Academic Social Media a Catalyst in Enhancing Research Output of Faculty Members in Federal Universities in Nigeria

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Abstract
The study investigated the use of academic social media in enhancing research output of faculty members in Federal Universities in Nigeria. The study was guided by three research objectives. The population of the study was 11,567 and the sample size was 387. 274 questionnaires were correctly filled and returned. Data collected were analysed by descriptive statistics. The major findings of the study showed that faculty members use academic social media to seek and obtain knowledge from other researchers. Furthermore, academic social media has enhanced various types of research output such as journal articles, conference proceedings, thesis/dissertation and working papers. The findings of the study further revealed that faculty members utilized three major types of academic social media platforms such as Academia.edu, Google Scholar, and Research Gate. It was recommended that faculty members in Federal Universities in Nigeria should endeavor to share their contribution to knowledge to a wider audience through academic social media.
Keywords: Academic Libraries, Social Media, Research output, Nigeria Universities

1.1 Introduction

Research plays an indispensable role which propels a society to move forward. Several advances in research have led society to where they are today. Bako cited by Yusuf (2012) defined research as a systematic search and investigation for increasing the sum of knowledge. Several years of research activities carried out by people over time have provided the society across the globe including Nigeria with the knowledge and tools to advance the country's development in several sectors such as economic, social, political, educational and industrial settings. It is worthy to note that universities and research institutes are one of the major institutions that carry out research in Nigeria. As a result of this, research productivity is one the major parameters used in regulating a university status. The research carried out by universities are mainly carried out by faculty members, undergraduate students, post graduate students and research fellows. Therefore, research output is an indispensable criteria used in measuring the career progression of faculty members. Quality research output exposes the visibility of the institution, justify allocation of fund for more research by government and public investors. It equally provides opportunity for the institution to contribute to the development of its immediate community and country at

large.

Research output can be viewed as quantitative and qualitative researches undertaken by faculty members to contribute to the body of knowledge. Okpe *et al.* (2013) defined research output as a means by which faculty contribute new knowledge to the existing body of knowledge. These are always published in reputable reputed journal articles, technical reports, books or chapters in book. Etcetera Consequently, researchers now employ the use of Information Communication Technology in enhancing their research output. One of such development is the academic social media.

Academic social media (ASM) are sites that are targeted mainly for academics, researchers, students and scholars. These platforms are driven by user generated content. Academic social media also assist lecturers to facilitate their professional contacts, disseminate research findings and promote scientific collaboration. Academic social media provide opportunity for users to upload their articles, abstracts, links to published articles, track download of their articles, and engage in scholarly discussions, and exchange of questions and answers with fellow users. (Tai & Peterse, 2017). Faculty members are encouraged to use academic social media in enhancing their research output. Examples of academic social media are: Mendeley, Method-space, Pinterest, Academia.edu. Research-gate, Google-scholar, ORCID among others (Tai & Pieterse 2017).

Traditionally, researchers disseminate their research using scientific journals, conferences, workshop and posters and this makes the dissemination of research findings slow. Furthermore, citation count is not enough to determine impact of research. According to University of Malaya (2017) millions of research papers are published by different journals and indexed in various databases such as Web of Science (WOS) and Scopus, however over 43% of journals indexed by WOS have never received any citations. This implies that getting more citation and increase in visibility is still dependent on dissemination of research findings through other methods. Consequently, the academic social media is complementing these methods since it makes it faster and possible for faculty members to communicate results directly to the public and other key stakeholders. Chisenga *et al.* (2013) advocated that in Africa where access to research outputs generated in universities and research organizations is a challenge, academic social media has the potential to enhance the search for, distribution and sharing of research results. Vasquez &Bastides (2015) advocated that social media presence of a faculty member should be recognized as part of tenure and promotion review process. This will provide opportunity for faculty members and their affiliated universities visible and their contribution to knowledge easily discoverable by peers.

