Social Media and Higher Education: What are the Motivation for Social Media use by University Faculty Members in Ghana?

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Abstract
Higher Education institutions (HEIs) exist within technological and social contexts worldwide. Universities have invested in technology and built the capacities of their staff for the improvement of faculty scholarship. Social media platforms such as social media that were initially designed and used for social interactions now have a considerable stake in higher education. University faculty members use social media platforms in their academic research. This study investigates the motivations for social media platform usage by university faculty members in Ghanaian universities and how the user can affect their academic productivity. This study adopted online questionnaires to collect the needed data from university faculty members. To have closer insights into the study's subject matter. The researcher investigated the issue from 301 university lecturers, 5 randomly selected universities and 13 academic departments. Some key findings of this study indicate that the specific social media platforms used by faculty members are: WhatsApp, Facebook, Linked In, Twitter, and Research Gate, with (57.1%) faculty members using WhatsApp to aid them in teaching and research. Faculty members also use social media to network with other scholars to share knowledge in their fields of expertise. Based on our findings, it can be concluded that the use of social media platforms enhances the faculty member's academic productivity.
Keywords: Academic, Research, Productivity, Social Media Platforms, University, Faculty Members, Publications, Ghana

Introduction

With the popularity of social media, its utilisation in universities is continuously discussed in social science (Wilson et al., 2018; Gruzd & Goertzen, 2013). According to Guédon, (2019) and Carpenter et al., (2014), scholarly or academic productivity are tangible; hence faculty measure the extent of their outputs concerning the journal articles, reports, monographs, book chapters, books, grants proposals they have successfully developed and published. To achieve this, they tend to use different techniques and technologies, including social media platforms, to enhance their scholarly output. Usrof, (2017) indicated that scholarly studies on social media and productivity could be classified into two forms: organisational or corporate and individual productivity. The corporate type of productivity is described in three research areas: using social media in educational activities, in government, and the business environment. The personal aspect of social media and productivity in academia focuses on the individual faculty member's output.

However, Marmion et al., (2018) posit that for faculty members to claim to be in academia and termed as professionals, they have to go through the evaluation system. This kind of assessment focuses on professional research publications aligned with the prescribed responsibilities of the faculty member.

Therefore, research publications in higher learning institutions are the primary measure of professionalism within academia (Ibrahim et al., 2016). Besides, the number of research publications produced by faculty members is used to measure and judge the productivity of members (Carpenter et al., 2014; Dev et al., 2015). Pratikno & Sujarwo, (2018) pointed out that research productivity varies widely from one institution to another, depending on the emphasis placed on three critical core values of higher educational institutions: teaching, research, and service.

Social media, including social media use in Ghana, started at a slow rate, just like in many African countries, but has grown and expanded to both urban and rural areas in Ghana over the past decade(Boahene et al., 2019). The impact of Social media on the output of the faculty member's higher education institutions in Ghana can never be underestimated. Social media has enabled university faculty members to interact and network on various issues. They use online media platforms as an avenue for exchanging learning experiences, knowledge, academic opportunities, and even sharing research findings (Ahern et al., 2016; Dwivedi et al., 2017). Increased access to the internet has made it much easier for faculty members and students to join various social media platforms. Various scholars assign reasons to justify using social media for academic purposes. The transformative power of social media allows students and researchers within academia to have exposure to the rest of the world. This will promote networking, sharing of expertise, and attracting new audiences (Qiao & Shih, 2018).

Review of Related Literature
Integrating Social Media in Higher Education Practices

Globally it is estimated that 3.8 billion of the world's population will be using social media, including social media, by the end of 2021, which will represent more than half of the population of the world (Javid et al., 2019; Hootsuite Digital 2021). It is estimated that people spend an average of 144 minutes daily on social media for varied purposes (WIS, 2020; Hootsuite Digital, 2021). Statistics show that about 45% of social media users in the USA are addicted (addiction is described as people who use social media and social media for more than 3 hours a day(Javid et al., 2019; Hootsuite Digital, 2021). For this study, the researcher adopts the term social media to imply that all the applications and network tools are utilised by groups and individuals to create, share, and consume content. They include and are not limited to platforms like Google search and (social media platforms like WeChat, WhatsApp, Facebook, Weibo), Linked In, Skype, Research Gate, and other web and blog sites.

The adaptation of social media platforms in academia has generated much debate on the exact use of these applications. Generally, social media in higher learning institutions has mainly been studied through the lens of marketing(Anderson, 2019). A recent study on social media in higher educational institutions reveals an increase of 68% and 80% in the adoption of social media for teaching and learning activities in some universities in the United States and Canada, respectively (Gruzd et al., 2018).

