

DISCIPLINARY DIFFERENCES IN THE USE OF ACADEMIC SOCIAL NETWORKING SITES IN UNIVERSITIES IN SOUTHWESTERN NIGERIA

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Abstract

The study investigated the perceptions of lecturers about ASNSs across different disciplines in Southwestern Nigeria with a view to providing information about the importance of user characteristics in the adoption and use of research tools. It identified the types of social networking sites in use by the lecturers and determined the level of awareness of Academic Social Networking Sites (ASNSs) of the lecturers across different disciplines. The study adopted a descriptive survey research design. The sample for this study consisted of 240 lecturers selected from nine public and private universities in the region. The study employed the multistage sampling procedure. An instrument named Lecturers' Characteristics and Use of ASNSs (LeCUA) was used to collect data for the study, while percentages, counts and mean scores were employed to analyse the data. The results showed that ResearchGate (94%), Google Scholar (91%) Academia.edu (66%) and LinkedIn (60%) were the popular academic networking tools in use. The results also showed that Engineering lecturers consistently registered the highest level of awareness in all four items of the awareness scale, while the Arts lecturers consistently recorded the lowest level of awareness on all the items. Lecturers in Engineering also registered the highest level of perception, unlike their counterparts in other disciplines, particularly the Arts.

Keywords: Academic Social Networking Sites; ASNSs, ResearchGate; Academia.edu; Disciplinary Differences

Introduction

Aside from teaching, university lecturers have other roles that include, the conduct of research, publishing in learned journals, presenting papers at conferences, workshops and community services. Researchers' access to tools, skills and opportunities that support effective research can make a difference in the quality of the research output. Academic Social Networking Sites (ASNSs) are valuable support tools for researchers all over the world,

particularly those in developing countries who battle with many inadequacies associated with their research environment, but have little funding to purchase sophisticated resources.

Limited access to scholarly databases, coupled with challenges like inadequate skills, high fees, competitive peer-review processes, and manuscript rejections, impedes research productivity in Nigerian universities and contributes to poor research output in developing countries, hindering global competitiveness and meaningful contributions to national and global development (Ocholla & Onyancha, 2016; Nabyonga-Orem et al., 2020; Fathelrahman, 2015). Moreover, Jacob and Meek (2013) suggested that world-class excellence and globalisation can be attained by resource-starved economies if research networks leverage ICT (Information and Communication Technologies). As it is, Academic Social Networking Sites (ASNSs) seem to have the potential to democratise research and alleviate the limitations associated with research and scholarly activity.

In spite of the innovative and evolving role of academic social networking platforms in facilitating collaboration and scholarly efforts, limitations such as privacy, trust issues and lack of awareness can stand as reasons for non-use or limited use of ASNSs. User characteristics such as age, gender, qualification and discipline have been shown to influence the use of technological tools by researchers as shown by Kumar (2012) and Mensah and Onyancha (2021). Based on the globally overarching influence of social media in virtually all aspects of human existence, including the academic sector, this study investigated the pattern existing between lecturers' characteristics, specifically their disciplines and their adoption and use of academic networking tools in universities in Southwestern Nigeria. Secondly, the awareness and perception of lecturers of ASNSs was also investigated.

Statement of the Problem

This study aims to fill a knowledge gap by investigating the potential variability in academic social networking sites (ASNSs) usage and its determinants among scholars. The study addresses the limited awareness and poor perception reported by Lee et al. (2019) and Olanusi (2022), especially in Nigeria, where there the lack of comprehensive understanding and awareness about available social networking tools supporting scholarly activities, potentially impact their adoption.

Research Questions

This study answered the following research questions:

1. What are the social networking sites used for research by lecturers in Southwestern Nigeria?
2. What is the level of awareness about ASNSs among the lecturers across different disciplines in universities in the study area?
3. How do the lecturers in various disciplines in universities in Southwestern Nigeria differ in their perception of ASNSs?