Despite the numerous benefits that could be derived from academic social media, research has shown that faculty members have not fully embraced it to enhance their research output. Opesanwo and Mabawonku (2016) conducted a study on the influence of use of social media in research productivity of lecturers in two selected universities in South-West Nigeria. It was reported that lecturers in South-West universities were on academic social media but they were not using it to enhance their research activities. Furthermore, according to Research Gate index as cited in Onwujekwe (2016) the best university in Africa in terms of research was University of Capetown, Capetown with RG score of 29,505.87 while the best university in Nigeria was University of Ibadan with RG score of 8,236.03. This index is likely a confirmation that most faculty members in Nigeria do not seize the opportunities offered by various academic social media to facilitate

the dissemination of their research output. The study sought seeks to find out how academic social media can serve as a catalyst for enhancing research output of faculty members in federal universities in Nigeria.

1.2 Statement of the Problem

Research outputs are the major criteria in measuring the performance and quality of a university. They are also used in evaluating the career progression of faculty members as well as promotion to higher ranks. As a result of this, faculty members of higher learning must be vibrant and improve their research outputs. In today's era of global technological advancement, ICT has become indispensable in research activities. One of such new developments in ICT is academic social media. Academic social media platforms enhance quality of research outputs, increase visibility and collaboration among academics. Several studies also revealed that most faculty members in African universities, Nigeria inclusive were not active users of the technology (Park, 2010; Ansah,2015). If this scenario is not urgently addressed, it may negatively affect quality of research, and visibility of research output emanating from federal universities in Nigeria.

This study will attempt to provide answer to the following question; How does academic social media serve as a catalyst in enhancing research output of faculty members in federal universities in Nigeria. In order to answer this question, the present research is carried out to fill the gap in knowledge.

1.2 Aim and Objectives of the Study

The aim of this study is to determine how academic social media serve as a catalyst in enhancing research output of faculty members in Federal Universities in Nigeria. However, the specific objectives of this study are to:

1. determine the use of academic social media in enhancing research output;
2. determine the types of research output

enhanced by academic social media;
3. find out the extent to which faculty members utilize academic social media platforms in enhancing their research outputs

2.1 Literature Review

There are several definition of academic social media. Ali (2017) defines academic social media (ACM) as sites that serve as a vehicle for scholars to promote their research and communicate with various scholars in their field. A typical academic social media consists of a set of papers, and a set of users associated with the papers, each paper is described by a list of metadata which includes: title, abstract, authors, and conference or journals in which the paper has been published. Information of each user in respect to his research interest and biographic information is also available (Li et al, 2010). Dalasselle (2012) as cited in Espinoza and Bastidas (2015) views academic social media as a new way researchers become more visible in order to have their research discovered by their colleagues.

The importance of academic social media in enhancing research output cannot be overemphasized. According to Rowland *et al.,* (2011) academic social media can be employed on all the stages in generating research output from identifying research opportunities to dissemination of findings. Floulkes & Vare (2018) emphasized that ACM can create greater interaction and collaboration with other experts in one's field on a global scale, provides opportunity for a researcher to benefit from the expertise of other researchers. Such researchers can provide a sounding board for one's ideas before, during or after the research process, raise the profile of a research, extend the reach of a research to include publications that may not have originally be considered, ultimately give a research work an enhanced opportunity to have real world, for reaching impact,

enables users to share content quickly and help to discuss development in research.

Academic social media networks have the potential of transforming the techniques of information publication and sharing in the scholarly world. Tai and Piterse (2017) emphasized that academic social media encourages authors to upload full-text articles that appeared in academic journals, lectures presented at conferences, and even drafts and make them accessible to the general public. Rowan (2011) posited that use of academic social media in research include discussing about work, papers read, and laboratories activities. According to Olpesanwo and Mabawonka (2016) stated that various aspects of research outputs can be enhanced by academic social media such as publications in learned journals, conference papers or proceedings, peer-reviewed bulletin, ongoing research and seminar papers among others.