Statistics on the use of social media in education reported that faculty in Social Sciences, Humanities & Arts, and those in Applied Sciences academic fields, use social media the most. However, those in Mathematics, Computer Science, and Natural sciences have little interest in social media utilisation (Perrin & Anderson, 2019; Lampe et al., 2016). Perrin & Anderson (2019) found out that 88% of faculty members adopt social media platforms for teaching and networking with students and other scholars. The study also revealed that blogging websites and wikis are mostly used for teaching, while Facebook or LinkedIn are used for professional development and networking. The findings again concluded that in all, 33.8% of faculty members in the USA use social media platforms such as online videos primarily for teaching.

Scholars have done many investigations on using social media platforms for google search teaching and learning. The studies show that about 48%

and 45% of faculty members use social media for education and discussing questions and answers with their students outside the traditional classrooms. Larson, (2015) carried out a longitudinal study using experimental techniques to examine the experiences of postgraduate students and lecturers' use of social media in Ghana and concluded that social media can enhance lecturer-student academic relationships and increase academic achievements of both faculty members and students.

Another review of literature and report on the use of social media by university faculty members concluded that faculty members spent between 30 minutes and 60 minutes on social media platforms for teaching, networking with their students and other scholars daily (Ghahrani et al., 2015). Another study indicated that if university faculty members manage social media platforms well, it could be an excellent and valuable tool for research, service, and teaching and learning in higher education institutions. For instance, using YouTube for online videos is very strategic for research and teaching (Dumpit & Fernandez, 2017; Destiny & Onosahwo, 2018).

It is argued that the use of social media by faculty members in higher learning institutions has a very positive influence on academic research, teaching, and services. When faculty members are regularly involved in social media use, it could foster the sharing of knowledge and promote collaboration within the academia (Gu and Widen-Wulff; 2011; Başaran, 2019; Demuyakor, 2020; Delello, 2015). According to a survey conducted on academic staff's use of social media at Finnish Universities (Gu and Widen-Wulff, 2011) concluded that nearly 40% of researchers and faculty members at the Finnish universities considered social media as a major means of promoting scholarly communication. However, Liang et al. (2014) contradicted the previous studies on social media for scholarly communication and concluded that there is low usage of social media for scholarly communication among faculty staff.

Devi et al. (2019) argue that the introduction of social media in higher education has enabled faculty members to increase their contact hours with their students. This unique role of social media has enhanced lecturer-student relationships. Faculty members use social media platforms to search for essential research materials and find and network with other scholars.

Owusu-Ansah et al. (2015) illustrated that the friendly interactions and environment created by the utilisation of social media in higher education would motivate students to seek answers to their questions. Social media and social media platforms in higher education, if well managed, could lead to conducting useful teaching and learning within university campuses. Some scholars are aware of the challenges of social media utilisation in institutions of higher learning. The related research concluded that one major challenge students and teachers in higher educational institutions are likely to face while using social media and social media platforms is addiction(Hou et al., 2019; Segaren, 2019; Hussain et al., 2020). Anderson, (2019) cited that another challenge of social media in higher education is privacy breaches. Anderson, (2019) believes that the advent of social media in higher institutions of learning has infringed on users' privacy. Internet regulators are not interested in protecting the data of users. Internet providers would not give the needed protection to the data of many users. The release of users' personal and private data to third parties infringes on users' privacy (Anderson, 2019).

Instructors and students think that adopting social media within informal learning settings could be more beneficial than the formal educational sector. Their findings showed that the rate of social media use in formal educational institutions could not be effectively monitored and controlled to yield the desired purpose. This constraint of social media in education is attributed to the unregulated use of social media in higher learning institutions, which negatively eroded both faculty members and students (Czerkawski, 2016 and Greenhow & Lewin, 2016).

By reviewing the literature on social media utilisation in higher education institutions, it could be concluded that most of the studies on social media use in higher education institutions are mostly from the perspectives of students' usage. It's very clear from the summaries of the reviewed literature that there are wide research gaps that need to be filled. The previous studies cited did not present how social media used by faculty members specifically relates to their research publication outputs. This paper will,

therefore, look at how social media can influence the research publication' outputs of university faculty members from the Ghanaian perspective.