Literature Review

Research is an important aspect of university culture, particularly in the university system. Academic research generally embraces rigour, thoroughness and precision. Thus, research can be seen not only as a creative process, but a systematic activity which involves three broad aspects which include data collection and analysis, communication and collaboration and information storage and retrieval. Digital technologies have improved opportunities for collaboration and feedback in scholarly research (Muriithi, Horner & Pemberton, 2016), and enhanced information dissemination and communication between researchers (Gruzd, Staves &

Wilk, 2012), while providing technological affordances that promote “openness, conversation, access, sharing and transparent revision” (Greenhow & Gleason, 2014).

Sheikh (2016) identified academic social networking sites as a unique class of social networks that are designed to be used by the academic community and strictly for scholarly purposes. Academic social networking sites are platforms designed to satisfy the needs of academics with respect to various phases of the scholarly communication process. Academic social networking also support the open science paradigm by providing online repositories and archival platforms. Researchers use a “few niche” social networking sites specifically intended for scholars such as ResearchGate and Academia.edu for research support, research dissemination, documents management and self-archiving, profile management, communication, collaboration, networking and impact measurement/altmetrics (Espinoza-Vasquez & Caicedo-Bastidas, 2015). They also use others like Twitter, Facebook, Quora and LinkedIn which possess networking features, which can be used for academic work, but have other major purposes (Akwang, 2022).

Different fields of study engage with technology in their own varied ways. Academic disciplines have unique methods, approaches, and requirements for conducting research and engaging in academic work. Academic resources deployed by scientists who engage more with quantitative research differ from those of researchers who deal with qualitative research, such as those in the humanities. There are also differences in routes for scholarly publishing. Every discipline has its own unique methods that dictate what tools their scholars use, to what extent and for what purposes. Several studies have documented research that indicates disciplinary differences in various aspects of academic social network usage, such as network structure,

uptake and patterns of use (Lovett, Rathemacher, Boukari & Lang, 2017; Kjellberg & Haider, 2018; Mohammad, Lazim & Rosle, 2018).

Tsatsou's (2016) investigation of UK researchers confirmed that researchers in different disciplines apply research tools in varying unique manners and for different purposes based on their level of expertise and the nature and traditions of their discipline. Townsend (2017) reported that history researchers adopt digital tools based on their level of familiarity with the tool(s), implying that the commoner tools are more popular with historians. These researchers reported that their use of software was problem driven - they adopted digital tools when it became inevitable that they use them.

Additionally, Tran and Lyon (2017) investigated the level of awareness and knowledge of 300 lecturers author identifiers and ASNSs. Disciplinary differences were observed, with 56% of the 299 respondents claiming they had used an academic social networking or profiling system before. Social scientists (69%), engineers (66%) and biological scientists (59%) responded with the highest frequency. Researchers in mathematics (29%) had the least knowledge and experience with the tools.

Sutherland (2020) examined the perceptions of academics regarding the application of social media for teaching purposes, 53 academics in an Australian university were classified into those who are in the Faculty of Arts, Business and Law (FABL) and those in the Faculty of Science, Health, Engineering and Education (FOSHEE). The findings of the study confirm differences in disciplinary perception, with the academics in FABL showing more confidence in their attitude toward social media as a teaching tool than those in FOSHEE. They also showed fewer concerns than their counterparts in FOSHEE. Jordan (2019) explains that findings on

disciplinary interest is particular ASNSs may inform the choice of which ASNSs to adopt for more effectiveness.

Methodology

This study, using a survey research design, investigated ASNSs adoption among 240 lecturers in nine universities across Southwestern Nigeria in five disciplines: Life/Biological Sciences, Arts, Social Sciences, Physical Sciences, and Engineering. The research employed a multistage sampling procedure. The questionnaire titled "Lecturers' Characteristics and Use of ASNSs" (LeCUA) underwent face validation, content validation, and pilot testing. Nine research assistants administered the printed questionnaires across the universities. The response rate was 64.3%. The study specifically delimited ASNSs as the ResearchGate and Academia.edu.

