebook, blogs and Twitter. These various social media tools enhance communication among librarians and enable them to share ideas on the latest happenings in the library world. In addition, many of the prior studies on why librarians use online social media and networking tools often cite their need to communicate with each other. Marouf (2007) observed that many librarians confirmed two unintended benefits of using social media tools; the ability to spark and expand new ideas just from the direct

interaction between the (micro) blogger and his/her readers and even occasionally replaces the scholar's need to publish in traditional paper publications, such as scholarly journals. He further noted that "the use of social media for informal scientific communication among librarians help to create and maintain a community or network of librarians.

In addition, information and communication technology has vastly enhanced informal scholarly conversations. Due to the fast and easy accessible forms of communication provided by advanced technologies (social media), librarians can expand and enhance their communications around the world using social media. The use of social media by librarians has made it possible for librarians on opposite sides of the globe to discuss scientific and professional issues online. As technology advances, scientific communication methods will advance as well. It is on this background that the researchers sought to examine librarians' use of social media for informal scientific communication in university libraries in South-South Nigeria.

### **Statement of the Problem**

The level of informal scientific communication among librarians in Nigeria is such that librarians share ideas and knowledge by engaging on face-to-face interactions with professional colleagues, attending seminars and symposium, sending of letters, reviewers' note, preprint and post print. However, the advent of information and communication technology has led to a rapidly changing environment of informal scientific communication among librarians. The emergence of internet technologies (which brought social media into existence) has given librarians a faster option of informal scientific communication. The use of social media for informal scientific communication gives librarians the opportunity to interact speedily with professional colleagues in any part of the globe and also offers them opportunity to be active participants in invisible colleges. However, despite the numerous benefits associated with the use

of social media for informal scientific communication, observations and preliminary investigations revealed that librarians in university libraries in South-South Nigeria use social media strictly for social interactions and not for informal scientific communication. Specifically, past studies have generally not provided clear evidence of librarians' use of social media as an informal communication channels for the purpose of scientific communication. It is on this premise that the researchers sought to investigate Librarians' use of social media for informal scientific communication in university libraries in South-South Nigeria.

### **Research Questions**

The following research questions were asked to guide the study

1. What are the various social media tools used by librarians in University libraries in South-south, Nigeria for informal scientific communication?
2. To what extent do the librarians use social media for informal scientific communication?
3. What are the challenges faced by the librarians in the use of social media for informal scientific communication?

### **Hypothesis**

1. There is no significant relationship between use of social media and informal scientific communication among librarians in university libraries in South-South Nigeria.

### **Objective of the Study**

The main objective of this study was to examine Librarians' use of social media for informal scientific communication in university libraries in South-South Nigeria. Specifically, the study sought to:

1. identify the various social media tools used by librarians in university libraries in South-south, Nigeria for informal scientific communication.
2. determine the extent to which the librarians use social media for informal scientific communication.
3. examine the challenges faced by the librarians in the use of social media for informal scientific communication.
4. find the relationship between use of social media and informal scientific communication among librarians in university libraries in South-South, Nigeria.

## **Literature Review**

Social media is a product of web-based or internet technologies and they depend on these online and mobile technologies to operate (Hamid, Waycott, Chang, & Kurnia, 2011). The different types of social media used by librarians according to Gruzd and Staves (2011) are Facebook, blogs, micro blogging, YouTube, twitter, Wikis, Mash Up, Digg, Delicious, Second Life, Flickr, Picasa, amongst others. Veletsianos, Kimmons and French (2013) confirmed that interest in social media as a communication tool has been greatly influenced by young librarians. However, the use of social networks and participation in social media for scientific purposes by librarians has not been fully explored. Moreover, Veletsianos (2013) asserted the relative lack of understanding of librarians' practices in social networks, and posed the question, "What do librarians do in social networks? And what do their naturalistic practices reveal about scientific practice?"(p.33). He observed that, while one may make assumptions based on what is made public via social media, Twitter reveals only small amounts of information and leaves no existing documentation or evidence of scientific activities outside a particular forum. Veletsianos and Kimmons (2013) suggested that a study of scientific practices as a whole would shed useful

light on online scholarly communicative behavior. He noted that librarians prefer to share their professional investigations, ideas, and queries with like-minded individuals.