Theoretical Framework

Upon a careful review of the literature, one can conclude that several theories might apply to this study. Still, the researcher believes, the theory that strongly relates to the content of this paper is the Expectancy Theory or VIE theory:

Expectancy Theory or VIE Theory

Over the years, faculty members at various universities have tried very hard to balance their teaching, carry out adequate research, and service with their assigned responsibilities (Delello et al., 2014; McClure, 2016). Nevertheless, there is an indication of concentration on both teaching and reduced output levels in research. Mamiseishvili and Rosser (2011) point out that as far as productivity is concerned, numerous factors encourage faculty members. Such factors include tenure and promotions, use of technology, research publications, and external funding.

According to Vroom (1964), the Expectancy Theory or VIE theory states that the efforts of individuals are based on their desire to be rewarded, the likelihood of getting the reward (expectancy), and the belief that the reward is achievable (instrumentality). According to the expectancy theory, people develop ideas based on different choices and plans. This is about their level of understanding and perception. Some behaviour will result in predetermined outcomes (Mathibe, 2008, p.8).

According to Musick (2011), most universities data do not capture or keep records of the thousands of hours that faculty members spend during the working period to publish research to keep abreast with the new developments in their fields of study, to supervise both undergraduate and graduate students, and to serve the committees. Kreuter, (2013, p.1) says that the university conforms to "doing more and making less." The faculty members are required to do more by expanding their responsibilities. This can be done by participating in recruitment and promotion efforts with the aim of enrolment numbers in the

short term. According to Mamiseishvili and Rosser (2011), when there is too much pressure and the demands are placed on faculty work, it can only be vital to examine how the productivity of the faculty within the confines of academic areas of research, teaching, and service provision is related to their job output. Suggested improvements are likely to produce unintended results no matter how well the calls for reforms may be. This study investigates how the use of social media by the members of university faculty can influence the output of their academic research in Ghana. Based on the review of the literature, we developed the following research questions to guide our study.

Research Questions

- **RQ1.** What are the first-choice social media platforms used by faculty members for academic research purposes?
- **RQ2.** What is the primary motivation(s) behind using social media by university faculty members?
- **RQ3.** What is the relationship between the use of social media by faculty members and their academic research output?
- **RQ4.** What challenges does the use of social media by faculty members pose to their academic research?

Methodology

This study employed a cross-sectional design with an online questionnaires survey to gather data from respondents. The online questionnaires approach offers the researchers the opportunity to make use of more elaborate empirical findings (Mertens, 2010 and Leavy, 2017). The online questionnaire survey further gives room for the researchers to collect and accumulate data to have a full understanding of the research (Fetters et al., 2013, Yin, 2015, and Leavy, 2017).

Sampling, Data Collection and Analysis

The total population for the study is N= 315 faculty members in the five purposively selected universities in Ghana. The five universities were purposively sampled due to their high reputation for conducting high academic research in Ghana

(Amponsah and Onouha, 2013). The researcher had 13 academic departments made up of 23 faculty members each. 315 online questionnaires were administered to 13 academic departments. The questionnaire's link went live and started accepting responses via individual and group WhatApp platforms and e-mails of the respondents for three months (March to May 2021). The respondents were reminded to respond within the time limit set out. A bi-weekly reminder was established to ensure the total responses to the study. 301 valid questionnaires were received from the respondents translating to 95.5% as the unit for this analysis. Instruments used for the survey included 25 five-point Likert-scale questions *(1 = strongly disagree, 2 = somewhat disagree, 3 = neither disagree nor agree, 4 = somewhat agree, 5 = strongly agree)*.

The researcher randomly chooses 5 out of 10 public universities for the study are the University for Development Studies, the University of Cape Coast, the Ghana Institute of Management and Public Administration, Winneba, Kwame Nkrumah University of Science and Technology, and the University of Education. The choice of these universities was to give a fair representation of the public. The universities cut across four regions in Ghana, namely the Northern Region, Central Region, Ashanti Region, and Greater Accra Region. That gives a north-south divide representation in Ghana. Besides, these universities are also noted for embarking on rigorous research as mandated by the Acts of Parliament establishing them. The sampled universities are under the National Council for Tertiary Education and the National Accreditation Board of Ghana, which has oversight responsibility for evaluating their research productivity. The researcher decided to leave out the private universities in this study because most of the private universities in Ghana do not adhere to internal quality control mechanisms stipulated by the National Accreditation Board of Ghana. (Amponsah and Onouha, 2014). The final data for the study corded and analysed using, charts, percentages, mean, standard deviation, and linear regression.