Results

Research Question 1: What are the social networking sites used for research by lecturers in Southwestern Nigeria?

Table 1: Social Networking Sites used by Lecturers

N = 240

ASNSs Used	Frequency	Percentage (%)	Rank
ResearchGate	226	94	1 st
Google Scholar	219	91	2 nd
Academia.edu	158	66	3 rd
LinkedIn	144	60	4 th
Twitter	91	38	5 th
Facebook	91	38	5 th
Mendeley	72	30	6 th
Non-subscribers	14	6	7 th

Source: Authors' Field Work, 2023

Table 1 shows the social networking sites used for scholarly work by researchers. The survey identified ResearchGate, Google Scholar, Academia.edu, LinkedIn, Twitter, Facebook, and Mendeley as key social networking sites (SNS) used by academics. ResearchGate was the most prevalent, with a 94% subscription rate, followed by Google Scholar at 91%. Academia.edu and LinkedIn had subscription rates of 66% and 60%, respectively, while Twitter, Facebook, and Mendeley showed lower usage (38%, 38%, and 30%, respectively). Despite varying adoption rates, 94% of academics subscribed to two or more of these tools. This study confirmed ResearchGate's dominance (94%) over Academia.edu (66%), aligning findings by Shwe (2019), Bhardwaj (2017), Muscanell and Utz (2017), and El-Berry (2015).

Research Question 2: What is the level of awareness about ASNSs among the lecturers across different disciplines in universities in the study area?

Table 2: Awareness of ASNSs

	Engineering		Biological/ Life Sciences		Physical Sciences		Social Science		Arts	
	HA or A	SA or NA	HA or A	SA or NA	HA or A	SA or NA	HA or A	SA or NA	HA or A	SA or NA
Awareness about categories	89%	11%	85%	15%	94%	6%	85%	15%	73%	27%
Awareness of distinctive features of various ASNSs	86%	13%	63%	38%	92%	8%	70%	30%	53%	47%
Awareness of the strong points or merits of one ASNSs over others	89%	11%	61%	39%	70%	30%	71%	29%	47%	53%
Follow-up on updates of preferred ASNSs	78%	22%	55%	45%	66%	34%	70%	30%	63%	37%

Source: Authors Field Work, 2023

Four Awareness items were used to ascertain respondents' level of awareness concerning different aspects of ASNSs including: *Awareness of which platforms are categorised as ASNSs; Awareness of distinctive features of various ASNSs; Awareness of the strong points or merits of one ASNSs over others; follow up on updates of preferred ASNSs across five disciplines.* The responses were grouped into four categories: HA -Highly Aware; A - Aware; SA – Somewhat Aware and NA – Not Aware

Disciplinary variations in lecturers' awareness about Academic Social Networking Sites (ASNSs) were evident across all five disciplines. Engineering and Physical Sciences lecturers were the most aware of ASNS, while Arts and Biological Science lecturers demonstrated the lowest awareness. Despite general high awareness about ASNS categories, the lecturers generally struggled with keeping up with updates on their preferred ASNSs. Overall, this study highlights moderate awareness of ASNS, with significant disciplinary differences, indicating that disciplinary culture may influence awareness and adoption, especially in the humanities. Similar findings (high awareness of ASNSs - 92.1%) was reported by El-Berry (2015) at South Valley University in Egypt.

Research Question 3: How do the lecturers in various disciplines in universities in southwestern Nigeria differ in their perception of ASNSs?