Furthermore, Warnakula and Manickam (2010) study indicated that the use of social media does not affect informal scientific communication as many librarians are still limited to the use of other traditional channels of informal scientific communication, while those who use social media limit themselves to the traditional uses of social media. For instance, most librarians use social media for making and maintaining connections with friends. Priem and Hemminger (2010) found that many librarians have become active participants in the new social media and predicted that librarians' use of social media would continue to increase. Certain types of social media are more frequently used by librarians for the purposes of informal communication and exchange of information, such as blogs, micro-blogging sites, and wikis (Gruzd & Staves, 2011). Research on the use of social media by librarians or any professional group is negligible, and relatively few studies have examined librarians' use of social media for professional purposes (Veletsianos & Kimmons 2013; Veletsianos et al. 2013). Social media are informal channels of communication that facilitate interpersonal interaction between librarians. Previous studies report that librarians, especially those in developing countries usually use personal contact for informal communication and information exchange. Communication among scholars usually takes place in direct and informal exchanges, typically between individuals or within a small group (Raini, 2010). In this case, interaction among librarians does not require that they be geographically near one another, as the new technologies remove geographic barriers. Social media and other communication channels facilitate communication and personal interaction among librarians, either nationally or globally.

However, the use of social media in recent years has increased globally (Reid, 2007). To understand the major changes taking place in the processes of scientific communication, Zuccala

(2004) stated that the use of social media by different library groups has brought into existence different invisible colleges which enable librarians to interact and communicate informally. Also Urista, Dong, and Day, (2009) explained that it seems that invisible colleges in various library associations prefer to use modern communication channels for informal communication. An examination of the social processes in which librarians engage can reveal what informal communication channels are used most frequently. As new technologies become more common among individuals and societies, librarians use multiple informal communication channels, such as social media in scientific communication. Tyson (2010) found out that although many studies have focused on informal communication channels and their users, they have not provided clear evidence regarding the appropriate informal communication channels that librarians prefer for scientific communication.

## **Methodology**

The descriptive survey method was employed for this study. The total enumerative sampling technique was used to select all librarians in university libraries in South-South Nigeria. The libraries comprised of all federal, state and privately owned university libraries in South-South Nigeria. The total enumerative sampling technique was adopted because the population is not large and the researchers had enough time and fund to conduct the study. This is in line with Osuala (2008). Questionnaire was used to collect data from the respondents. Two hundred and eighty-four (284) copies of questionnaires were administered, and two hundred and two (202) were retrieved thereby giving a response rate of 71%. Data were analysed using mean, frequencies and percentages. The hypothesis was tested using Pearson Product Moment Correlation Coefficient  $r$ .

## **Findings**

### **Gender of Respondents**

**Table 1: Gender Distribution of the Respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	94	46.5
Female	108	53.5
<b>Total</b>	<b>202</b>	<b>100.0</b>

Table 1 shows that the female respondents 108(53.5%) in this study are more than their male 94(46.5%) counterparts. This implies that female librarians participated more in the study than their male counterparts.

### **Age of the Respondents**

**Table 2: Age Distribution of the Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percentage (%)</b>
20-30 years	14	6.9
31-40 years	87	43.1
41-50 years	81	40.1
51-60 years	16	7.9
61 years and above	4	2.0
<b>Total</b>	<b>202</b>	<b>100.0</b>

Table 2 shows that majority of the respondents in this study are within the age range of 31-40 years and 41-50 years. The table also shows that only 4 librarians representing 2% of the total respondents are within the age range of 61 years and above.

### **Staff Designation of the Respondents**

**Table 3: Distribution of the Respondents by Staff Designation**

<b>Staff Designation</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Assistant Librarian	41	20.2
Librarian II	58	28.7
Librarian I	39	19.3
Senior Librarian	29	14.4
Principal Librarian	15	7.4
Deputy University Librarian	11	5.5
University Librarian	9	4.5

<b>Total</b>	<b>202</b>	<b>100.0</b>
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Table 3 shows that there are 58 respondents (representing 28.7% of the total respondents) and 41 respondents (representing 20.2% of the total respondents) in the Librarian II and Assistant Librarian designations respectively. Also, the table shows that there are only 9 respondents (representing 4.5% of the total respondents) in the University Librarians designation.

### **Working Experience of the Respondents**

**Table 4: Distribution of the Respondents by Working Experience**

<b>Working Experience</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1-5 years	39	19.3
6-10 years	49	24.3
11-15 years	66	32.7
16-20 years	23	11.4
21-25 years	11	5.4
26-30 years	6	3.0
31 years and above	8	4.0
<b>Total</b>	<b>202</b>	<b>100.0</b>

Table 4 shows that 66(32.7%) of the respondents had spent between 11-15 years on the library profession. This is followed by 49(24.3%) and 39(19.3%) of them who had spent 6-10 years and 1-5 years respectively. A few of them 6(3.6%) and 8(4%) had spent 25-30 years and 31 years and above respectively. This implies that many of the respondents in this study have good number of working experience.

