USAGE OF SOCIAL NETWORKING SITES FOR SCHOLARLY COMMUNICATION AMONG POSTGRADUATE STUDENTS IN UNIVERSITIES IN NAKURU COUNTY, KENYA

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DECLARATION AND RECOMMENDATION

Declaration

I declare that this proposal is my original work and has never been presented in any institution of higher learning for the award of any degree or diploma.

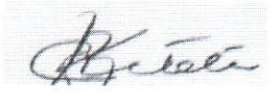
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Recommendation

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DEDICATION

This thesis is dedicated to my initial supervisor, the late Dr. Marie Khayesi, for her unending academic support during my studies. It is also dedicated to my husband for his financial and moral support throughout my studies.

ACKNOWLEDGEMENTS

I would like to thank the Almighty God for bringing me this far. I would like to recognise the efforts of my supervisors, Prof. Catherine Kitetu and Prof. Raymond Ongus, for their academic and technical support throughout this research. I would also want to thank the academic registrars of the universities that were studied for giving me their time during data collection. I would like to appreciate my children Joy, Linus, Derrick and Blessing for giving me moral support throughout the time of my studies. Finally, thanks to my colleagues for their unending support during my studies. Thank you and God bless you all.

ABSTRACT

Scholarly communication (SC) has been experiencing tremendous change due to rapid technological advancements leading to the creation of varied ways of sharing information among scholars despite the ever-rising cost of information access and sharing. The focus of this study was to assess the use of social networking sites (SNS) for scholarly communication among postgraduate students in selected university campuses in Nakuru County, Kenya. The objectives of the study were to determine the extent of use of SNS for scholarly communication; to establish the reasons for using SNS by postgraduate students for scholarly communication and to assess the relevance of the social networking sites to postgraduate students for scholarly communication. Technology Acceptance Model 2 (TAM 2) was used with a descriptive research design to achieve the objectives of this study. The target population was 650 postgraduate students from eight public and private universities in Nakuru Town. Purposive and simple random sampling techniques were used to select two public and two private universities with a combined sample size of 109 postgraduate students respectively. Data collection tools used were questionnaires and interview guide. Descriptive statistics and Statistical Package for Social Sciences (SPSS) version 26 was used for data analysis, where the results were presented in tables and charts. The findings of the study show that postgraduate students use SNS for SC by sharing research ideas which was represented by chi-square values of 30.118 with a p-value of 0.000 which is less than 0.05 significant level; sharing class experience being represented by chi-square values of 11.765 with p-value of 0.000 less than the significance level of 0.05, to know where to meet for lessons, when lectures are starting and updates on deadlines for submitting class assignment being represented by chi-square of 4.235 with a p-value of 0.040 which is less than 0.05 significance level. According to the findings of this study, the reasons for using SNS are for academic purposes being the major reason, leisure, getting information about activities in campus, socializing entertainment and group discussion. Finally, the findings showed that the use of SNS for SC is of relevance to postgraduate students. In conclusion, the findings of this study will help students, researchers and information centres to understand the importance of using SNS for scholarly communication to enhance their research work.

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LIST OF ABBREVIATIONS

BI:	Behavioural Intention
ID:	Innovation Diffusion Theory
IDGs:	Internet Discussion Groups
IS:	Information Systems
IT:	Information Technology
PEU:	Perceived Ease of Use
PU:	Perceived Usefulness
SC:	Scholarly Communication
SNS:	Social Networking Sites
SoMe:	Social Media
TAM:	Technology Acceptance Model
SPSS:	Statistical Package for Social Sciences

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Scholarly communication (SC) is a process through which research and scholarly writings are created, evaluated and disseminated to other scholars or scholarly communities and preserved for future use. SC is a process of sharing academic information; this academic information is in the form of scientific documents, technical reports, project proposals, papers and other information that is for academic use (Kong *et al.*, 2019). SC process has two components: these are formal and informal processes. These processes differ in terms of mode of creation, organization, and communication of content (Procter *et al.*, 2010). Scholarly communication includes communication in informal networks like social media, the initial public dissemination in conferences and preprints and finally the formal publication of research in scientific journals (Gu & Widen-Wulff, 2010; Sawant, 2012). Postgraduate students tend to use both processes because of the requirements to read, publish and sometimes consult each other at the level of their studies.

SC process has been improving due to the advent of internet technologies, for instance, an increasing number of researchers are using Web 2.0 applications to communicate with other peers, publish and disseminate their research among scholarly community (Shehata & Ellis, 2017). This has improved the way scholarly information is being shared among scholars in a convenient way. In addition to this, in the recent past, scholars were restricted to journal papers, faculty hallways and conference to communicate and share their knowledge. But due to developments of modern technology, there has been extended boundaries between formal and informal communication; thus allowing sharing information to a wider population (Shehata & Ellis, 2017).

The formal process of scholarly communication is writing and publishing research and can be done through both peer-review and unpublished journals which is the primary channel of communicating for a wider audience (Gu & Widen-Wulff, 2010; Ponte & Simon, 2011; Procter *et al.,* 2010). These journals are disseminated through abstracting and indexing services and information centres. The formal process is done through abstracts, index journals, guides, special bibliographies and reviews.

Informal scholarly communication refers to the interactive communication that takes place at any time and in any format to acquire, maintain relationships and work collaboratively. Informal scholarly communication involves the process of sharing and disseminating research ideas through electronic mailing lists, personal contacts, attending lectures, conferences, and seminars (Al-Aufi & Fulton, 2015). Informal SC can be enhanced by using social networking sites (SNS), which are virtual spaces that build virtual communities through sharing experiences, communicating personal information and connecting to friends (Lester & Perini, 2010).

Social networking sites (SNS) have become part of our life from the societal level, family level and now at the academic level as the most preferred mode of communication. In addition to this, SNSs have emerged to be a powerful platform that has enhanced students' learning and has facilitated interaction between them and their instructors as well as their peers. According to Madhusudhan (2012) scholars used SNS for lurking, uploading photos, searching for jobs, interacting with friends and sharing of research work being the least use of SNS by the scholars. This has improved their communication especially in the new distance learning environment (Sobaih *et al.*, 2020). According to research done by Su *et al.* (2014) on Chinese user's continuance intention toward online social networks, online SNS have increasingly become integrated into people's daily lives and have rapidly developed into an important social platform for communication. These SNSs have also been used at the academic level as a communication tool both in class and outside the class environment.

According to Gupta and Bashir (2018) in their research on social networking usage questionnaire: development and validation in an Indian higher education context, found out that students use YouTube to share videos about what they have learned and join online further to discuss with their teachers. In this context, the lecturers can also learn from their students during the social interaction, therefore promoting continuous learning process in the field of academia. This shows that SNS features allows sharing information in different formats and in different contexts. SNSs promote active learning, effective communication and information sharing. It has the potential to increase student engagement because there is some level of relationship between SNS use and student engagement. It has been confirmed that majority of students who spend more time on SNS platforms believe that they are more connected to their friends and colleagues than those who do not (Koranteng *et al.*, 2019)

SNS is cyberspace where individual users can maintain their profile, link other users, share information and images or photos with each other and conduct social activities with other users (Boyd & Ellison, 2008). Gupta and Bashir (2018) defined SNS as an online space used by students to connect, share, communicate, establish or maintain connection with others for academic, entertainment and socializing. In addition to this, online SNS differ from other online Information Systems (IS) in that they enable users to visibly articulate their social network and allows users to enjoy the online social activity voluntarily (Boyd & Ellison, 2008). SNS are web-based services that allow individuals to construct a public or semi-public profile; articulate a list of other users with whom they share a connection; and finally view and navigate their list of connections and those made by others within the system (Boyd & Ellison, 2008).

According to Gupta and Bashir (2018), SNS as a communication tool, has improved student's learning opportunities and has enabled real-time communication outside the classroom. Whereas improving collaborative opportunities and enhancing creativity.

To view what is shared in the network without limits is as demonstrated in the figure below.

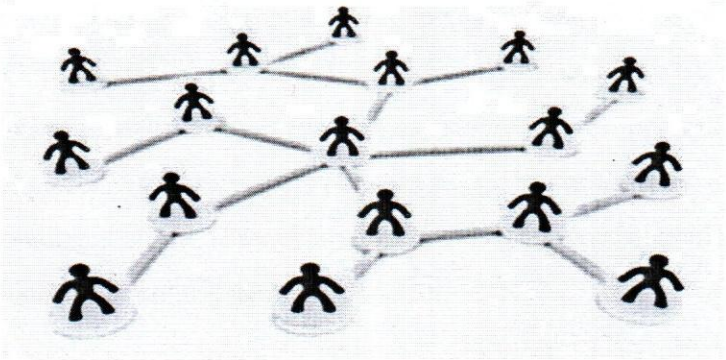


Figure 1.1: Social Networking Concept (Claywell, 2015)

Figure 1.1 is a simple representation of SNS connection where individuals are connected with invisible electronic links that help them to interact and share information seamlessly through an Internet connection, which forms a net-like shape. This figure suggests that the connection of postgraduate students to one another is continuous.

According to the results of a survey conducted by Rowlands *et al.* (2011) on use of social media in research flow in the University college of London, SNS has found serious application at all points of the research life cycle, from identifying research opportunities to disseminating findings at the end. Rowlands *et al.* (2011) also found that the most popular tools for scholarly communication are those that allow collaborative authoring, conferencing,

scheduling and meeting tools. Social networking sites (SNS) have these characteristics and therefore, postgraduate students are likely to practice scholarly communication because they need to collaborate and share research ideas through SNS.

Currently, SNSs include Facebook, Twitter, LinkedIn, Google+, Academia.edu, Research Gate, Blogs, Wikis, MySpace, WhatsApp, and Instagram (Al-Daihani *et al.*, (2018): Asmi & Margam, (2018): Gupta & Bashir, (2018): Hilner, (2012). There may be other networks that are being created due to changes in technology. This study used the general content SNS; Facebook, Twitter, and WhatsApp and the academic SNS; LinkedIn and Academia.edu in the investigation of their use for scholarly communication among postgraduate students. The choice of the academic SNS was based on the fact that these sites are free to join unlike other SNSs that require an institutional email address to access like Research Gate.

According to Gupta and Bashir (2018) and Kong *et al.* (2019), Facebook has been rated to be the most frequently used platform for social interaction while LinkedIn is also a highly used social networking site for academics. In addition to this, Facebook has features that enables students to engage in social and creative learning progressions that extend beyond the traditional classroom (Gupta & Bashir, 2018). This shows that Academic Social Networking Sites (ASNs) are gaining popularity among researches. However, the percentage of scholars who use social networking for professional purposes is much lower than those who use it for personal reasons. In the current study, showed that most postgraduate students use SNS other activities than the use SNS for scholarly communication.

During the after the Covid-19 pandemic outbreak, institutions and their faculty members started using social networks like Facebook, WhatsApp and YouTube to formally communicate with their students (Sobaih *et al.*, 2020). This has continued to be common and official communication channels in most institutions of higher learning. This implies that the use of SNS in most institutions of higher learning is paramount. Furthermore the use of SNS has become a popular communication tool during and after the wake of Covid-19. The results of the current study shows that that there is use of SNS by postgraduate students but most of them used it for other uses rather than for academic purposes.

Scholarly communication has been experiencing tremendous change due to rapid technological changes leading to the creation of varied ways of sharing information among

scholars despite the ever-rising cost of information access and sharing (Sawant, 2012). For example, the emergence of the Internet and the World Wide Web has brought wide implications for research dissemination and scholarly publication (Al-Aufi & Genoni, 2010, Sawant, 2012). Therefore, postgraduate students look for a medium where the process of scholarly communication will be made simple and effective to them and their target audiences, therefore, the choice of using SNS for scholarly communication.

The Internet enables unprecedented dissemination possibilities and providing access to refereed publications and on the other hand sharing of scholarly documents to anyone in any global location with a network connection (Sawant, 2012). This helps to promote the use of SNS for scholarly communication, which is supported by a network connection among participating individuals or groups. In the case of this study, postgraduate students are the participants who use SNS.

Concerning Sawant (2012) observation, the statistics on Internet usage in Kenya by March 2022, show that a total population of forty six million persons use the Internet (CAK, 2022). The notable platforms that are mostly used by the Kenyan population are Facebook, Twitter, and WhatsApp (CAK, 2022). A total population of ten million users access and use WhatsApp, Followed by six million Facebook users and finally two million Twitter users. This implies that social networking sites have become the most common medium of communication in Kenya.