Table 3: Mean Scores for Perception of ASNSs

		N=240 Ranks	
Need to Know	Discipline	N	Mean Rank
	Engineering	37	115.82
	Biological/Life Sciences	48	132.00
	Physical Sciences	36	101.10
	Social Sciences	68	118.17
	Arts	51	129.87
	Total	240	

Waste of Time	Engineering	37	107.80
	Biological/Life Sciences	48	139.93
	Physical Sciences	36	129.93
	Social Sciences	68	113.98
	Arts	51	113.47
	Total	240	
Not User-friendly	Engineering	37	100.88
	Biological/Life Sciences	48	125.53
	Physical Sciences	36	126.71
	Social Sciences	68	118.71
	Arts	51	128.00
	Total	240	
Privacy Issues	Engineering	37	99.61
	Biological/Life Sciences	48	125.44
	Physical Sciences	36	123.08
	Social Sciences	68	128.34
	Arts	51	118.74
	Total	240	
Complex Systems	Engineering	37	102.36
	Biological/Life Sciences	48	130.24
	Physical Sciences	36	114.32
	Social Sciences	68	118.58
	Arts	51	131.41
	Total	240	
Copyright Violation	Engineering	37	109.49
	Biological/Life Sciences	48	127.65
	Physical Sciences	36	111.56
	Social Sciences	68	116.88
	Arts	51	132.90
	Total	240	

Source: Computed from Author's field survey data

Table 3 ranks different disciplines and their respective mean ranks for various categories: The six items of perception about ASNSs are phrased negatively in the instrument such as: *I need to know more - I don't know much about ASNSs; Using ASNSs is a waste of time, ASNSs are not user-friendly, There are risks... privacy is not assured; They are complex systems – not easy and They violate copyright agreements.* The Table shows the number of observations (N) and the mean rank for each discipline in each category.

The mean rank of perception for each discipline in Table 3 was obtained by calculating the average rank for the responses within each discipline for each of the six items in the questionnaire. The mean ranks were used for comparing the perceptions of each discipline regarding each item. A higher mean rank indicates *low* perception, while a lower mean rank indicates high perception.

Table 3 results show that Biological/Life Sciences and Arts disciplines have the highest mean ranks in all categories except for privacy issues, where Social Sciences rank highest. Engineering has the lowest mean rank in all categories, except for "waste of time," where it ranks second lowest after Arts. High mean ranks indicate poor perceptions in Biological/Life Sciences and Arts, while low mean ranks suggest a more positive disposition as for the Engineering lecturers. Overall mean rank scores across disciplines are not significantly different, but this doesn't negate potential differences in lecturer perceptions across disciplines.

This finding aligns with Stephen and Yadav (2020), who noted higher ResearchGate representation in Social Sciences. Similarly, STEM researchers show more interest in self-archiving than SSH researchers (Hadad & Aharony, 2023). Unlike this study, Tran and Lyon (2017) found higher ASNS experience among social science lecturers than in engineering and biological science lecturers. Mean rank scores reveal that engineers hold more positive perceptions. This aligns with Kumaren and Sivakumaren (2019), Majumdar (2022), Thelwall and Kousha (2014), and Greifeneder et al. (2018), which all highlight disciplinary differences in ASNS preferences, usage, and perceptions.

Conclusion

The study has shown that academic social networking sites (ASNSs) are used in different ways by scholars from various disciplines. This reflects the diverse norms, values, and practices

of various academic disciplines. The implication is that a one-size-fits-all approach to encouraging ASNS adoption and use might not be effective, and that more nuanced and tailored interventions are needed to address the specific barriers and challenges faced by academics in various disciplines. By understanding these variations, librarians and other units responsible for the training and support of academics can design and implement more targeted and relevant strategies to support and enhance the use of ASNSs by academics.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Lecturers should be encouraged to utilise a variety of academic social networking sites beyond ResearchGate to increase their exposure to different resources and services.
2. Librarians and research units should work towards enhancing researchers' awareness to maximise the effective utilisation of research tools.
3. Libraries and research units in universities should provide training and support for lecturers to develop digital and research skills necessary for utilizing academic social networking sites effectively.
4. Disciplines with low utilisation behaviours for ASNSs could be given special consideration in the design of tools for academic work.
5. It may be more beneficial for researchers in some particular disciplines to host their publications and online profiles on some particular academic social networking sites because they are highly associated with their discipline.
6. Further research on cultural and disciplinary differences in the utilisation of ASNSs and other academic tools should be conducted to tailor interventions and support to specific contexts and disciplines.

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