**Research Question one:** What are the various social media tools used by librarians for informal scientific communication?

**Table 5: Social Media Tools Used by Librarians' For Informal Scientific Communication**

<b>Social media tools</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Facebook	162	80%
WhatsApp	115	60%
Twitter	102	50%

Blogs	109	54%
LinkedIn	82	41%
Instagram	76	38%
YouTube	101	50%
Flickr	36	18%
Google+	104	51%
MySpace	40	20%
Library Thing	25	12%
lib.rario.us	13	6%
Yammer	43	21%
Skype	28	14%

Table 5 shows the percentage of the usage of the various social media tools by librarians in university libraries in South-south, Nigeria. The table revealed that Facebook (80%), Whatsapp (60%), Twitter (50%), Blogs (54%), Youtube (50%) and Google+ (51%) are used by librarians in University libraries in South-south, Nigeria for informal scientific communication.

**Research Question Two:** To what extent do librarians in University libraries use social media for informal scientific communication?

**Table 6: Librarians' Use of Social Media Tools for Informal Scientific Communication**

<b>Librarians' use of social media tools for informal scientific communication</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	133	65.8
No	69	34.2
<b>Total</b>	<b>202</b>	<b>100.0</b>

From Table 6, it shows that a majority of the librarians 133(65.8%) agreed that they use social media for informal scientific communication, while 69(34.2%) of them disagreed. This implies that librarians in University libraries in South-South Nigeria use social media for informal scientific communication.

## Librarians' extent of the use of social media tools for informal scientific communication

**Table 7: Librarians' extent of the use of social media tools for informal scientific communication**

Social media tools	Mean
Facebook	2.93
WhatsApp	2.42
Twitter	2.24
Blogs	2.20
LinkedIn	2.10
Instagram	2.02
Skype	1.68
Flickr	1.65
YouTube	1.92
MySpace	1.68
Library Thing	1.43
lib.rario.us	1.45
Yammer	2.21
<b>Aggregate</b>	1.94
<b>Criterion</b>	2.50

Table 7 shows that the aggregate calculated mean of the extent of the use of social media tools for informal scientific communication by Librarians is 1.94. This is less than the criterion mean of 2.50. It can therefore be concluded that the librarians' extent of the use of social media for informal scientific communication in university libraries in South-South, Nigeria is low, since the calculated mean is less than the criterion mean.

**Research Question Three:** What are the challenges faced by librarians in the use of social media for informal scientific communication?

**Table 8: Challenges Faced By Librarians in the Use of Social Media for Informal Scientific Communication**

Challenges	Agree		Disagree	
	No.	%	No.	%
I feel that the privacy of my personal information on social media is not protected.	29	14.4	173	85.6
I do not trust social media because it will use my personal information for other purposes.	65	32.2	137	67.8

I do not have enough skills to use social media.	111	55.0	91	40
I do not have enough time to use social media.	102	50.5	100	49.5
I do not use social media because of technical issues.	118	58.4	84	41.6
I do not feel confident enough to use social media.	124	61.4	78	38.6
I believe that some forms of social media require a lot of mental effort.	111	55.0	91	45.0
I think social media is not an easy tool to set up and maintain.	94	46.5	108	53.5

From Table 8, it can be seen that 124 (representing 61.4%) of the total respondents have inadequate confidence to use social media, 118(58.4%) face technical issues associated with social media use, 111(55.0%) have inadequate skills to use social media and 111(55.0%) feel some forms of social media require a lot of mental effort. Also, 102(50.5%) lack enough time to use social media. it can therefore be concluded that inadequate confidence to use social media, technical issues associated with social media use, inadequate skills to use social media, mental effort required for the use of social media and lack of enough time to use social media are the major challenges librarians encountered in the use of social media for informal scientific communication by librarians in University libraries in South-south, Nigeria.

Hypothesis Testing: There is no significant relationship between the use of social media and informal scientific communication among librarians in University libraries in South-South Nigeria. The result is shown in Table 9.

**Table 9: Relationship between the use of social media and informal scientific communication**

		Use of social media	Informal Scientific Communication
Use of social media	Pearson Correlation	1	.503**
	Sig. (2-tailed)		.000
	N	202	202

Informal Scientific Communication	Pearson Correlation	.503**	1
	Sig. (2-tailed)	.000	
	N	202	202

From Table 9, Pearson correlation coefficient  $r$  ( $= 0.503$ ). Since the significant value (Sig. 2-tailed) is 0.000 (which is less than 0.05), it can be concluded that there is a significant relationship between the use of social media and informal scientific communication by librarians in university libraries in South-South Nigeria. The null hypothesis is therefore rejected implying that an increase in the use of social media by librarians may lead to a corresponding increase in informal scientific communication vice versa.