Since scholars acquire knowledge as a function of the interaction between connected partners, SNSs allow them to raise their connections with the content on peer networks (Chen & Bryer, 2012) hence promoting learning and the way they organize their research ideas. A scholar refers to an individual who participates in teaching and/or research endeavours, for example, doctoral students, faculty members, instructors, and researchers. Research shows that social media has improved visibility of scholars and scholarships and has offered new vehicles of dissemination of scholarly work. Therefore, in this context, SNS has have been considered as a potential source to measure the impact on both science and society of scholarly research (Sugimoto *et al.*, 2017).

Another research by Arteaga *et al.* (2014) asserts that professors need to make a strong connection with their students so as to engage them with the materials they need them to

learn; they also need to adapt the teaching strategies to the student's lifestyle. This is because the students are now incorporating technology in their daily life. According to Arteaga *et al.* (2014), it is necessary that lecturers need to move from traditional teacher centred approach to learning where the lecturer imparts knowledge to students to a learner-centred approach where the student instead of absorbing material transmitted by the instructor, learns how to learn. This is the current trend of learning in the current technological world.

Wasike (2013) in the study on ethical issues on the use of social media in libraries, shows that social media is more interactive and user-centred communication technology which allows participatory creation and sharing of knowledge (which is a motivation of scholarly communication) simply and conveniently among librarians in Kenya. The study showed that librarians should consider the ethical issues concerning using SNS in information sharing hence promoting the use of SNS for SC. This is supported by what Koranteng *et al.* (2019) explained in that the use of SNS tools for promoting students' collaboration, facilitation and engagement is faced with privacy and security concern. Due to the lack of face-to-face interaction and the ability to collaborate with other students who one may not have met physically, they can put students in danger as they may deal with individuals they do not know. In addition, SNS exposes them to vast amount of data and information, which may be challenging to process and categorize the quality levels of the information received. Exposure to inappropriate online content, cyberbullying as well as online harassment also adds to the major challenges of using them (Koranteng *et al.*, 2019) Therefore, this study recommends that postgraduate students need to understand the ethical issues relating to using SNS for scholarly communication so that they can be able to access and share authentic information.

Nkatha *et al.* (2015) carried out a study on how tutors use SNS to teach students at the main campus of Jomo Kenyatta University of Agriculture and Technology (JKUAT). The research problem was to explore new ways in which tutors can use to improve their teaching approaches since their students need a higher level of social and creative engagement in learning. The findings of the study show that tutors use SNS (Facebook, Twitter, WhatsApp, Google+ and You Tube) in their teaching practices and that there is the use of SNS in institutions of higher learning. Nkatha *et al.* (2015) study does not reveal how postgraduate students use the same platform for academic purposes among themselves within and outside their institutions. The current study examines how SNS is used among postgraduate students across campuses for sharing research ideas.

Another study done by Chakava (2019), on determinants of use of new media in scholarly communication by academic staff in public universities in Kenya, showed that performance expectancy, effort expectancy, social influence and anxiety were significant determinants of use of new media in scholarly communication. This study showed how academic staff were using new media in scholarly communication but the current study sought to know how postgraduate students used SNS for scholarly communication.

SNS has been used in institutions of higher learning to share information in both local and wider community. According to Akçayır (2017), there are positive contributions of SNS for teaching and learning which includes: improvement of student-teacher interactions; enhancing learner motivation; and enhancing students' positive attitudes towards their courses. This shows that the use of SNS has been of use to the institutions of higher learning and therefore, there are positive perceptions on the use of SNS in education. The current study seeks to justify these benefits of SNS for scholarly communication.

The literature reviewed in this study shows that forms of scholarly communication include formal and informal communication, which is used by various groups for different purposes. SNS is used for scholarly communication by academics and information providers for sharing information. In addition to this, literature shows how SNS are used for learning by tutors to expose learners to real-world issues, but little is known on how these SNS are used by postgraduate students among themselves. Therefore, the assessment of the use of SNS for scholarly communication by postgraduate students across campuses is not known hence the impetus of this study.

Nakuru County is the home of a number of both public and private university campuses. Public university refers to universities that are maintained and funded by the government, while private universities are established and maintained out of funds other than public funds. The public universities in Nakuru County include the University of Nairobi (UoN), Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenyatta University (KU), Laikipia University and Egerton University. The private universities include Kabarak University, Mount Kenya University, and St. Paul's University (Study in Kenya, 2014).

The various public and private universities in Nakuru County offer several postgraduate studies. Most of these studies are carried out in a physical classroom using the face-to-face mode of teaching and learning. These universities offer an online mode of teaching and learning that is through distance learning and e-learning and this requires internet connectivity with computer systems (Study in Kenya, 2014). They also have functional computer laboratories with wired and wireless Internet connectivity, which allows the students to get access to the internet.

1.2 Statement of the Problem

Postgraduate students are expected to contribute to knowledge through research and publishing. There has been an increase in postgraduate programmes in both public and private universities in Nakuru County, Kenya. Thus bringing a positive impact on research visibility in Kenya. Although, for this visibility to be achieved, postgraduate students need to adopt the new communication media to enhance sharing of information. The literature reviewed shows that information providers and academic staff in different disciplines for research collaboration and publishing practice the use of social networking sites for scholarly communication. Lecturers also use social networking sites for teaching and their day-to-day learning activities. However, little is known about how postgraduate students use social networking sites for scholarly communication. Therefore, this research seeks to fill this gap by assessing the use of social networking sites by postgraduate students in the selected universities within Nakuru County Kenya.

1.3 Objectives of the Study

1.3.1. Broad Objective

The aim of this study was to assess the use of social networking sites in scholarly communication by postgraduate students in the selected universities within Nakuru County Kenya.

1.3.2. Specific Objectives

The study was guided by the following objectives:

i. To determine the extent to which postgraduate students use social networking sites for scholarly communication in university campuses in Nakuru County, Kenya.
ii. To establish the reasons for the use of social networking sites for scholarly communication among postgraduate students in university campuses in Nakuru County, Kenya.

iii. To assess the relevance of the use of social networking sites to postgraduate students for scholarly communication.

1.4 Research Questions

This study was guided by the following research questions:

i. To what extent do postgraduate students use social networking sites for scholarly communication in university campuses in Nakuru County, Kenya?

ii. Why do postgraduate students in university campuses use social networking sites for scholarly communication in Nakuru Town, Kenya?

iii. How are social networking sites relevant to postgraduate students for scholarly communication?

1.5 Significance of the Study

The findings of this study were significant at three levels: postgraduate students, management of university and libraries. The findings of this study have helped postgraduate students to appreciate the use of SNSs to enhance the research visibility at personal and institutional levels. The findings will help the management of the universities to understand the varied ways in which they can initiate or enhance scholarly communication among postgraduate students through the use of SNSs. It has also benefited the library since they can help their users get and access research information wherever they are and on the other hand the librarians can use these SNS as a collection development tool.

1.6 Scope and Limitations of the Study

This study assessed the use of social networking sites for scholarly communication among postgraduate students in selected university campuses in Nakuru County, Kenya. This is because this population has represented the other universities of the same kind in other parts of the county. Nakuru County was chosen because Nakuru is a cosmopolitan centre where it is economically and socially growing and that most universities have been established in this area. Additionally, there is increased connectivity of internet and therefore postgraduate students need to utilize it in their academic studies. This study focused only on scholarly usage of SNSs among postgraduate students and not any other uses of SNSs among the study population. There were some limiting factors to this study. First, the study covered a small population of postgraduate students on campuses of selected universities within Nakuru County, Kenya and not all universities in the republic or elsewhere therefore the results of this study were generalized. Secondly, the study assumed that postgraduate students from

other universities have similar academic characteristics with the current study population. Finally, the study population was aware of the use of other academic social networking sites, for example, Research Gate which requires an individual institutional email for one to access the platform, therefore the researcher assessed the use of other SNS according to the respondents' awareness.

1.7 Operational Definition of Terms

Academic Work – This is any artistic work that is created as an essay, dissertation, thesis report or project by a student, a researcher or scholars for an award of grade or course requirement. This definition will apply to this study.

Life-long Learning - This is a continuous process of gaining knowledge by either training or learning through experience. This definition will apply to this study.

Peer-review - This is an evaluation of scientific or academic work by other scholars working in the same field. In this study, it is the act of postgraduate students critiquing and making corrections on research papers of their colleagues in their various fields of study.

Scholarly Communication - This is a process by which academics, scholars and researchers share and publish their research findings so that they are available to the wider academic community. In this study, it is a systematic way in which postgraduate students create, evaluate and disseminate their research work to fellow students.

Social Media - These are websites and applications that enable users to create and share content or participate in social networking. This also applies to this study.

Social Networking Sites - These are websites that enable users to create public profiles within websites and form relationships with other users of the same websites who access their profiles. For this study, it is a web-based service, which allows postgraduate students to share information through some platforms, for example, Twitter, Facebook, Google+ and cross-platform mobile applications like WhatsApp Messenger and Skype.

Usage –This is an act of using something or a resource. It is also used to describe a continuous behaviour of using up something. For this study it used to describe how SNS is used by postgraduate students.

User-centred - This is a situation where postgraduate students are dependent on what they decide about the use of information on social networking sites.

User-generated Content - This is a term used to describe any form of content such as video, blogs, discussion forum posts, digital images, audio files and other forms of media that was created by consumers or end-users of an online system or service and is publicly available to

other consumers. For this study, it refers to any content that is dependent on the creativity of the postgraduate students.

Web 2.0 - This is the second stage of development of the internet, characterized by the change from static web pages to dynamic or user-generated content and the growth of social media. In this study, it is a form of web technology that is user-centred which allows users like postgraduate students to create, review, re-use and represent information in new technological ways.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature conducted for the study. The literature is presented under specific sub-headings derived from study objectives. The headings summarize the extent to which SNSs are used for scholarly communication and the reasons why different groups use SNS for scholarly communication (SC). The researcher also discusses the conceptual and theoretical framework, Technology Acceptance Model 2 (TAM 2), that was used in the study.

2.2 The Extent of Usage of SNSs for SC

SNSs are communication networks that depend on user-generated content and therefore researchers, professionals, lecturers and students can use them for various purposes. These SNSs allow online conversations and sharing of content-based information on the maintenance and sharing of 'profiles' through the display of personal information, interests, and photographs (Boyd & Ellison, 2007). SNSs have been used for various purposes, for example, individuals use SNSs to 'hang out', to waste time, and learn about each other or simply as a directory (Stutzman, 2006).

According to Arteaga *et al.* (2014) on a study about students' perception of Facebook for academic purpose among college students showed that students used Facebook for communication, collaboration and resource or material sharing. From this study, students used Facebook to create and promote online connections between students and faculty within an academic community. This enhances increase in communication that leads to positive impact on class discussion and student engagement and interaction with peers. For the purpose of collaboration, Facebook can be used to develop new collaboration models. Facebook has conversational, collaborative and communal qualities that boosts a learning process. Finally SNS allows resource or material sharing among students where students and their lecturers can share many different kinds of educational materials through Facebook in order to complement the traditional learning environment. This shows that postgraduate students can use SNS to complement their learning process by the use of SNS. These SNS have good qualities that boosts the postgraduate studies in a big way.

In addition to this, Sugimoto *et al.* (2017) opines that SNSs have been used by researchers for: social networking; social bookmarking and reference management- which allows users to save publications, organize bibliographic material and share research with other peers; social data sharing through Figshare and SlideShare which scholars disseminate various types of research outputs such as data sets, figures, infographics, documents, videos, posters, or presentation slides; videos through YouTube and TED-Talks video; Blogging and Microblogging; Wikis and finally social recommending, rating and reviewing. However, the current study assessed the use of SNSs for scholarly communication.

SNSs are designed to connect individuals by affinity groups and are becoming more widespread. Lester and Perini (2010) researched the Applied Research Centre on Community College in the UK among fourth-year students. Their study was based on student engagement and the specific ways that distance education students engage in higher education. The findings of this study were that since these students are often not on campus, they do not fall under the traditional paradigm of engagement that includes faculty-student interaction and active and collaborative learning in a face-to-face classroom. Therefore, they use SNSs as the best communication tool that will promote wider sharing of knowledge in various locations.