Results
Demographic Characteristics of Respondents

From the study, 51.9% of the respondents were male, 48.1% were female. The gender imbalance is not likely to influence the outcome of the study, given that the nature of the research, together with the questions asked, was, in a way, not gender-sensitive. Therefore, some errors brought about by gender imbalance were tolerated. Nevertheless, because most of the responses mainly relied on opinions and general perceptions, gender distribution was expected to take into consideration the perceptions as well as the views of either male or female gender, which will not have any influence on the outcomes of the study (Figure 1);

Figure 1: Gender Distributions of Respondents

Age Distribution of Respondents

A majority (32.9%) of the respondents were between 41-45 years, 28.6% of the respondents were between 46-50 years, 18.1% were between 36-40 years represent, 2.9% were between 56-60 years old, 2.9% were less than 30 years, and 1.4% were between 31-35 years old (Fig. 2);
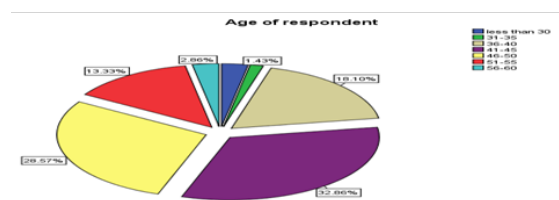

Figure 2: Age Distribution of Respondents

Academic/Professional Qualification(s) of Faculty Members

Out of the valid data collected from 301 faculty members. The following is the breakdown of the academic and professional qualification(s) of faculty members. Ph.D. holders are 208 respondents,

representing 69% of the sampled population. The next qualification is faculty members with Master of Philosophy (Mphil), who are 74 respondents, and equates to 24.5% of the population for the study. Last but not least is 19 faculty members with M.Sc. qualifications who are (6.5 %). (See Fig. 1) The distribution of the academic ranks is, professor's account for 10.8 %, associate professors account for 17.6 %, senior lecturers 52.4 %, and lecturers 19.2 % (see table figure 3 for details);
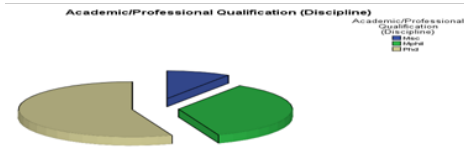

Figure 3: Academic/Professional Qualification(s) of Faculty Members

RQ1: Choices of Social Media Platforms by Faculty Members

Table 1 of the study indicates the first choice of social media platforms used by faculty members is as follows; 18.6 % of faculty members use MOOCs, YouTube, 20.0%, and 4.3% use Research Gate, while 57.1% use Google search for their research publications.

Table 1: Faculty Members' First Choice of Social Media

Social Media Type	Response		Percent of Cases
	N	Percent	N
Google search	172	57.1	57.1
YouTube	60	20.0	20.0
MOOCs	56	18.6	5.3
ResearchGate	13	4.3	4.3
TOTAL	301	100.0	100.0

RQ2: The Motivations of Online Media by Faculty Members

The study investigated the primary motivation for faculty members using social media; the data is presented in the cross-tabulation order as follows. 19.3% were motivated to join social media for entertainment and socialisation purposes. From the findings, 243 out of 301 respondents representing 77.4%, joined social media platforms primarily for academic reasons. (See Table 3);

Table 2: Cross-Tabulation of Motivations of Using Social Media by Faculty Members

Academic*Entertainment					
			Entertainment/ Socialization		Total
			No	yes	
Academic Research	no	Count	1	0	1
		% of Total	0.5%	0.0%	0.5%
	yes	Count	58	243	301
		% of Total	19.3%	80.7%	100%
Total		Count	68	233	301
		% of Total	22.6%	77.4%	100.0%

RQ3: The Relationship between Faculty use of Social Media and Academic Research Publication Outputs

The researcher used simple linear regression to find out if there is any relationship established between the uses of the social media platforms by faculty members and academic productivity. The graph indicates there is a positive correlation that exists between social media use and scholarly output because a significant percentage of the staff members are users of social mainly for academic purposes, which had led to an increase in academic productivity and a change in the use of social media from academics to other purposes will decrease scholarly productivity. (Fig. 4)
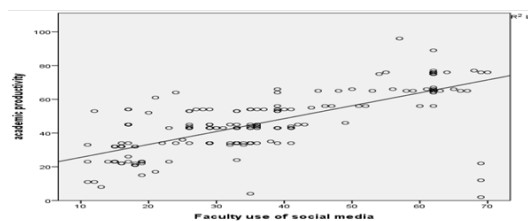

Figure 4: Simple Linear Regression for Faculty Use of Online Media and their Academic Productivity