### **Discussion of the Findings**

The study revealed that librarians in University libraries in South-South Nigeria use Facebook, WhatsApp, Google+, twitter and YouTube for informal scientific communication. The study also revealed that some librarians also use LinkedIn, Blogs, Instagram and Flickr for informal scientific communication. These findings corroborate Mohammed (2015) assertion that the social media tools used by librarians for informal scientific communication include social networking sites such as Facebook, MySpace, and LinkedIn; blogs and micro-blogs.

The result from this study revealed that majority of librarians use social media for informal scientific communication. This revelation is in conformity with Priem and Hemminger (2010) findings that many librarians have become active participants in the use of social media and predicted that librarians' use of social media would continue to increase. They further added that certain types of social media are more frequently used by librarians for the purposes of

informal communication and exchange of information, such as blogs, micro-blogging sites, and wikis.

The result on the challenges faced by librarians in the use of social media for informal scientific communication showed that the major challenges faced by librarians include inadequate confidence in the use of social media, technical issues related to social media, inadequate skills and mental effort required to use social media and lack of enough time to use social media. This finding contradicts Adeyemi (2012) and Agboola (2013) claim that the issue of epileptic power supply in most African countries has in no small measure affected the use of social media applications by librarians as all the social media applications are powered by electricity

The outcome of this study revealed that there is a significant relationship between the use of social media and informal scientific communication among librarians in University libraries in South-South Nigeria. The revelation implied that an increase in the use of social media by librarians may lead to a corresponding increase in informal scientific communication and vice versa. This finding disagrees with Warnakula and Manickam (2010) study which indicated that the use of social media does not affect informal scientific communication as many librarians are still limited to the use of other traditional channels of informal scientific communication and those who use social media limit themselves to the traditional uses of social media; for instance, most librarians use social media for making and maintaining connections with friends.

### **Summary of the Research Findings**

The findings of this research can be summarized according to the research questions and hypothesis as follows:

1. The various social media tools used by librarians for informal scientific communication include Facebook, Whatsapp, Twitter, Blogs, Youtube and Google+.

2. The extent to which librarians in University libraries use social media for informal scientific communication is low.
3. Inadequate confidence in the use of social media, technical issues related to social media, inadequate skills and mental effort required to use social media and lack of enough time to use social media are the major challenges faced by librarians in the use of social media for informal scientific communication.
4. There exist a significant relationship between the use of social media and informal scientific communication, as an increase in the use of social media by librarians may lead to a corresponding increase in informal scientific communication and vice versa.

### **Conclusion**

The use of social media for informal scientific communication is no doubt a modern day phenomenon facilitated by advancement in technology. It is a fact that librarians in University libraries in South-South Nigeria seek more channels of informal scientific communication in addition to the traditional channels of informal scientific communication which includes face-to-face communication among professional colleagues, telephone conversation, lectures and seminars, letters, pre-prints and post-print. Although various forms of social media applications exist, the study did provide valid empirical evidence that librarians use social media for informal scientific communication but the extent of usage is low as many librarians majorly use only Facebook and WhatsApp for the purposes of scientific communication. The study affirms that a significant relationship exist between use of social media and informal scientific communication among librarians in University libraries in South-south, Nigeria.

### **Recommendations**

In the light of the findings of this study, the following recommendations were made:

1. University Librarians and other library administrators should sensitize library staff on the use of different social media tools for informal scientific communication because the world is now a global village and there is need for scholarly communication among library professionals irrespective of their geographical location.
2. Librarians should cultivate the habit of using modern technologies (such as computers, social media tools) for information sharing and dissemination because it is relatively cheaper and allows for wider participation.
3. Libraries should train staff periodically on the use of the different social media in carrying out library services. This will also enhance librarians use social media for the purposes of scientific communication among professional colleagues.

### **Contributions to Knowledge**

This study has no doubt contributed to the body of existing knowledge in a number of ways:

1. The study has been able to establish the extent of librarians' use of social media for informal scientific communication in university libraries in South-south Nigeria.
2. The study has shown unequivocally that a significant relationship exists between librarians' use of social media and informal scientific communication in university libraries in South-south Nigeria.
3. The study has successfully increased Librarians' knowledge on a relatively new channel of informal scientific communication (social media) for the purposes of scientific communication.

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