There are various types of academic social media networks or sites. Each network has specific and unique functions it performs. Ward et al (2015) highlighted the following as the categories of academic social media:

i. Searching the (scholarly)web: This provides opportunity for a scholar to list his/her publications and highlights major achievements. Such engines crawl the entire web including research-related pages. Examples of such Academic social media is Google scholar and Microsoft academy search profile

ii. Sharing research: This academic social media network helps to expedite research outputs all over the world. They provide fast, free and open access to research results by taking of networked information environments and partnership. Examples are Research gate, Academia.edu and Figshare.

iii. Managing Research (citation Management as added service): These are proprietary citation management applications that can be used either web-based or desktop, such as CiteULike. Mendeley also offers options for users to set up private groups to collaboratively tag and annotate research papers.

iv. Disambiguating research: This provides a medium for researchers to create a unique and general identifier, example ORCID (Open Researcher and Contributor ID).

Several studies have been conducted on the use of academic social media in enhancing research output. Elsayed (2015) conducted a study on the use of academic social networks among Arab researchers, the study found that three quartet of researchers in Arab use social media to share publication and research gate was the most frequent used platform in enhancing their research output. Collins et al (2016) studied how scientist use social media in their work place in United States of America, United Kingdom, New Zealand, Australia and Canada. The study found out that scientist in these countries used it for exchanging scientific knowledge.

Tai and Pieterse (2017) carried out a study on reasons why faculty members utilizes academic social media networking sites. The findings of the study revealed that they use it for the purpose information consumption. Opesanwo and Mabawonku (2016) investigated the influence of social media on research productivity of lecturers in two selected universities in Southwest Nigeria. The findings revealed that academic social media has no significant influence on research output. The study further revealed that publications in journals, conference papers, and textbooks were the types of research output that were most influenced by use of academic social media

3.1 Methodology

The study adopted a descriptive survey and the population of the study is made up of 11,567 faculty members of twelve (12)

selected federal universities in Nigeria. They include Federal University Lafia, Federal University of Technology Minna, Abubakar Tafawa Balewa University Bauchi, Ahmadu Bello University Zaria, Bayero University Kano, Federal University Wukari, Michael Okpara University of Agriculture Umudike, Nnamdi Azikiwe University Awka, Federal University of Petroleum Resources Effurun, University of Benn, Federal University of Agriculture Abeakuta and Federal University Oye-Ekiti. A sample size of 387(30%) was drawn through simple random sampling technique. Data was collected through the use of questionnaire. Data was analysed using mean and standard deviation.

4.1 Result and Data Analysis

Result showed that out of the 387 copies of questionnaire administered, 274 were returned and found usable. This represents 71% of the total copies of the questionnaires administered.

Table 1: Use of Academic Social Media in Enhancing Research Output of Faculty Members

S/N	Statement	Mean	Standard Deviation	Decision
1	To seek and obtain knowledge from other researchers within and outside Nigeria about ongoing research activities	2.95	.787	High
2	In identifying research opportunities	2.87	.693	High
3	It has helped me in collaborating with other researchers nationally	2.86	.656	High
4	In reviewing research literature	2.78	.753	High
5	In helping to improve my visibility and showcasing my expertise	2.77	.746	High
6	In collecting research data	2.76	.756	High
7	It has helped me in collaborating with other researchers internationally	2.72	.679	High
8	Assisted in managing my research output	2.58	.643	High
9	In attracting more citations to my work	2.43	.709	Low
10	In analyzing research data	2.43	.709	Low
11	It has helped me to upload my publications for other Colleagues to assess and for wider spread	2.40	.684	Low
12	Share links of published articles	2.38	,637	Low
13	Sharing data	2,24	.641	Low
14	Attracted grants to my work	2.09	.750	Low