In addition to this, Hilner (2012) conducted research on how teachers can best use YouTube and other online video services with their students in economics and business studies. The study showed that SNSs are also used for teaching by facilitating the use of new teaching resources. YouTube is one of these resources, which supplements information given in class. Hilner (2012) study shows that YouTube videos help students engage more deeply with the subject matter and recall the information they have learned longer. Additionally, YouTube videos have been shown to increase students' depth of understanding of course content. Teachers also recommend blogs that have been incorporated as vehicles of acquiring knowledge and this has been confirmed (Hilner, 2012).

According to Gupta and Bashir (2018) in their research on social networking usage questionnaire: development and validation in an Indian higher education context, found out that students use YouTube to share videos about what they have learned and join online further to discuss with their teachers. In this context, the lecturers can also learn from their students during the social interaction, therefore promoting continuous learning process in the field of academia. This shows that SNS features allows sharing information in different

formats and in different contexts. The current study found out that postgraduate students share information about their class experience, where they meet for lectures and the date lines for submitting assignments but there was no indication whether they use YouTube to share information.

SNSs facilitate tutorial groups where students raise doubts or problems concerning their lessons and their fellow students answer them through the network. This strengthens and makes flexible the teaching-learning process (Ventura & Quero, 2013). Gupta and Bashir (2018), Owusu *et al.* (2019) in their studies explained that Lecturers use SNS to supervise their students where they learn, reflect, share, interact and summarise discussions. It also enables them to contact their peers and lecturers wherever they are leading to flexibility of extended learning hours. Through SNS, resources are shared on the networks, which are of interest to all, for example, grant applications, or employment opportunities where the students participate competitively; it also promotes teamwork among students. For the current study, postgraduate students shared information about various experiences, including information on their continuous studies and the course content of their respective units.

In the social network environment, voluntariness is the key factor where the teacher-student relationship takes on a horizontal character due to the nature of the medium. This enables greater interaction and participation on the part of the student and increases their trust in their discussion, hence the relationship between teachers and students continues for a longer period of time (Arnold & Paulus, 2010). An interesting observation is that contact with other social networks moves to more professional platforms. This shows that SNSs help to improve studies in various contexts be it on the student side or from the teacher-learner perspective. In the current study it was evident that the postgraduate students use WhatsApp, Twitter and LinkedIn to share academic information among themselves only and not with their lecturers.

According to research done by Dogoriti and Anderson (2014) on the use of web-enhanced teaching of English as a foreign language in higher education in Greece, the use of web-based tools and social media has changed the way students view the use of internet technology in the development of their English language learning. This is because SNS offer an alternative informal mobile environment with a flexible environment, flexible teaching, and learning and with no time constraints (Dogoriti & Anderson, 2014). Students and teachers can use SNS to upload files, photos, videos and other educational material that is relevant to their course for

learning. Most students appear to make regular use of Facebook for course discussion much in the way they use the SNSs for social purposes. Therefore, literature shows that there is the use of SNSs in institutions of higher learning and that postgraduate students use SNSs for scholarly communication to get vast information that is current since the reliability of SNSs will enhance this process.

According to a research done by Nicholas *et al.* (2010) on the inter-disciplinary differences in the use of SNSs by academics in the United Kingdom, academic journals are central to all academic fields and that the electronic form is the prime means of access. The results of this study indicated that SNSs can be one form of electronic access to scholarly communication. Therefore, postgraduate students adopt the use of SNSs in their studies since their nature of studies calls for collaboration and motivation hence free sharing of academic information.

Another research conducted in Italian University by Manca and Ranieri (2017), found out that scholars use of academic SNSs like Academia.edu and Research Gate are employed to get in touch with other scholars disseminate research results and establish new connections with colleagues. The study focused on faculty staff that had a permanent or contract position like assistant professors, associate professors, and full professors. The current study shows that postgraduate students have adopted the use of academic SNSs to disseminate their research work. The current study also showed that postgraduate students used Academia.edu to share information resources on a given topic and they could also use it to request for information from publishers of given journals. Research Gate was not used by most postgraduate students because to login one has to have an institutional email address yet most of them did not have it, making it difficult to access.

Asmi and Margam (2018), conducted research among research scholars in Central University of Delhi, India and deduced that academic social networking sites (Research Gate and Academia.edu) are used among scholars for connecting to other research scholars, sharing and following research. According to the above study, ResearchGate was used for connecting to other research scholars and Academia.edu was being used for sharing and following research. According to this study it is clearly indicated that SNSs are used for SC to connect with one another.

Additionally, Al-Daihani *et al.* (2018), carried out a study on use of social media by social science academics for scholarly communication and found that faculty members, teachers and teaching assistants in Kuwait University use Twitter, Facebook, WhatsApp, Instagram and YouTube for scholarly communication. This study showed that SNS are mostly used by academics for scholarly communication than how postgraduate student use for scholarly communication. The current study showed that postgraduate students used Academia.edu to follow on current research studies.

Further research has found that SNSs are commonly used among academics, faculty members and information providers of Sultan Qaboos University in Mali and the University of Botswana (Al-Aufi & Fulton, 2014). The study in the two universities investigated the extent to which SNS tools had an impact on patterns of informal scholarly communication in humanities and social sciences disciplines. The results of this study indicated that academics use SNSs amongst themselves in sharing research work and communicating with one another across disciplines. Postgraduate students fall under academics since a postgraduate student is anyone who has completed their first degree and is studying for the second degree. This means that SNSs have been used by postgraduate students in sharing academic information.

Faculty members use SNS to communicate with one another on academic research and communicating with the administration. On the other hand, information providers use SNSs to deliver their information services and marketing the same to their users. For example in Tanzania, a research done by Muneja and Abungu (2012) and Gichora and Kwanya (2015) in Kenya, show librarians use SNSs for effective service delivery to their users rather for scholarly communication. The findings of the study are silent about the use of SNSs by postgraduate students among themselves within and without their institutions.

Another study done by Madhusudhan (2012) on how research scholars of the University of Delhi integrated SNSs into their daily communication research work indicates that most scholars use SNSs as an interactive platform for academic communication. The study population of the study comprised masters of philosophy students and Ph.D. research scholars. According to Madhusudhan (2012) the respondents accessed SNSs in their departmental computer laboratories and the Delhi University computer centres. The results of the study indicated that the scholars used SNS for lurking, uploading photos, searching for jobs, interacting with friends and sharing of research work being the least use of SNS by the

scholars. These results indicate that there is little use of SNSs for scholarly communication. The current study showed that postgraduate students accessed SNSs from their own laptops while others used smart phones. It showed that they used SNSs to share academic information.

According to research done by Bicen *et al.* (2015) on the impact of social networks on undergraduate students learning a foreign language in London, there is a positive effect of social networking sites on learning foreign languages. It also shows that undergraduates follow professional foreign language teachers and various facilities for speaking to improve speaking skills. According to Bicen *et al.* (2015) results, there is the existence of use of social networking sites in institutions of higher learning hence postgraduates can benefit in using SNS for scholarly communication.

Ashraf and Mohamed (2016), investigated the scholarly use of social media by doctoral students in the University of Calicut, Kerala (India) and found out that majority of students are aware and use social media for scholarly purposes mainly for locating scholarly content and content awareness. The results also indicated that the reasons for using SNS are to connect with other researchers' activities, interact with peers, keeping them up-to-date and searching for information; few doctorate students use them for discussion. Doctoral students mainly use social media for searching scholarly materials in their fields of study. The results of Ashraf and Mohamed (2016) show that SNSs can play an important role in content creation and dissemination of scholarly work. This is supported by results of a study done by Aleksandrova and Parusheva (2019) which shows that Facebook is the most preferred SNS that is used by students for academic related communication, for instance they use it for student-to-teacher communication.

According to Aleksandrova and Parusheva (2019), Facebook was also used extensively during the process of content creation and distribution. This shows that SNSs have emerged to be a powerful platform that has enhanced students' learning and has facilitated interaction between them and their instructors as well as their peers. This has improved their communication especially in the new distance learning environment (Sobaih *et al.*, 2020). This shows that use of SNS have been of importance in the academic context. In addition to this, Alqahtani and Issa (2018) affirms that Facebook has powerful effects not only on creating communities and groups of users but also in providing an avenue for students to

interact with their peers as well as their instructors. Similarly, Twitter and its application to higher education confirms it as a cost-effective and convenient virtual platform for the exploitation of scholarly connections, thereby enhancing information sharing and updating.

2.3 Reasons for Using SNS for Scholarly Communication among postgraduate students

There are various reasons for using SNSs by different individuals or groups or a given community of practice. The major reasons of SNSs usage have been mainly built in the uses and gratifications theory Hilner (2013), Karimi *et al.* (2014) and Whiting and Williams (2013), show that SNSs are used for social interaction, information seeking, passing time, entertainment, boredom relieving, time occupying, relaxation, communicatory utility, expression of opinions, convenience utility, information sharing, surveillance and watching of others to be the key purposes for which people use SNSs. These uses do not seem to include the use of SNSs for scholarly communication hence the current study seeks to find out if SNSs are used by postgraduate students for SC. These reasons are discussed in detail in the following section.

According to Mazman and Usluel (2010); Arteaga *et al.* (2014), the use of SNS include: social relations, work-related issues and daily activities. According to this study, social relations is an important aspect of SNSs and may involve establishing new friendships, maintaining the existing ones and interacting with them. Mazman and Usluel (2010), posits that the work-related use of SNSs involves accessing information, utilizing both online and offline utilities to assist in performing tasks, sharing assignments, materials, ideas and resources. These are some of the reasons that researches have to be the driving factors that enable people to use SNS.

Apart from other researches that has explored the use of social networking platforms by university students reveals that many of them utilise the applications beyond leisure, entertainment and social uses, Alqahtani and Issa (2018) in their study about barriers to the adoption of social networking sites in Saudi Arabia's higher education, posits that students use it in discussing academic work with their peers. Besides this, students also use social networking applications to achieve several other objectives, including seeking moral support, exchanging knowledge and information with colleagues, as well as discussing academic problems and issues, among other educational concerns. Positively, universities have acknowledged and appreciated the significance of social networking platforms, and have

gone so far as formally incorporating applications in teaching and learning (Alqahtani & Issa, 2018). This has promoted the use of SNS by postgraduate students for academic purposes. Saudi Arabian universities have adopted platforms like Twitter, Facebook, and other web tools for the purposes of communicating with students and their parents, for recruiting purposes, as well as updating stakeholders on various institutional issues.

2.3.1 Social Interaction

This is defined as using SNSs to communicate and interact with others. This is according to Arteaga *et al.* (2014), Karimi *et al.* (2014) and Whiting and Williams (2013) on the study on social interaction motivation and website duration. According to this research, SNSs were used to meet people of the same interest and keep up with what is going on. Besides, SNSs can be used for motivation and companionship (Arteaga *et al.*, (2014); Karimi *et al.,* (2014); Mazman & Usluel, (2010); Whiting & William, (2013). This shows that for scholars to communicate with each other there must be some interest that drives them to use SNSs in their daily routine activities. There is also need for students to be currently be updated and not be left out.

Lenhart and Madden (2007) indicate that individuals use SNSs to stay in touch with friends, make plans with friends or make new friends. Also, Madge *et al.* (2009), in their study on how British undergraduates use Facebook in engagement with the university, state that undergraduate students use Facebook for socializing, making friends and keeping in touch with family at home; the study also explains that SNS act as "social glue" that enables students to adapt university life so easily without a struggle. This shows that SNSs have been considered to be for carrying out other activities other than academic or professional work.

2.3.2 Pass Time

This uses and gratifications theme is defined as using social media to occupy time and relieve boredom. Papacharissi and Rubin (2000) first used this theme to investigate the motives for using the Internet. The results of this study found out that individuals use the Internet when they have nothing better to do to occupy their time. This indicates that most users of SNSs use it when they are bored with what they are doing. Postgraduate students may also use SNSs to pass time. However, the focus of this study is to find out how the students use available SNSs in scholarly communication.

Studzman (2006) found that individuals use SNSs to waste time or pass time in watching videos and creating them and sharing with friends. Whiting and Williams (2013) and Karimi *et al.* (2014) found out that students use SNSs to pass time when waiting for class or when class is boring. This means that using SNSs keeps them busy and if class discussions could be done through YouTube it could not be boring for the students waiting for their lecturer as they could watch the past class discussions. The traditional ways of sharing information have not been convenient to share information immediately. Therefore, postgraduate students have opted to share information or research work in a different way that is interesting and convenient.

