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Exploring the Use of Social Networking Sites (SNS) By Engineering Students: A Case Study of Federal University of Technlony, Minna

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ABSTRACT: Social media as a platform for making active interaction is gaining unprecedented prominence among the youths, who encompasses the largest percentage of students. Unfortunately, the percentage of students that use it for educational purposes is very low. In this research work, attempt is made to examine the extent of usage of social networking sites by engineering students for educational and industrial purposes. A self-administered questionnaire is used as an instrument for data collect information on the level of awareness and usage of social networking sites for both educational and industrial purposes from randomly selected 100 engineering students of Federal University of Technology, Minna, Nigeria. This research work on social networking sites is based on LinkedIn, Twitter, YouTube and Facebook. The analysis of data was done using statistical package for social sciences (SPSS) verion 23.0. The study reveals YouTube as the most widely used in the field of engineering followed by Facebook and Twitter. LinkedIn is observed to be least used social networking site among the engineering students. It is recommended that stakeholders in engineering education in Nigeria should enlighten and encourage engineering students on enormous usefulness of LinkedIn as a means of getting mentorship and creative ideas for career advancement.

KEYWORDS: Engineering Students, Social Media, Social Networking Sites, YouTube, Facebook, Twitter, LinkedIn

I. INTRODUCTION

In the recent time, social network media have spread widely all over the world (Kavita, 2015) and are fast becoming very popular means for both interpersonal and public communication. Social networking sites such as Facebook, YouTube, Blogs, Twitter, Myspace, LinkedIn, etc (Martin, 2008) are websites that allow those who have account with them to communicate with a selected group of friends (Awake, 2011). They are modern interactive communication channels through which people connect to one another, share ideas, experiences, pictures, messages and information of interest. It can also be described as web based services that give an opportunity to individuals to create their own personal profile with the choice of their own list of users and thereby connect with them in an altogether public forum that provides them with features such as chatting, blogging, video calling, mobile connectivity and video/photo sharing (Khurana, 2015).

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II. RELATED WORK

The study by Kim et al (2013) revealed that most social media platforms are used by college students not only for social interactions or entertainment purposes, but also for information seeking in the academic context. Secure to the fact that Social Networking Sites (SNS) have attracted considerable attention among teens and young adults who tend to connect and share common interest (Salvation and Adzharuddin, 2014), researchers have intensified investigative studies on the influence of SNS on the academic performance and learning experiences of students who are dominated by the youths. Social science research has shown that access to social support is another important factor in academic success (Coleman, 1990; Goddard, 2003) and that individuals' positions in social networks can explain success or failure in many domains of life (Granovetter, 1973; Thomas, 2000; Seibert et al, 2001 and Burt, 2004.). However, this effect of social ties is difficult to measure and quantify, because social networks are multidimensional and dynamically evolving within the educational context. (Stadtfeld et al, 2019). Laudable efforts have been made among researchers in this field on studies that focused on influence (negative or positive) of SNS on academic performance of students. The influence of social media use such as Facebook on students' performance was explored by Abu-Shanab, and Al-Tarawneh (2015). The study used the Grade Point Average (GPA) of students in four courses and their responses regarding the use of social media. Results obtained by the others indicated that students who spent more time on Facebook have lower GPA. Owusu-Acheaw¹ and Larson (2015) studied the use of social media and its effect on academic performance of tertiary institutions students in Ghana with a focus on Koforidua Polytechnic students. It was found that that the use of social media sites strongly affected academic performance of the respondents negatively as there were glaring direct relationship between the use of social media sites and academic performance. Some cases on positive influence of SNS have also been reported. For instance, Griesemer (2019) in his work reported that the emergence of SNS has impacted significantly on how students learn and the way instructors teach. In today higher education settings, instructors, students, and others collaborate on the tasks of knowledge construction. SNS has become the most dynamic Web application which enables students not only to socialize with friends but also interact with lecturers (Hamat, et al, 2012). The growing popularity of the sites is further influenced by the free access for whomever that desire to interact with friends and lecturers with a view to generating collective knowledge. In the work of Faizi et al (2013), the potential benefits of using social media in education was investigated. The authors; findings revealed that the web-based social network applications can improve communication among students and between teachers and students. It could be used to promote students' engagement and foster collaboration among students for achieving a common goal. In Camilia et al (2013), it was revealed that SNS would increase students' academic performance. Since students are also using SNS for their academic activities, lecturers should use SNS to enhance teaching-learning process by uploading academic contents for use by the students. Mushtaq (2018) studied the positive and negative effects of social media on the academic performances of students in Alberoni University of Afghanistan. The author's findings revealed that the positive impacts of social media among the undergraduates appeared to be higher as compared to negative impacts. Several other studies on the positive and negative impacts of SNS have also been reported (Mastrodicasa and Metellus, 2013; Alwagait, 2015; Oginni et al, 2016; Giri et al, 2018; Mowafy, 2018; Celestine and Nonyelum, 2018).