Table 1 showed the extent to which faculty members in federal universities in Nigeria use academic social media in enhancing their research output. The respondents rated one of the items as the major benefit of use of academic social media which is to seek and obtain knowledge from other researchers within or/and outside Nigeria about ongoing research activities (mean = 2.95). Other items that were rated high were: In identifying research opportunities (mean=2.87), it has helped in collaborating with other researchers nationally (mean=2.86), in reviewing research literature (mean=2.78), in helping to improve my visibility and showcasing my expertise (mean=2.77), in collecting research data (mean=2.76), it has helped in collaborating with other researchers internationally (mean=2.72), assisted in managing my research output (mean=2.58) From table 1 it becomes obvious that academic social media have not attracted more citation to works (mean=2.43), in analysing research data (mean=2.43), helped to upload publications for colleagues to access and for wider spread (mean=2.40), share links of published article (mean=2.38), sharing data (mean=2.24) and attracted grants to works (mean=2.09)

Source Field Work 2019

Table 2: Research Output that are Influenced most by Academic Social Media Use

S/NO	Statement	Mean	Standard Deviation	Decision
1	Journal articles (national)	3.16	.678	High
2	Journal articles (international)	2.96	.689	High
3	Conference proceedings (national)	2.75	.768	High
4	Conference proceedings (international	2.74	.681	High
5	Thesis/ Dissertation	2.72	.904	High
6	Working papers (international)	2.58	.743	High
7	Working papers (national)	2.58	.777	High
8	Technical report (international)	2.28	.726	Low
9	Seminar papers (national)	2.27	.747	Low
10	Technical report (national)	2.26	.698	Low
11	Seminar papers (international)	2.26	.733	Low
12	Workshop papers (international)	2.26	.733	Low
13	Workshop papers (national)	2.13	.677	Low
14	Edited books	2.12	.695	Low
15	Scientific peer reviewed bulletin	1.96	.622	Very low
16	Authored books	1.94	.565	Very low
17	Book chapter	1.93	.530	Very low
18	Posters	1.92	.633	Very low

Source: Field Work 2019

Table 2 shows the types of research output influenced most by academic social media. The result indicated that journal articles national (mean=3.16), journal articles national (mean=2.96), conference proceeding national (mean=2.75), conference proceeding international (mean= 2.74), thesis/dissertation (2,72) and workshop papers international (mean =2.58) were influenced by use of academic social media. In addition, findings revealed that academic social media have not influenced the following research output: technical report international(mean=2.28,) seminar papers national (mean=2.27), technical report national (mean=2.26), seminar papers international (mean=2.26), workshop papers international (mean=2.26), workshop papers national mean=2.13, edited books (mean=2.12), scientific peer reviewed bulletin (mean=1.96), authored books (mean=1.94), book chapter (mean=1.93) and posters (mean=1.92)

Table 3 Extent of Utilization of Academic Social Media Platforms in Enhancing Research Output

S/N	Statement	Mean	Standard Deviation	Decision
1	Academia.edu	3.28	.731	Moderate Extent
2	Google scholar	3.19	,722	Moderate Extent
3	Research gate	3.15	.750	Moderate Extent
4	Social science research Network	2.43	.928	Little Extent
5	Mendeley	2.39	.966	Little Extent
6	Micro soft academic Search	1.77	.807	Never
7	Research professionals	1.76	.785	Never
8	Science open	1.61	.708	Never
9	Impact story	1.58	.697	Never
10	Dataverse	1.51	.607	Never
11	Open researcher and Contributor ID (ORCID)	1.44	.559	Never

Source: Field Work 2019

Table 3 shows the responses of the respondents on the extent of utilization of various academic social media platforms in enhancing their research output. Majority utilized the following platforms to a medium extent: Academia.edu (mean=3.28), google scholar(mean=3.19) and Research gate (mean=3.15). While platforms such as Social science research network and Mendeley were underutilized with a mean score of 2.43 and 2.39 respectively. Majority of the respondents also indicated that they have never utilised platforms such as: Microsoft academic search (mean=1.77), Research professionals (mean=1.76), Science open (mean=1.61), Impact story (mean=1.58), Dataverse (mean=1.51) and ORCID (mean=1.44).