2.3.3 Information Seeking

This means that SNSs are used to seek out information or to self-educate. This comes from Papacharissi and Bubin (2000) in their research on information seeking and Internet usage (Whiting & Williams, 2013). Information seeking is also called self-education. Information seeking is driven by an individual's desire to increase awareness and knowledge of one's self and the world. Shao (2009) observes that individuals increasingly use Facebook and MySpace and other SNSs to learn how to make sense of things from their peers on any subject by joining the group. Karimi *et al.* (2014) found out that students use YouTube for thrill-seeking and information seeking, that is, seeking information about campus experiences. This shows that students can make proper use of SNSs in their academic-related activities by sharing academic information to broaden the body of knowledge.

2.3.4 Entertainment

Most SNS users use this tool to provide entertainment and enjoyment. Hilner (2013) and Karimi *et al.* (2014) found out that most individuals use SNSs to be entertained, that is, using YouTube to fulfil entertainment needs and thrill-seeking and information seeking. Research done by Whiting and Williams (2013) found out that students use SNSs for playing games, listening to music and watching videos. This shows that this reason is not for academic purpose but postgraduate students can use SNSs for watching videos on class discussions that will bring humour and it is easy to capture everything that was taught in class or can share class discussions with their counterparts in different universities.

Al Aufi and Fulton (2015) researched Sultan Qaboos University on the use of SNS for informal scholarly communication and found out that academics use SNSs (Facebook, Twitter and Google +) because it is enjoyable and easy to use hence can be entertaining too.

EGERTON UNIVERSITY LIBRARY

This reason for using SNSs is more practical because students carrying out studies that require practical experiences can watch other students in other parts of their country or the outside world taking those practices hence sharing knowledge.

2.3.5 Relaxation

This is a reason for using SNSs to relieve day-to-day stress. This shows that most scholars, when faced with a lot of work, prefer using SNSs to check on what others do when they are online. Research done by Whiting and Williams (2013) shows that students use Facebook to check other peoples' profiles and this does not require thought and thus helping them escape from reality. Postgraduate students can view profiles of their fellow students in their related fields to enable them to share content about research ideas and publications in their respective fields of study.

According to Greenhow (2011) students chat online through MySpace to mitigate school-related stress, they ask questions about instructions or deadlines, planning study groups and requesting educational resources. In addition to this, the study revealed that students gather project materials online, brainstorm for ideas, share written work and exchange feedback. This study shows that students use SNSs for academic relaxation in class-related work.

SNSs have been used by students for various reasons for example, the results of a research done by Khan *et al.* (2019) In Pakistan University, it shows that students use Smartphones for entertainment which helps them to escape academic pressure; they use it for self-expression and to maintain their social relations and they least use Smartphone apps for their academic work. The study revealed that this is enabled by availability of low price packages of Internet, instant messages and calls. The current study found out that most postgraduate students use their smartphones because of free Wi-Fi in various location in campus for example in their mess, library and in Hot spot areas. In the current study, the results showed that 75.53% postgraduate students use Smartphones to access SNS, this shows that most students use these smart gadgets to access SNS easily.

This shows that postgraduate students can share their class assignments with others who can share links that relate to the same hence helping in doing their research or assignments hence escaping from looking for the content individually. This is relaxing for the students because

most of them might not have the relevant skills for searching for information online hence boosting the self-image of postgraduate students.

2.3.6 Community Utility

This means facilitation and providing information to share with others. This reason is gained when users of SNSs share information that is passed to a larger group hence getting relevant information. Whiting and William (2013) found that students use SNSs to give them things to talk about with others and enable them to ask their friends if they saw what others posted on Facebook about a certain subject. This will allow them to pass the information on and on until the online group gets informed. This shows that postgraduate students from various universities can share information widely by the use of social networking sites.

2.4 Relevance of using Social Networking Sites for Scholarly Communication

According to Al-Muomen *et al.* (2020), on a study in Kuwait University, faculty members are aware of importance of Academic Networking Sites (ANSs) and they perceive that these networks are useful since it has allowed availability of publications and has made scholars to connect with colleagues who share similar research interests. In relation to this study, it has enabled postgraduate students to connect with publishers of given journals and it has promoted one on one communication.

Social networking sites are of useful in scholarly communication in the sense that, it allows users to participate in discussions; provides space to share own research thoughts; it helps one to know the research productivity of their colleagues; it helps in finding related information about conferences, seminars and workshops (Muhammad & Tang, 2021). In conjunction with this, it allows students to interact, collaborate and exchange academic information with each other as well as with their instructors. This helps these students to match their different learning styles (Alkhathlan & Al-Daraiseh, 2017). According to Akçayır (2017), there are positive contributions of SNS for teaching and learning which includes: improvement of student-teacher interactions; enhancing learner motivation; and enhancing students' positive attitudes towards their courses. This shows that the use of SNS has been of use to the institutions of higher learning and therefore, there are positive perceptions on the use of SNS in education. This shows that SNS for SC provides privileges that allow postgraduate students adopt its use.

Another study by Wisdom (2021), on use of Academic Social Networking Sites(ASNs)(Google Scholar and ResearchGate) among lecturers in State Universities in South East, Nigeria, highlighted that the purpose of using ASNs is for knowledge sharing, downloading of articles, uploading publications for citations, information sharing and increasing views and reads. In addition to this, the study showed that ASNs facilitates research activities and allows collaboration among researchers and finally it provides knowledge updates. In relation to the current study, the use of SNS is of relevance to scholarly communication since it promotes fast information sharing.

Abrahim *et al.* (2018), carried out a study on exploring academic use of online social networking sites for language learning among Japanese students' on their perception towards use of Facebook. The study found out that SNS have been used in learning and education field due to simple website accessibility, efficiency and ease of use, individual affordance and engage with the platforms. This shows that online SNS permits students to discuss and share their educational knowledge which encourages them to ask for help of other student. It also increases their participation in online communication and encourage them to interact for active learning. SNS offers chances of giving and receiving constructive peer-to-peer feedback in a community which matches the social context of teaching and learning in collaborative endeavour. In addition to this, Facebook has features that enables students to engage in social and creative learning progressions that extend beyond the traditional classroom (Gupta & Bashir, 2018). This shows that Academic Social Networking Sites (ASNs) are gaining popularity among researches. This depicts that the use of SNS is of relevance to postgraduate students since encourages them to learn more from each other.

Another study done by Owusu *et al.* (2019), on adoption of SNS for education use among University of Ghana Business School students, the study found out that SNS encourage cooperation among students and teachers by giving them a unique platform to share knowledge and ask questions; request for assistance from their peers and teachers. In addition to this, the study indicated that SNS also has and addition feature which is business simulation games, where students pick some generic skills like teamwork, effective decision making, information processing and crisis management from it. Students perceive this skills as important in their studies as they influence their academic outcome. This shows that the use of SNS for SC is relevant in postgraduate studies.

2.5 Theoretical Framework

This study used the Technology Acceptance Model 2 (TAM 2). TAM 2 is an improvement of the Technology Acceptance Model TAM, which was developed by Davis (1989). The TAM model was originally developed to examine information technology/information systems (IT/IS) adoption in organizations. TAM 2 is used to explain factors that drive an individual to use a given type of communication medium to accomplish a given task.

TAM 2 is an improvement of TAM because the tenets usefulness, subjective norm, voluntariness, and compatibility were added to TAM tenets, which are perceived usefulness (PU), perceived ease of use (PEU) and attitude (A) which are found to be a significant determinant of end-user acceptance (Vankatesh & Davis, 2000). Also, behavioural intention (BI) was added to be used as a new variable that would be directly influenced by perceived usefulness (PU) and attitude (A) towards use.

TAM 2 models were chosen from several theories that show how social networking sites are used for scholarly communication by various research groups. The study was guided by the model because it shows why postgraduate students choose to use SNS for communication to satisfy the information need they face, which is the sharing of information in a fast and convenient way. It also shows that before these students choose SNSs as a communication medium there are some characteristics of the medium that makes them opt for it. For example, Dumpit and Fernandez (2017) in their research included the subjective norm, perceived playfulness, Internet reliability and speed to TAM model and their results indicate that after adding the said tenets, it was noted that the model is relevant in explaining users' adoption and usage behavior of SNS. This model explains well why postgraduate students use SNS for SC.

Model TAM 2 has informed this study in that it has provided a clear view of the reasons for adopting the use of SNS by postgraduate students. According to this model, what determines the use of SNSs by postgraduate students is the perception of the medium that promotes the status of the research work of these students. This leads to easy dissemination of research content to their fellow students hence the output quality of the information on SNSs is easily accessed. The figure below is a graphic representation of the TAM2 model.

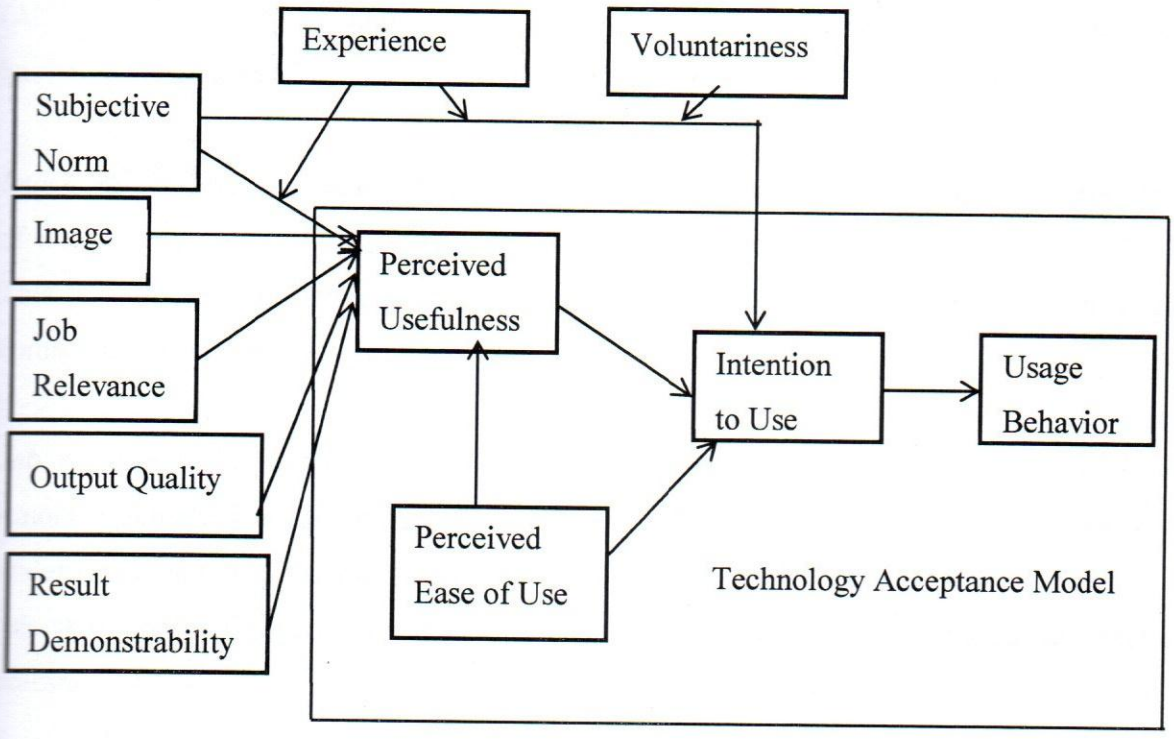


Figure 2 1: Technology Acceptance Model (TAM 2) (Venkatesh & Davis, 2000).

TAM 2 uses the following additional eight constructs.

Perceived usefulness: this is the degree to which postgraduates believes that a certain system would improve his/her job performance. In relation to use of SNS these usefulness refers to the extent to which an individual believes that the use of SNS would enhance his/her communication, collaboration and information exchange (Owusu *et al.*, 2019). This is supported by the benefit which SNS will bring to the postgraduate studies.

Perceived ease of use: this is the degree to which postgraduate students believe that using a particular system would be free from the notion that the system is difficult to understand and use (Owusu *et al.*, 2019). According to Mazman and Usluel (2010) explains this as the combination of an individual technical competence and his/her skill in the unique features of SNS is an important factor that influence adoption, the higher the degree of skills the higher

the perceived ease of use. Postgraduates who are able to utilize and manage the features and content of SNS easily and with minimum effort will be able to use these SNS more.

Behavioural intention: this is the degree to which postgraduate students have formulated conscious plans to use or not to use SNSs for sharing information for reasons known to them (Al Aufi & Fulton, 2015; Dumpit & Fernandez, 2017). This tenet guided the study because it has helped to find out the reasons for the use of SNSs among postgraduate students.