As the use of social media sites has become an inseparable integral part of people' lives, the society (parents, guardians and lecturers) are constantly worried to ascertain if the use of SNS is having negative or positive impacts on academic achievement and career development of students. Ascertaining the impacts will provide opportunity for taking proactive actions that can help ameliorate possible negative trend. The quality of science, engineering and technology students as well as graduates a country is endowed with is extremely pivotal to national growth and development. Therefore, the objective of this research work is to investigate the extent of usage of social networking sites by engineering students for educational and industrial purposes. The findings of this study can serve as indicator for the behavioural pattern of Nigerian engineering students towards social media sites usage.

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III. METHODOLOGY

In this section, the research methodology and the rationale behind it are presented. It highlights the data collection approach, describes the research population, tools and instruments employed in the research. In addition, the validity of instrument, method of data collection and analysis are also presented.

1.1 Research Questions

The questions upon which this research was developed are highlighted as follows.

1. What are the educational purposes of social networking sites for engineering students?
2. What are the industrial purposes of social networking sites for engineering students?
3. What is the level of usage of social networking sites for educational purpose by engineering students?

2.2 Research Design, Target Population and Data Collection.

The method adopted for this survey was simple random sampling. The targeted population was the students in School of Engineering and Engineering Technology (SEET) and School of Infrastructure Processing and Engineering Technology (SIPET) of Federal University of Technology, Minna alone. The total number of respondents was selected from School of Engineering and Engineering Technology (SEET) and School of Infrastructure Processing and Engineering Technology (SIPET) of the institution, using simple random sampling technique. The choice of the area was for proximity and to ensure effective distribution and collection of data through the use of a questionnaire. A self-administered questionnaire was used as an instrument to collect information on the usage of four SNSs namely YouTube, Facebook, Twitter and LinkedIn for educational and industrial purposes by engineering students and to assess their level of awareness about these SNS as a tool that could aid their career advancement. This is because, these four SNS has been reported to be the most used SNS by Engineers in the field (TotalPhase, 2016). A structured self-administered questionnaire was administered to each respondent for data collection. The questionnaire consists of two broad parts; Part A and part B. Part A entails the background and characteristics of the respondents while part B was divided into two (2) sections. Section 1 contain various networking sites used by the respondent with twelve items while cluster 2 deals with the level of knowledge of the respondent on the four topmost social networking sites being used by engineers. The questionnaire was constructed to solicit information about the current use of social networking sites by engineering students and the views about it. It consists of many categories to measure individual position in terms of the current use and view of usefulness of the social media as informal education tools, besides its effects on the student learning experience. The questionnaire was a five-point Likert scale type. SA-Strongly Agree; A-Agree; U- Undecided; SD-Strongly Disagree; D-Disagree. One hundred and fifty (150) copies of questionnaire were distributed to the respondents who were engineering students of Federal University of Technology Minna out of which one hundred and twelve (112) copies were collected and hundred copies (100) were found useful. This research on social networking sites was based on LinkedIn, Twitter, YouTube and Facebook. The analysis of data was done using statistical package for social sciences (SPSS) version 23.0. The results obtained was represented were presented in simple tables and chart.