5.1 Discussion of Findings

Academic social media provides opportunity for researchers to share their research output, obtain opinions, and perspectives from researchers all over the world. many the shared knowledge are not restricted to research findings but may include information obtained through experiences and from print information resources. This finding is in conformity with Collins et al (2016) who reported that academic social media enhanced researchers search and exchange of scientific knowledge among each other in United States of America, United Kingdom, New Zealand, Australia and Canada. In addition, it was observed from the results obtained from the study faculty members in Federal Universities in Nigeria, has not taken full advantage of uploading their research output through various academic social media platforms. It was not enough to use these platforms for information consumption, communication among others but other researchers should also benefit from the contribution of knowledge of every researcher in a given platform.

Furthermore, when faculty members disseminate their research findings to a wider audience it will increase the citation of such work and in the long run improve their reputation and showcase their expertise This finding is contrary to the studies carried out by Nadex and Borrego (2013), who revealed that faculty members and graduate students in Catalian institutions use academic social media in disseminating their research

findings. The results indicated that academic social media positively influences research outputs such as journal articles, conference proceedings, thesis and dissertation and working papers. publications in journals and conference papers.

Academic social media has positively influenced research outputs of faculty members in federal universities in Nigeria such as journal articles, conference proceedings, thesis and dissertation and working papers. Academic social media provide a platform for researchers from various field to disseminate their research findings to various part of the world. It also enables researchers to improve the quality of their research output. They are able to obtain advice from other researchers, get feedback and search literature on areas that have been covered in their area of research. This was also supported by the findings of Opesanwo and Mabawonku (2016) who reported that academic social media use has influenced faculty members' publications in journals and conference papers.

The researcher also discovered from the study that academic social media has influenced thesis and dissertation of faculty members. Researchers and faculty members supervising students' projects and undergoing post graduate programmes can keep up to date in various areas of research by searching for conceptual framework, methodology, empirical reviews, theories, models and collect data etcetera related to their studies. This will greatly improve the quality of research emanating from federal universities in Nigeria. This finding is in line with the result of Murat (2015) where it was discovered that academic social media was a major tool in enhancing thesis/dissertation in Middle East technical universities.

Acadenia.edu. Google Scholar and Researchgate were the platforms that are mostly utilized by faculty members in enhancing their research output. Faculty members may have utilised these platforms more probably because they are more popular. Faculty members are expected to utilize as many academic social media as possible for each of them have unique services they offer. For Mendeley offers reference management service that can't be found in other platforms such as Academia.edu, Google scholar and Researchgate. This finding is in agreement with Asimi & Morgan (2018) who revealed that Research gate and Academia.edu are the most used academic social media by researchers.

Conclusion and Recommendations

Academic social media has emerged as a valuable platform for faculty members and researchers irrespective of their disciplines to enhance the quality, visibility and dissemination of research findings. Academic social media can be employed to enhance various types of research output such as journals, conference proceedings, books, figures, dataset, thesis/dissertation, software, working papers among others. Furthermore, there are various platforms that can be assessed by faculty members in facilitating their research output such as Academia.edu, ResearchGate, Google scholar, Mendeley, etcetera.

In consideration of the findings of this study the researcher recommends that

1. Faculty members in federal universities in Nigeria should endeavor to share their contribution to knowledge to a wider audience by uploading their research findings in various academic social media platforms.

2. University lecturers in federal universities in Nigeria should endeavor to diversify the types of research outputs influenced by academic social media. Academic social media can also have influenced publications such as books, seminar papers, technical papers and posters among others.

3. Faculty members in Federal universities in Nigeria should endeavor to employ other academic social media such as Mendeley, Research professionals, Dataverse, Impact story and Micro soft academic search for they also offer unique services in enhancing research activities such as reference management service, social bookmarking service and data management service.

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