RQ4: Challenges of using Social Media by Faculty Members

An analysis of the data of faculty members identified the following as challenges they faced in using social media for research publications. With the "high cost of internet data" (M=4.25, SD=0.902) recoded as the greatest challenge and "social media facilitates plagiarism" (M=3.84, SD= 0.801) as the least challenge. See table 4 for details;

Table 3: Descriptive Statistics on Challenges

Item	Challenges	Mean	Std. Deviation
1	Social media facilitates plagiarism	3.84	0.801
2	Poor mobile networks	4.03	0.889
3.	The high cost of internet data	4.25	0.902
4.	Internet addiction	3.99	1.043
	Overall	**4.03**	**0.909**

Discussion

This study found out that the first-choice social media platforms used by faculty members are: WhatsApp (57.1%), LinkedIn (13.3%), Facebook (20.0%), Twitter (5.3%), and Research Gate (4.3%). On the specific academic purpose, faculty members use social media for, our research reveals the following; 59.6% of faculty members use social media for scholarly research publications only, 19.6 use social media for communication with their students, 20.3% use social media for teaching and learning. In comparison, 20.6% of faculty members use social media as a source of teaching and learning materials.

From a careful review of related literature and the analysis of data of this study, it is evident that the social media platforms are used by the faculty members to attain their academic research goals and objectives. For instance, according to our study, 59.6% of the respondents joined social media platforms primarily for academic reasons. Previous related literature (Perrin & Anderson, 2019; Dumpit & Fernandez, 2017; Destiny & Onosahwo, 2018; Başaran, 2019) on social media use and productivity agreed with our findings. Social media platforms could be a strategic tool to enhance faculty members' academic research productivity.

The linear regression analysis showed a significant strong positive relationship between social media use by faculty members and academic research productivity. The mean value is -1.49E-16, the standard deviation is 0.998, and the number of samples is 301. This indicates that the more faculty members make use of social media, the more they improve in their academic research productivity and vice versa. Comparing these findings to the qualitative data, it was found that there is some level of agreement and disagreement. This is because 95% of the participants did attest that social media positively impacts academic productivity, while 5% of them assert that social media negatively impacts academic research productivity. Notwithstanding, our study concluded that faculty members' social media usage contributes positively to scholarly research productivity, which agrees with previous studies Dumpit & Fernandez, (2017) and Başaran, (2019).

In determining the value of university faculty social media use and academic research productivity, it is essential to examine the level of effort that can be put in place by stakeholders to improve social media platforms as a means of enhancing academic research. The values are certainly there, but how best they can be quantified needs to be determined by faculty and university administrators. Social media platform analyses are some of the measurement strategies that will help determine the impact and benefits of university faculty using social media in Ghana.

Challenges such as the cost of the internet and plagiarism must be tackled stringently. Influenced by globalisation and Information Communication Technology (ICT) in higher education in Ghana, government, university administrators, and other stakeholders can come up with an initiative of awarding allowances to faculty members for laptops, internet data and also provide more training on the efficient use of social media platforms to enhance their academic research productivity. Furthermore, universities in Ghana can strengthen existing online platforms used for teaching and learning by providing more training and capacity building for both faculty members and students. Thus, creating an ICT-based culture will be a long-term impact on research publications positively.

Conclusion

This research illustrates approaches to developing a fundamental understanding of the processes involved in determining academic research productivity. The outcome of this study will promote a better consideration of how social media or modern technologies can be of great value in institutions of higher learning. Better knowledge of how professional practice, faculty evaluation, and how to motivate others to carry out more research in this area is expected. Positive implications for software developers, scholars, and researchers are interested in promoting online communication through social media, and social networking will be enhanced. The application developers will replicate the features that are desirable and preferred by the university faculty. Understanding the motivation behind the use of social media by the university faculty is essential in ensuring the successful implementation of social media technology in higher education institutions. The independent variable in this particular study was rated the highest contributor to regression analysis. There was also a positive relationship between the dependent variable. The researchers found that social media use by university faculty members increases academic research publications.

Limitations and Directions for Future Research

In most cases, people selected to answer survey questions are always different from those who do not answer the questions. Therefore, it is essential to note that not all the answers can be generalised to represent faculty members in various institutions of higher learning across the globe. Due to constraints beyond the reach of the researcher, all academic departments in the 5 universities could not be covered in this study. Hence 13 academic departments were randomly selected from the 5 universities for this study. Based on a large sample size may have contributed towards different results and outcomes. Due to some limitations, the study will shed more light on social media in academic research productivity. Because there is little research about social media and its relation to academic research productivity, this study mainly contributes to the limited literature on social media and academic research productivity.

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