Image: this is the degree to which the use of SNS will improve the social and academic status of the students amongst themselves (Al Aufi & Fulton, 2015; Dumpit & Fernandez, 2017). This has helped the researcher to know that the use of SNSs enhances scholarly communication among postgraduate students.

Job relevance: this is the perception of the postgraduate students that use of SNSs for scholarly communication will improve the mode of communicating their research work to the wider community (Al Aufi & Fulton, 2015; Dumpit & Fernandez, 2017). This tenet guided this study since it gave the reasons why postgraduate students choose SNSs for scholarly communication.

Output quality: the degree to which postgraduate students believe that the use of SNSs will bring out satisfying results in that they will be able to share their research work easily with wider audiences (Al Aufi & Fulton, 2015; Dumpit & Fernandez, 2017). SNSs have been chosen for scholarly communication because postgraduate students believe that they help them communicate with their fellow students.

Result demonstrability: this shows that postgraduate students view the information they receive from SNSs that they are easily accessible at any location and in any format (Al Aufi & Fulton, 2015; Dumpit & Fernandez, 2017). This tenet has informed this study since it has helped postgraduate students to get ready for information wherever they need it.

This theory has been of importance to this study since it provided a clear view of how an individual chooses a given system to solve a given problem and give relevant results. For this study, the postgraduate students used the SNSs to ensure that their academic work was made

visible to other students and also they opted for SNSs because they felt that SNSs do this visibility well.

2.6 Summary

In the literature reviewed, it is revealed that the studies done on the usage of SNSs in scholarly communication have provided the factors that determine the usage of SNSs with ease of IT usage. The model of SNSs shows how IT enables the usage of SNSs for scholarly communication. Researches show that lecturers, archivists, and librarians for academic publishing at interdisciplinary institutional levels use SNSs. The literature also revealed that research has been done on the use of SNSs at the teacher-student level and not at the student-student level. This study, therefore, has filled the gap by assessing the use of SNSs for scholarly communication to add literature on research from an academic perspective among postgraduate students in Nakuru County, Kenya.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter discusses the methods and procedures that have led to the results of this study. It discusses the research design that was used, the target population, location of the study, sample size and sampling procedure, data collection and data analysis procedures and the ethical issues that governed this study.

3.2 Research Design

This study used a descriptive survey research design and mixed methods of study. A descriptive survey research design is used to explain the behavioural characteristics and attitudes of a given group (Babbie & Mouton, 2001). This design was chosen because it helped in assessing how postgraduate students use social networking sites for scholarly communication.

3.3 Location of the Study

This study covered postgraduate students in universities in Nakuru County, Kenya (see Appendix 4). Nakuru County is one of the 47 counties of the Republic of Kenya as per the constitution of Kenya 2010. The county lies within the Great Rift Valley and borders eight other counties namely: Kericho and Bomet to the West, Baringo, and Laikipia to the North, Nyandarua to the East, Narok to the South-West and Kajiado and Kiambu to the South. The county covers an area of 7,495.1 Km^2 and is located between longitude 35° 36 East and latitude 0° 13 and 1° 10 South (Nakuru County Development Plan, 2013). The University campuses found in this county include Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenyatta University (KU), University of Nairobi (UoN), Egerton University, Mount Kenya University (MKU), Kabarak University, Laikipia University, and St, Paul's University.

3.4 Target Population

This study targeted Masters' students who are in their first year and second year, first semester of study. The choice of masters' students was because these students have the same characteristic and therefore it was easy to monitor their use of SNSs. The choice of the study level is because these students are still attending their classes and can be found easily to administer the questionnaire and conduct the interview. The total target population was 650 (see Table 1.1) postgraduate students from the eight universities in Nakuru Town.

3.5 Sample Size and Sampling Procedure

This study used a purposive sampling technique to select universities to be studied. Purposive sampling is a sampling technique that allows a researcher to use cases that have the required information concerning the researcher's objectives (Babbie & Mouton, 2001). The researcher chose two public and two private universities out of the eight universities hence generated a sample of four universities to be studied. To select the sample size from the postgraduate students in these universities the study adopted a simple random sampling technique. The sample size was calculated using Nassiuma (2000) formula of determining sample size. The sample size $n = \frac{NC^2}{C^2 + (N-1)\ell^2}$ Where: n is the sample size, N is the population size, C is coefficient of variation ($\leq$ 30%) and ℓ is the standard error/level of precision/error. According to Nassiuma (2000), C = 0.25 (25%) and ℓ = 0.05 (5%) is acceptable for survey carried out on the population.

Therefore, the details of the sampling procedure and sample size are shown in the table 3.1 below Therefore, the sample size that the researcher used for this study was 109 postgraduate students from two public and two private universities within Nakuru Town; that is Jomo Kenyatta University of Agriculture and Technology, Egerton University, Mount Kenya University (MKU) and St. Paul's University as per Table 3.1 below. For the purpose of the interview, the study used a sample size of eight class representatives, two from each university.

Table 3.1 Sample size and Sampling technique

Name of the University Campus	Targeted No. of postgraduate students	Sample Size	Sampling Technique
JKUAT	180	27	Simple random sampling
Egerton University	200	30	Simple random sampling
MKU	180	27	Simple random sampling
St. Pauls University	90	25	Simple random sampling
Total	650	109	

Therefore, the sample size that the researcher used for this study was 109 postgraduate students from two public and two private universities within Nakuru Town; that is Jomo Kenyatta University of Agriculture and Technology, Egerton University, Mount Kenya University (MKU) and St. Paul's University as per Table 3.1 above. For the purpose of the interview, the study used a sample size of eight class representatives, two from each university.

3.6 Data Collection Method

This research used two instruments to collect data. These are questionnaires and interview guide respectively. The questionnaire was chosen as the main instrument for data collection because it allows one to collect data from a large population within a short period. It also allows the respondents to express themselves anonymously without fear since one is free to give opinions on the research questions given. The questionnaire had both closed and open-ended questions and was used by all postgraduate students. The interview guide was also chosen to assist the questionnaire since it allowed the researcher to get more information about how the postgraduate students communicate in social networking sites. For this study, the class representatives were interviewed to establish if they have a group network that they used to communicate with each other within their institution and other institutions.

3.6.1 Pilot Study

The researcher administered the questionnaire and conducted interviews with postgraduate students from Kenyatta University, Nakuru Campus. The main reason for carrying out a pilot study was to determine whether the questions and the interview schedule were reliable and could yield enough information to solve the problem of this study.

3.6.2 Validity of Instruments

Validity considers the accuracy, meaningfulness, and credibility of a study as well as its results and may be external, internal and content levels (David & Sulton, 2011). In other words, it tests whether the instrument measures what it is supposed to measure efficiently and correctly. This was done by the researcher with the help of a statistician and professionals in the field of information science including the researcher's supervisors to check if the questionnaire was valid for the research.

Table 3.2 ANOVA with Tukey's Test for Validity

			Sum of Squares	df	Mean Square	F	Sig
Between People			3.013	4	.753		
Within People	Between Items		15.547	14	1.110	4.042	.000
	Residual	Nonadditivity	3.131[a]	1	3.131	14.054	.000
		Balance	12.255	55	.223		
		Total	15.387	56	.275		
	Total		30.933	70	.442		
			33.947	74	.459		

Grand Mean = 1.6933

a. Tukey's estimate of power to which observations must be raised to achieve additivity = 4.791.

From the analysis, it can be observed that the p-value was 0.000 which was less than 0.05 significant which implies that the questionnaire is valid for study.

Table 3.3 Interclass Correlation Coefficient

	Interclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.104[a]	-.006	.594	2.742	4	56	.037
Average Measures	.635[c]	-.103	.956	2.742	4	56	.037

Two-way mixed-effects model where people's effects are random and measure effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intra class correlation coefficients using a consistency definition. The between-measure variance is excluded from the denominator variance.

3.6.3 Reliability of the Instrument

Reliability is the ability of the designed instrument to be employed repeatedly under constant conditions and can produce the same results (Gray, 2009). In this study, the researcher used Chronbach Alpha Test statistics to test the reliability of the questionnaire. This was done by administering the questionnaire and checking the frequency of responses in the questions. If the range is between 0.1 to 0.2 then the questionnaire is poor and if the range is 0.5 and above then the questionnaire is excellent therefore suitable for collecting data to solve the problem of the study. For this study, the reliability coefficient of the instrument was determined using Cronbach's coefficient alpha which determined internal consistency. The Cronbach's Alpha of this study was 0.735 which was the acceptable range for the questionnaire to be used for this study.

Table 3.4 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.735	.715	15

From the analysis, the Cronbach Alpha was 0.735 which is greater than 0.7. This implies that the items of the instrument were good for use in the study.

3.7 Data Analysis

The completed questionnaires by the respondents were collected and data cleaning was done. This helped in nullifying multiple responses. Descriptive statistics and chi-square tests were used for data analysis. These included frequencies, percentages, and weighted means. Since the questionnaire of this study had both closed and open-ended questions, it required quantitative and qualitative analysis. The tool for quantitative analysis was the Statistical

Package for Social Sciences (Version 26). Qualitative sections of the questionnaire and interviews were analysed using content analysis. Content analysis is a process of examining words or phrases within a range of texts of an interview or a written phrase (Babbie & Mouton, 2001). The researcher took the responses of the questionnaire and interview and examined the phrases that regularly appear and common in the responses. The data was coded to the SPSS software for analysis. The coded data were cleaned by removing the outliers.

The results of this study were presented by the use of tables and graphs to bring a clear understanding of the usage of social networking sites for scholarly communication among postgraduate students in public and private universities in Nakuru County, Kenya.

3.8 Ethical Considerations

Ethical considerations are norms that control behaviour or the way an individual conducts himself or herself (Guthrie, 2010). These ethics act as guidelines that help the researcher to remain professional. These ethical considerations include:

i. *Privacy:* This is where the identity of the respondent is kept anonymous. The researcher advised the respondents not to write their names on the questionnaire so as not to conceal their identity.

ii. *Plagiarism:* This is false attribution of ideas and involves the unauthorized use of someone's work without appreciating the owner of the work. The researcher ensured that all the work used as sources of literature was cited as a way of acknowledging the owner of the work. To successfully fulfil this, this work was passed through TurnitIn anti-plagiarism software.

iii. *Research permit:* The researcher sought for permission to conduct the study from the university (Graduate School, Egerton University), The National Commission for Science, Technology, and Innovation (NACOSTI), research authorization from the County Commissioner's Office and County Director of Education and also sought consent from the administration of the target universities.

CHAPTER FOUR
RESULTS

4.1 Introduction

This study assessed the use of social networking sites for scholarly communication among postgraduate students in university campuses in Nakuru county. This chapter presents the results of the analysed data which answers the objectives of the study.

4.2 Demographic Data of the Respondents

4.2.1 Questionnaire Response Rate

The questionnaire was distributed to the four campuses of study and the results were as follows:

Table 4.1: Response Rate

Name of the University Campus	Targeted No. of postgraduate students	Sample Size	Respondents	Percentage (%)
JKUAT	180	27	20	75
Egerton University	200	30	26	88
MKU	180	27	24	90
St. Paul University	90	25	23	94
Total	650	109	93	85

Table 4.1 shows that the response rate was good where 94% of respondents were from St. Paul University, 90% from Mount Kenya University, 88% from Egerton University and 75% from Jomo Kenyatta University of Agriculture and Technology. The average response rate was 85% which is above the acceptable range (Mugenda & Mugenda, 2003).

4.2.2 Awareness on usage of SNS

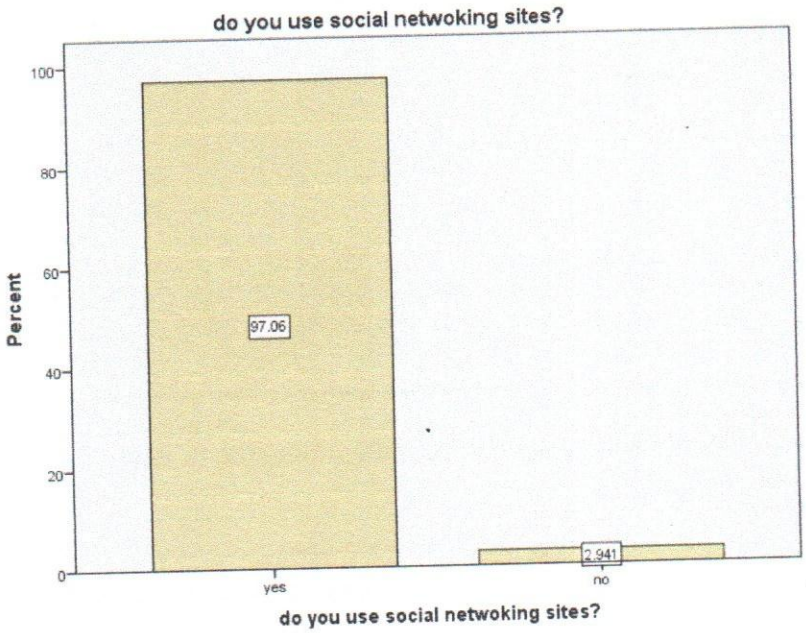


Fig. 4.1: The distribution of the usage of social networking sites

This section gives the distribution of the usage of social networking sites among postgraduate students. From the analysis, it was observed that 97.06% of the postgraduate student population has been using social networking sites. The study also indicated that 2.94% of the postgraduate students do not use the social networking sites. This implies that postgraduate students are aware of the use of SNSs. In conjunction with this, 97% use Facebook, 95% of postgraduate students use Twitter while 92% use WhatsApp. Others indicated that they use LinkedIn, Instagram, Academia.edu and Research gate. Concerning this, the class representatives reported that they have social networking groups in the WhatsApp platform, Telegram, and LinkedIn. This is in line with what Ashraf and Mohamed (2016) found in their research that students are aware and use SNSs for scholarly content.

4.2.3 The type of computing devices used in accessing SNS

This section evaluates the usage of portable computing devices for social networking. The results indicate that 73.53% of the postgraduate population use smartphones for social networking while 23.53% use laptops for social networking. The results further indicate that only 2.94% of students use a personal tablet or computers for social networking. This indicates that postgraduate students use their smartphones since they are easier to access. This is supported by research done by Dogoriti and Anderson (2014) and Khan et al. (2019) which showed that SNS offer an alternative informal mobile environment with a flexible environment, flexible teaching with no time constraints hence the choice of smartphones.

EGERTON UNIVERSITY
LIBRARY

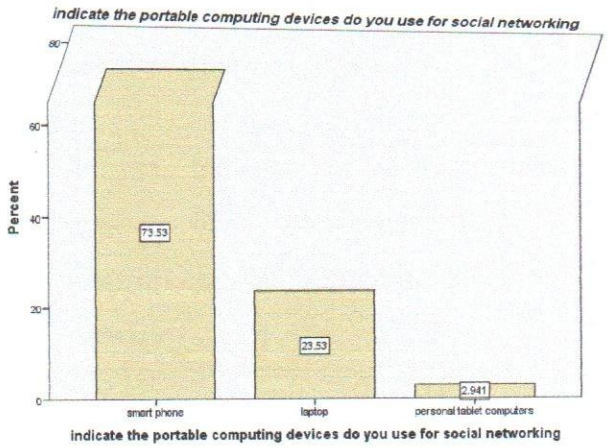


Fig. 4.2 Types of computing devices used in accessing SNS

4.2.4 Type of network connectivity used in accessing SNS

This section gives the proportion of the postgraduate students and the type of network connectivity they use in social networking. The results of this study observed that the wireless connectivity is the most popular connectivity among the postgraduate students with 91.18% of the postgraduate students. It also shows that 8.82% of the postgraduate students use cable connectivity for their social networking. Another respondent said, "I use Wifi or mobile Hotspot to access SNS". This contradicts Madhusudhan (2012) who found that students access

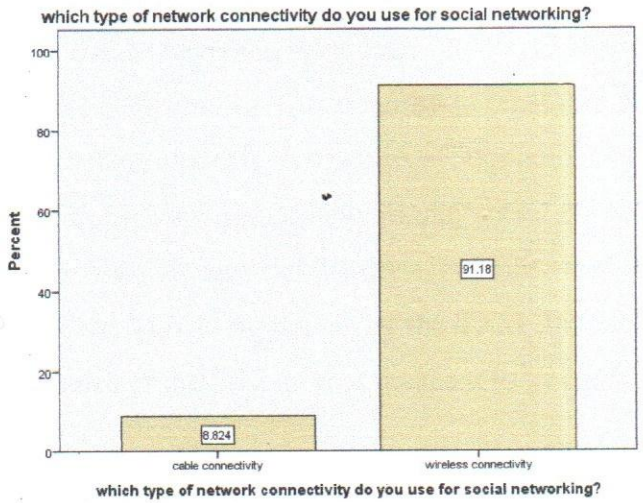


Fig. 4.3 Types of network connectivity used in accessing SNS

SNSs using departmental computer laboratories. This means that as we progress in the internet world so do modes of internet connectivity.

4.3 The Extent of Use of Social Networking Sites for Scholarly Communication

Table 4.2 The extent of use of SNS for SC

Test Statistics

	If yes, indicate the type of socialnetworking site thatyou use	To what extent do you use socialnetworking for scholarlycommunication	Do you use social networking sites?
Chi-Square	4.235[a]	11.765[a]	30.118[a]
df	1	1	1
Asymp. Sig.	.040	.001	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 17.0.

From the analysis, it was observed that the use of social networking sites for academic purposes has been on the rise among university students. Most postgraduate students use SNSs for sharing research ideas which were represented by a chi-square of 30.118 with a p-value of 0.000 which is less than 0.05 significant level as shown in Table 4.2 above. This implies that there is significant use of social networking sites among university students for academic purposes. This is echoed in research done by Ashraf and Mohamed (2016), in that the purpose of using SNSs by students was to connect with other researchers' activities and to interact with peers. Also, Mudhusudhan (2012), indicated that sharing of research work was the least use of SNSs by students contrary to what this study found hence the use of SNS for SC by postgraduate students was positive. Sugimoto et al, (2017) opines that SNSs have been used by researchers for: social networking; social bookmarking and reference management-which allows users to save publications, organize bibliographic material and share research with other peers. This is supported by the TAM 2 model (Vankatesh & Davis, 2000) in that the job relevance of the SNS is what makes it to be chosen for use.

The study further indicated that the usage of social networking sites for sharing class experiences was significant among postgraduate students. This is because the chi-square values were 11.765 with a p-value of 0.000 which was less than 0.05 significant level as indicated in Table 4.2 above. This indicates there is use of SNS for SC among postgraduate students. One class representative said, "*We share information about new research ideas,*

about individual's research study and information about seminars". This showed that the postgraduate students share information about their studies within the campus. This is in line with what Lester and Perini (2010) said that students use SNS as the best communication tool that promotes wider sharing of Knowledge in various locations. The findings of this study were that since these students are often not on campus, they do not fall under the traditional paradigm of engagement that includes faculty-student interaction and active and collaborative learning in a face-to-face classroom. In conjunction with this Akçayır (2017), asserts that SNS improves student-teacher interactions; enhances learner motivation; and enhances students' positive attitudes towards their courses. TAM 2 Model alludes that the output quality of a communication media is paramount on its choice of use. In this scenario, the output quality of work shared through SNS is easily accessible.

The study also established that different social networking sites are used for different purposes, for example, some students indicated that they used WhatsApp, Facebook, LinkedIn, Instagram and Telegram to know where they meet for lessons, when lectures are starting and updates on deadlines for submitting class assignments. This was represented by a chi-square of 4.235 with a p-value of 0.040 which is less than 0.05 significant levels as shown in Table 4.2 above. This was also observed by Dogoriti and Anderson (2014), where it is shown that most students appear to make regular use of Facebook for course discussion much in the way they use SNSs for social purposes. This is because SNS offer an alternative informal mobile environment with a flexible environment, flexible teaching, and learning and with no time constraint.

This is contrary to what Ventura and Quero (2014) found in that according to their study they found that students share resources on the networks that are of interest to all for example grant application, employment opportunities, etc. The results of Aleksandrova and Parusheva (2019) shows that Facebook is the most preferred SNS that is used by students for academic related communication, for instance they use it for student-to-teacher communication which is extensively used during the process of content creation and distribution. According to the TAM 2 model, maintenance of image after the use of SNS was important since it was meant to improve the social and academic image which was indicated in the results of this study.

Table 4.3 and Figures 4.4 and 4.5 show the results for the level and the rate at which SNSs are used by the postgraduate students for scholarly communication. The study observed that

there is a significant level of use of social networking sites for scholarly communication within the Campus environment since the chi-square was 8.727 with a p-value of 0.002 which is less than 0.05 significant level and also represented by 58%, those using social networking sites within class environment and with students outside campus being represented by 21% respectively. This shows that postgraduate students use SNS for communication when they are within campus environment. This is in conjunction with what Gupta and Bashir (2018) and Owusu *et al.* (2019) found in their studies where they explained that Lecturers use SNS to supervise their students where they learn, reflect, share, interact and summarise discussions. It also enables them to contact their peers and lecturers wherever they are leading to flexibility of extended learning hours.

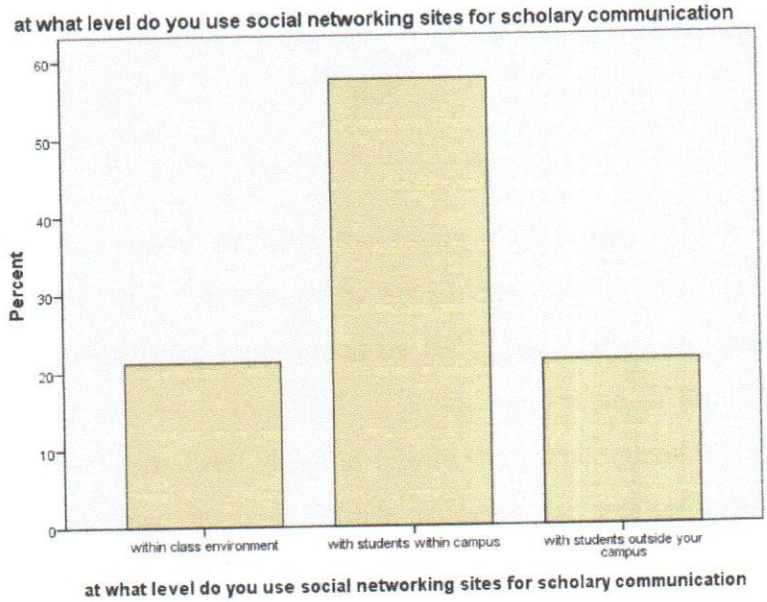


Fig. 4.4 Level of use of SNS for SC

Table 4.3 The usability level of SNS for SC

	At what level do you use social networking sites for communication	Indicate how you joined the group	How do you rate the use of social networking sites for scholarly communication	Academic	Group discussions
Chi-Square	8.727[a]	1.900[b]	11.529[c]	16.941[d]	5.765[d]
df	2	2	2	1	1
Asymp. Sig.	.013	.387	.003	.000	.016
Exact Sig.	.015	.427	.003	.000	.024
Point Probability	.002	.095	.001	.000	.015

The study also found out that the rating of the use of the social sites for scholarly communication was represented by 60% being easy to use, very easy being represented by 30% and not easy being represented by 10%. The ease of use was significant since the chi-square for easy to use SNS was 11.529 with a p-value of 0.001 which was less than 0.05 significant level (see Table 4.3 and Figure 4.5). This means that SNS is an easy means of communication used by postgraduate students for scholarly communication because the students can read academic papers easily; they can get instant feedback in any other academic communication. The study also indicated that very few postgraduate students indicated that it is not easy to use social networking sites for scholarly communication.

According to Hilner (2012) YouTube videos have been shown to increase students' depth of understanding of course content. Teachers also recommend blogs that have been incorporated as vehicles of acquiring knowledge since they are easily accessible and easy to learn how to use them. This is per what Al Aufi and Fulton (2015) found in their research in that academics use SNSs because it is easy and enjoyable to use. This is supported by the TAM 2 model which explains that the perceived ease of use of a communication medium is what makes it to be chosen for use by an individual to share information with others. According Abrahim et al. (2018), SNS have been used in learning and education field due to simple

website accessibility, efficiency and ease of use, individual affordance and engage with the platforms.

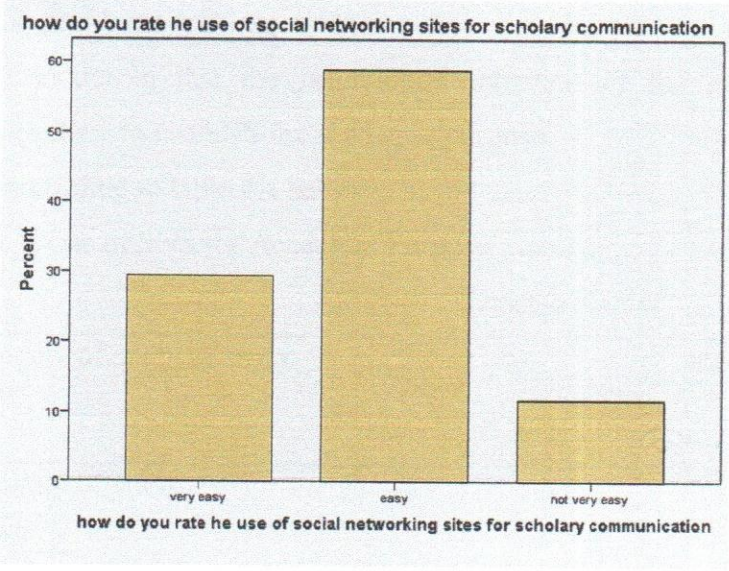


Fig. 4.5 rating the use of SNS for SC

4.4 Reasons for Use of Social Networking Sites among Postgraduate Students

This section explains the reasons why postgraduate students use social networking sites in their academic fields.

4.4.1 Academic Purpose

From the results, it was observed that there was a notable use of SNS for academic purpose. The study also indicate that the chi square value was 12.974, with p-value= 0.005 which was less than 0.05 significant level. This means that there was significant use of SNS for academic purpose. This was echoed by the response of a class representative who said "*I get access to scholarly information easily from Academia.edu and LinkedIn which are academic SNSs*". Alkhathlan and Al-Daraiseh (2017) indicated that SNS allows students to interact, collaborate and exchange academic information with each other as well as with their instructors for which it helps these students to match their different learning styles. This implies that the major reason for postgraduate students using SNS is for academic purpose as opposed to social purpose.

This is in line with what Greenhow, 2011 found that students chat online through MySpace to mitigate school-related stress, ask questions about instructions or deadlines, planning study

groups and requesting educational resources. This is also supported by Alqahtani and Issa (2018) in that students use it in discussing academic work with their peers, seeking moral support, exchanging knowledge and information with colleagues, as well as discussing academic problems and issues, among other educational concerns. This is supported by the TAM 2 model in that the behavioural intention of the postgraduate students is what influences them to use SNS for academic purpose.

This is according to table 4.4 below.

Table 4.4: Use of SNS for Academic Purpose

Crosstab Count

University of study of study	academic		Total
	Yes	no	
University of study			
JKUAT	0	2	2
EGERTON	12	2	14
MKU	5	0	5
St. PAUL'S	12	1	13
TOTAL	29	5	34

Chi-Square Tests

	Value	df	Asymp.(2sided)
Pearson Chi-Square	12.97		
Likelihood Ratio	4[a]	3	.005
Linear-by-linear Association	9.861	3	.020
N of Valid Cases	4.107	1	.043
	34		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .29.

4.4.2. Use of SNS for Leisure

From the results, it was observed that there was use of SNS for leisure purpose. The study also indicate that the chi square value was 3.454, with p-value= 0.327 which was greater than 0.05 significant level. This means that there was less use of SNS for leisure. This is in line with what Lenhart and Madden (2007) found in that individuals use SNSs to stay in touch with friends, make plans with friends or make new friends. Also, Madge *et al*. (2009), in their study on how British undergraduates use Facebook in engagement with the university, state that undergraduate students use Facebook for socializing, making friends and keeping in touch with family at home. This as shown in table 4.5 below:

Table 4.5. Use of SNS for Leisure

Crosstab

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.454[a]	3	.327
Likelihood Ratio	4.305	3	.230
Linear-by-Linear Association	.559	1	.455
N of Valid Cases	34		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .88.

4.4.3. Using SNS to get information on activities in Campus

From the results, it was observed that there was less use of SNS for getting information about the university. The study also indicate that the chi square value was 3.615, with p-value= 0.306 which was greater than 0.05 significant level. This means that postgraduate students used SNS for getting information about activities in campus but in rare contexts. Shao (2009) observes that individuals increasingly use Facebook and MySpace and other SNSs to learn how to make sense of things from their peers on any subject by joining the group, this is contrary to the results of this study. Also, Karimi *et al*. (2014) found out that students use YouTube for thrill-seeking and information seeking, that is, seeking information about campus experiences. Arteaga *et al*. (2014), shows that students used Facebook to create and promote online connections between students and faculty within an academic community.

This shows that SNS allows resource or material sharing among students where students and their lecturers can share many different kinds of educational materials through Facebook in order to complement the traditional learning environment.

Table 4.6. Use of SNS in getting information about activities in Campus

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.615[a]	3	.306
Likelihood Ratio	4.360	3	.225
Linear-by-Linear Association	.370	1	.543
N of Valid Cases	34		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .88.

4.4.4. Use of SNS for Entertainment

From the results, it was observed that there was less use of SNS for entertainment. The study also indicate that the chi square value was 3.071, with p-value= 0.381 which was greater than 0.05 significant level. This means that there was no significant association between the use of social media for entertainment in campus and the university they study

Table 4.7. Use of SNS for Entertainment

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.071[a]	3	.381
Likelihood Ratio	3.842	3	.279
Linear-by-Linear Association	.797	1	.372
N of Valid Cases	34		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .94.

This supported by results of a study done by Hilner (2013) and Karimi *et al.* (2014) found out that most individuals use SNSs to be entertained, that is, using YouTube to fulfil entertainment needs and thrill-seeking and information seeking.

4.4.5 Use of SNS for Group Discussions

From the results, it was observed that there was association between the university and the use of social media for group discussion. The study also indicate that the chi square value was 2.178, with p-value= 0.536 which was greater than 0.05 significant level. This means that there was no significant association between the use of socio media for group discussion and the university they study.

Table 4.8 Use of SNS for group discussion

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.178[a]	3	.536
Likelihood Ratio	2.280	3	.516
Linear-by-Linear Association	1.700	1	.192
N of Valid Cases	34		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .59.

This indicates that there is less use of social networking for group discussions among University postgraduate students. The reason why there is less use of SNS among postgraduate students for group discussion is that there is a delay of response as one respondent said: "*group discussions on a particular subject sometimes lead to delays in my studies*". According to the reviewed literature, it was opined that students use SNS for various reasons, for example, Al Aufi and Fulton (2015), Greenhow (2011), Hilner (2015), Karimi *et al.* (2014), Lenhart and Madden (2007), Madge *et al.* (2009), Shao (2009), and Whiting and Williams (2013), indicate that scholars use SNS for social interaction, passing time, information seeking, entertainment, and relaxation. In addition to this, Gupta and Bashir (2018) found out that students use YouTube to share videos about what they have learned and join online further to discuss with their teachers. According to Arnold and Paulus (2010) SNS

enables greater interaction and participation on the part of the student and increases their trust in their discussion, hence the relationship between teachers and students continues for a longer period of time. But the current study showed that some postgraduate students use SNS for academic work, Leisure, getting information about activities in campus, socializing, entertainment and group discussion being the least usage.

4.5 Assessing the Relevance of use of SNSs for SC

This was done by analysing interviews from eight class representatives, whom two were from JKUAT, Egerton University, MKU and St. Paul's respectively. The results indicated that postgraduate students prefer using SNSs because they allow one-on-one communication, for example, one respondent said: "*I like using SNSs since I can get resourceful information from the interaction between scholars in my field of study*". Another respondent supported this by saying, *"It facilitates us to discuss with colleagues and thus come up with sophisticated results"*. This means that the postgraduate students can follow groups that share information related to their fields of study. This has been supported by Al-Muomen *et al.* (2020) who found that Academic Social Networking Sites allows availability of publications and has made scholars to connect with colleagues who share similar research interests. Abhahim *et al.* (2018) in their study showed that online SNS permits students to discuss and share their educational knowledge which encourages them to ask for help of other student. It also increases their participation in online communication and encourage them to interact for active learning. This is supported by the construct perceived usefulness of SNS since it has performed well what the postgraduates needed from the medium.

Another observation that was seen in this study is that the use of SNSs is of relevance to the postgraduate students since they can communicate with publishers of various journals. For example, one respondent said, "*when I am doing my research and I need to access information material, I get to interact with the publisher and ask to send the full-text document because the contents are based on my area of interest*". This is in line with what Sugimoto *et al.* (2017) found about the use of SNSs by researchers for instance they use it for: social networking; social bookmarking and reference management- which allows users to save publications, organize bibliographic material and share research with other peers; social data sharing through Figshare and SlideShare which scholars disseminate various types of research outputs.

Another respondent said, "*I get to know other relevant open-access publishers where I can get more information material related to my study*". This is in agreement with what Wisdom (2020) found because the study found out that lecturers share and upload articles for citations. According to Al-Muomen *et al.* (2020), Academic Social Networking Sites (ASNS) has allowed availability of publications and has made scholars to connect with colleagues who share similar research interests.

The use of SNSs for SC is relevant to postgraduate students since they can improve their search strategies and can evaluate relevant information appropriately. For example, one respondent said, "*since I started using SNSs, it has helped me sharpen my research skills because I know where to search for current information and where to search for authentic information*". Another respondent said," *I can share my research topic on social media, specifically in LinkedIn and can access a lot of information relating to my research area*". This can be observed that these postgraduate students get enough information as Mohammad and Tang (2021) observed that SNS provide space to share your own thoughts and allows one to know research productivity of their colleagues. This is supported by results of a study done by Owusu *et al.* (2019), where SNS equip students with skills that they perceive are important in their studies as they influence their academic outcome.

SNSs have enabled postgraduate students to share their research work with other scholars which have enabled them to publish their work in various journals. For example, another respondent said, "*It has enhanced my research skills and coming up with scholarly publications has become a lot easier*". This is supported by results of a study done by Owusu *et al.* (2019), where SNS equip students with skills that they perceive are important in their studies as they influence their academic outcome. This is the perceived ease of use of a medium which drives the postgraduates to use SNS because of the results they get at the end.

Another respondent supported this by saying *"My classmates and I used social networking to discuss the best journal for academic publication"*. Therefore, the use of SNSs by the postgraduate students is relevant in enhancing information-rich generation in this technological world full of online information. This was supported by results of Mahammad and Tang (2021) who observed that research scholars use SNS since it allows interaction with subject experts and consultants. Also the results of a study done by Owusu *et al.* (2019) where SNS encourage cooperation among students and teachers by giving them a unique

platform to share knowledge and ask questions; request for assistance from their peers and teachers.

SNSs have enabled postgraduate students to learn how to share academic information in relevant platforms. This was supported by the results for a respondent who said that "*SNS has enabled me to know various networking sites that I can share information relating to my research topic like Academia.edu*". Another respondent said that "*At first I used to log in to the social networking sites to see what other scholars were posting and I gained skills on how to share academic information*". This is in line with what Muhammad and Tang (2021) found in their study that ASNs allows one to know the research productivity of their colleagues, allows knowledge sharing. This is supported by the results of a study done by Alkhathlan and Al-Daraiseh (2017) who found out that SNS allows students to interact, collaborate and exchange academic information with each other as well as with their instructors. This helps these students to match their different learning styles.

Despite the relevance of using SNS for SC some students stated that they experienced several challenges when using social networks for scholarly communication. From the analysis of the responses of the students, finance is one of the major challenges when using the Internet outside their campuses. Some students also stated that network failure is another major challenge in using social networks for scholarly communication. This was supported by the response of one student; *"at a time some of us lack finances to buy the bundles for the Internet"*. Another student stated that *"we experience challenges due to network failure and lack of cooperation among some members"*.

From a response from another student,*"low network and lack of money to access a reliable network is a major challenge for proper communication and also the information we get from these SNSs is so vast such that to filtering the information becomes difficult for us.* From these results, it shows that as the postgraduate students use SNS for SC there are problems that hinder them from maximum use of SNS. This is supported by results of a study done by Koranteng *et al.* (2019) in that the use of SNS tools for promoting students' collaboration, facilitation and engagement is faced with privacy and security concern. Due to the lack of face-to-face interaction and the ability to collaborate with other students who one may not have met physically, they can put students in danger as they may deal with individuals they do not know. In addition, SNS exposes them to vast amount of data and information, which may be challenging to process and categorize the quality levels of the information received.

Exposure to inappropriate online content, cyber bullying as well as online harassment also adds to the major challenges of using them.

The majority of the students in the study identified the network as the main challenge to social networking. The students proposed that the best solution to this problem was *"the relevant universities to provide reliable network throughout the campus and if possible in their hostels"*.

This was also supported by the response by another student who stated that *"the provision of free Wi-Fi in campus social places and hostels will assist to ensure we get better communication*".

CHAPTER FIVE
DISCUSSION

5.1 Introduction

This chapter presents summary of the findings, conclusions, recommendations and suggestions for further study. The aim of this study was to assess the use of social networking sites in scholarly communication by postgraduate students in selected universities within Nakuru County Kenya and was guided by the following objectives:

i. To determine the extent to which postgraduate students use social networking sites for academic work in university campuses in Nakuru County, Kenya.
ii. To establish the reasons for the use of social networking sites among postgraduate students in university campuses in Nakuru County, Kenya.
iii. To assess the relevance of the use of social networking sites to postgraduate students for scholarly communication.

5.2 Summary of the Findings

This section presents summary of the findings of this study based on the study objectives.

5.2.1 The extent to which postgraduate students use social networking for academic work

This objective was met by determining the level of awareness of the usage of SNS by postgraduate students and it found out that 97.06% of postgraduate students have been using SNS while 2.94% did not use SNS. This implies that majority of postgraduate students are aware of use of SNS. Another factor that was considered was the type of computing devices that enabled postgraduate students to access SNS and the study found out that 73.53% used smartphones, 23.53% used tablets for social networking. This clearly indicates that smartphones were mainly used devices to access SNSs. The type of network connectivity that the postgraduate students used according to the results of this study indicated that wireless connectivity was the most popular connectivity with 91.18% while cable was not so popular with 8.82% of the postgraduate student population.

From the analysis of results of this study it was observed that the extent to which postgraduate students use SNS for academic work was evident in the postgraduate students used SNS for sharing research ideas among themselves which was represented by chi-square of 30.118 with a p-value of 0.00 which is less than 0.05 significance level. This means that there is a notable use SNS for scholarly communication. The results to this study also indicated that postgraduate students use SNS for sharing class experiences and sharing

individual's research work thus improving the visibility of one's research work. This was represented by chi-square value of 11.765 with a p-value of 0.000. This implies that postgraduate students use SNS for scholarly communication. This was supported by response from class representative which they indicated that they use SNS for sharing new research ideas and individuals research study. Finally the findings showed that postgraduate students use WhatsApp, Facebook, LinkedIn, Instagram and Telegram to know where they meet for lessons, when lectures are starting and updates on deadlines for submitting class assignments.

In addition to this the study also wanted to know the environment in which postgraduate students used SNS for SC and it was clear that postgraduate students used SNS within campus environment which was represented by chi-square of 8.727 with a p-value of 0.002 which is less than significance level being represented by 58% followed by use within class environment and outside campus being 21% respectively. In rating the use of SNS by postgraduate students for scholarly communication, the results indicated that 60% represented easy to use, very easy to use was 30% and 10% indicated it was not easy to use SNS for scholarly communication, this shows that using SNS for SC was easy hence choice of the medium.

5.2.2 Reasons for use of SNS among postgraduate students

According to the results of this study, there were two reasons of using SNS by postgraduate students, for academic work, Leisure, getting information about activities in campus, socializing, entertainment and group discussion. The study also indicate that the chi square value for academic use was 12.974, with p-value= 0.005 which was less than 0.05 significant level. This means that there was significant use of SNS for academic purpose. This means that postgraduate students use SNS for academic purpose for instance to access academic resources.

It was also observed that the chi square value for leisure use was 3.454, with p-value= 0.327 which was greater than 0.05 significant level. This means that there was less use of SNS for leisure. Another observation from the results of this study showed that there was less use of SNS for getting information about activities in campus, this represented by chi square value of 3.615, with p-value= 0.306 which was greater than 0.05 significant level. This means that postgraduate students used SNS for getting information about activities in campus but in rare contexts.

From the results, it was observed that there was less use of SNS for entertainment. The study also indicate that the chi square value was 3.071, with p-value= 0.381 which was greater than 0.05 significant level. In addition to this it was observed that there was less use of SNS for entertainment. The study also indicate that the chi square value was 3.071, with p-value= 0.381 which was greater than 0.05 significant level. This means that there was no significant association between the use of social media for entertainment in campus and the university they study.

From the results, it was observed that there was association between the university and the use of social media for group discussion. The study also indicate that the chi square value was 2.178, with p-value= 0.536 which was greater than 0.05 significant level. This means that there was no significant association between the use of socio media for group discussion and the university they study.

In assessing the relevance of use of SNS for SC, analysis of the interviews indicated that the use of SNS allows one-on-one communication since they can follow groups that share information related to their fields of study. It also allows postgraduate students to communicate with publishers of various journals.

The use of SNSs for SC is relevant to postgraduate students since they can improve their search strategies and can evaluate relevant information appropriately. SNSs have enabled postgraduate students to share their research work with other scholars which have enabled them to publish their work in various journals. In addition to this, SNSs have enabled postgraduate students to learn how to share academic information in relevant platforms.

In addition to this use of SNS by postgraduate students is relevant since it improves their search strategies and can evaluate relevant information. Despite the relevance of using SNS for SC some students stated that they experienced several challenges when using social networks for scholarly communication. From the analysis of the responses of the students, finance is one of the major challenges when using the Internet outside their campuses. Some students also stated that network failure is another major challenge in using social networks for scholarly communication.

CHAPTER SIX
CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study on usage of social networking sites for scholarly communication among postgraduate students in universities in Nakuru County, Kenya, has found that postgraduate students use social networking sites to enhance their research; for instance, the use of SNSs allows these students to follow current researches hence coming up with new research ideas.

Another observation made was that the most commonly used SNS are Facebook, WhatsApp and academia.edu while Twitter was the least used. Other SNSs that the study found to be used were LinkedIn, Instagram and Telegram. This shows that there are more SNS platforms that postgraduate students use for SC.

Finally, the study has given a clear view on the use of SNS by postgraduate students for scholarly communication by elaborating how these postgraduate students have used SNSs and how they have benefitted scholarly-wise by using them. The study, therefore, has contributed to the body of knowledge by giving a clear picture of the impact of the use of SNS for scholarly communication among postgraduate students; and also has added literature on the relevance of using SNS for SC.

6.2 Recommendations

This study recommends that:

i. Institutions of higher learning need to look for ways through which students may get institutional email addresses to enable them to access social networking sites that require such addresses. This is because these SNSs may be of help to the students when carrying out their daily scholarly activities.
ii. Lecturers to help postgraduate students identify and use academic social networking sites that provide scholarly information to enhance use of authentic information.
iii. Postgraduate students to empress the use of social networking sites for scholarly communication since it has become the best tool for informal communication especially during this time of Covid-19.

6.3 Areas for Further Research

The researcher recommends the following areas for further research:

i. More research to be done on the use of SNSs for scholarly communication in various universities in different counties to give more insight of the use these SNS in Kenya.

ii. Assess the effects of use social networking sites on information seeking behaviour of postgraduate students.

iii. Impact of use of social networks sites for scholarly communications on research visibility.

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APPENDICES

Appendix I: Questionnaire for Postgraduate Students

Section A: Introductory Letter

Dear Respondent,

I am Martha Kipruto, a student pursuing a Master of Information Science at Egerton University.

You have been identified as a respondent for a study titled *Assessment of the use of social networking sites for scholarly communication among postgraduate students in university campuses in Nakuru Town, Kenya* for the course that I am pursuing. I will be grateful if you will respond to the questions. All information gathered through this questionnaire will be for academic purposes only and will remain confidential.

Yours sincerely

.....

Martha Jelimo Kipruto

Cell Phone: 0724 354 082

E-mail: marthakipruto@gmail.com

Section B: Demographic Data for the Respondent

Instructions: Tick (√) where applicable.

1. Show the University where you study by ticking against one of the boxes provided.

JKUAT	☐	Egerton	☐
MKU	☐	St. Paul	☐

2. Indicate your course of study.....

.....

3 a) Do you use social networking sites?

Yes ☐ No ☐

b) If your answer to question 2 above is Yes, indicate the type of social networking site that you use (You can tick (√) more than one)

Twitter	☐
Facebook	☐
WhatsApp	☐

YouTube ☐

Any other (Please indicate in space provided).....

.....

c) If your answer in 2 above is No, explain the reason for not using social networking sites.....

.....

.....

4. Indicate the portable computing devices you use for social networking. (You can tick (√) more than one)

Smartphone ☐

Notebook computer ☐

Laptop ☐

Personal tablet computer ☐

Desktop computer ☐

5. Which type of network connectivity do you use for social networking?

Cable connectivity ☐

Wireless connectivity ☐

6. To what extent do you use social networking for scholarly communication? (You can tick (√) more than one)

Sharing research ideas ☐

Collaborating with other postgraduate students in research ☐

Publishing research work ☐

Communicating in conferences ☐

Sharing class experiences ☐

Indicate any other use of social networking sites.....

7. At what level do you use social networking sites for scholarly communication?

Within the class environment ☐

With students within campus ☐

With students outside your campus ☐

Any other, please specify.....

.....

.....

8. If the answer in question 7 above is with students outside your campus, indicate how you joined the group.

Through class representatives ☐

Through classmates ☐

Through friends ☐

Any other, please specify.....

.....

9. How do you rate the use of social networking sites for scholarly communication?

Very Easy ☐

Easy ☐

Not easy ☐

Any other.....

.....

10. According to the answer in question 9 above, indicate why you find it very easy, easy or not easy to use social networking sites for scholarly communication.....

.....

11. Indicate why you use social networking sites.

For academic work ☐

For leisure ☐

Getting information about activities in campus ☐

For socializing ☐

Entertainment ☐

Group discussions ☐

Anyother, specify.....

.....

12. Indicate how the use of social networking sites been of benefit to your studies.

.....

.....

13. Specify the challenges that you face when using social networking sites for scholarly communication.....

.....

14. Indicate any solutions to the challenges that you experience in the use of social networking sites for scholarly communication.....

Thank you.

Appendix II: Interview Guide for Class Representatives

1. I would like to know if you are aware of the use of social networking sites for scholarly communication.
2. If you are using these networks, what prompted you to choose them?
3. When using social networking sites, do they meet your academic expectations?
4. Specify the activities for which you use these social networking sites.
5. What kind of Internet connection do you use to access these social networks?
6. Do you have any social network groups?
7. Who are the members of your group?
8. For how long have you been using social networking sites for scholarly communication?
9. Is there any way that social networking usage has been helpful in your studies?
10. Are there any challenges that you face when using social networking sites?

Appendix III: Research Permit

THIS IS TO CERTIFY THAT:
MS. MARTHA JELIMO KIPRUTO
of EGERTON UNIVERSITY, 13357-20100 Nakuru,has been permitted to conduct research in *Nakuru County*

on the topic: *USAGE OF SOCIAL NETWORKING SITES FOR SCHOLARLY COMMUNICATION AMONG POSTGRADUATE STUDENTS IN UNIVERSITIES IN NAKURU COUNTY, KENYA.*

for the period ending:
15th November,2019

.....
Applicant's Signature

Permit No : NACOSTI/P/18/99938/26631
Date Of Issue : 15th November,2018
Fee Recieved :Ksh 1000



.....
Director General
National Commission for Science, Technology & Innovation

INNOVATION ACT, 2013

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CONDITIONS: see back page

Appendix IV: Snapshot of Publication

SRELS Journal of Information Management, Vol 58(5), October 2021, p.309-317

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DOI: https://doi.org/10.17821/srels/2021/v58i5/165231

Keywords: *Academics, Faculty Members, Kenya, Postgraduate Student, Scholar, Scholarly Communication, Social Networking Site*

ABSTRACT *The study examines how postgraduate students use Social Networking Sites (SNS) in communicating scholarly information in Kenyan universities with reference to use of WhatsApp, Twitter, Facebook, LinkedIn and Academia.edu. The objectives of this studies are: to determine how social networking sites are used for scholarly communication and to find out the reasons for using social networking sites by postgraduate students. Descriptive research design was used to guide the study. From four universities with a sample size of 242 postgraduate students who filled the questionnaire. The findings of the study showed that postgraduate students use SNS to share research ideas, class experiences, to know where to meet for lessons, when lectures are starting and updates on deadlines for submitting class assignments; the reasons for using SNS are for academic purposes and group discussion. In conclusion, the findings of the study show that postgraduate students use SNS to share daily experiences within campus rather than sharing information on how and where they can get scholarly information that will enable them to add new body of knowledge.*

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