2.3 Validity and Reliability of Instrument

Validity and reliability tests were carried out as posited by Graneheim and Lundman, (2004) that a scientific study should be reliable and valid for it to be acceptable and usable by future researchers and policy makers. In addition, they affirm that all research findings should be as trustworthy as possible and the procedures used to generate the findings need to be evaluated. The results are not only expected to be reliable, there must be repeatability of the outcomes/findings of the study.

IV. RESULTS AND DISCUSSIONS

4.1 Socio Demographic Representation

The 100 respondents, who were students of Federal University of Technology Minna from more than 7 departments in all levels aged 16 and above participated in this study. 15 (15%) of the respondents were from Computer Engineering department, 13 (13%) were from Electrical And Electronics Engineering department, 8 (8%) were from Mechanical

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Engineering department, 10 (10%) were from Mechatronics Engineering department, 10 (10%) were from Civil Engineering department, 7 (7%) were from Petroleum Engineering department, 13 (13%) were from chemical Engineering department while 24 (24%) were from other engineering department. Figures 1 to 5 show the socio demographic information of the respondents. As illustrated in Figure 1, 37% of the respondents were from age range 16 – 24 years, 40% of the respondents were from age range 21 – 24 years, 21% of the respondents were from age range 25 – 30 years, while 2% of the respondents were from age range 31 years and above. Figure 2 is the descriptive chart on the age ranges of the respondents. The descriptive analysis on the level of respondents is shown in Figure 3. 35% of the respondents were from 100 level, 21% of the respondents were from 200 level, 18% of the respondents were from 300 level, 10% of the respondents were from 400 level, while 16% of the respondents were from 500 level. Also, the gender statistics of the respondents are illustrated in Figure 4.

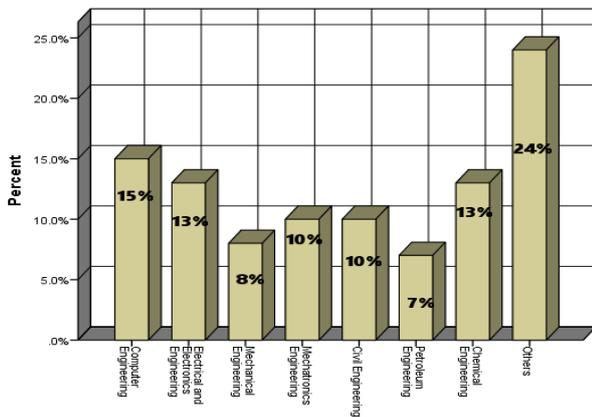


Figure 1: Department of Respondents

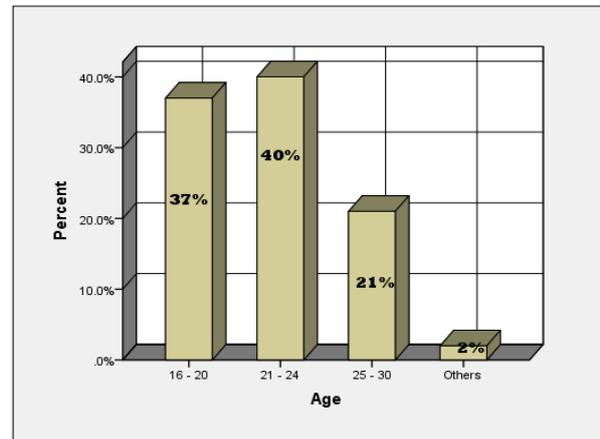


Figure 2: Age of Respondents

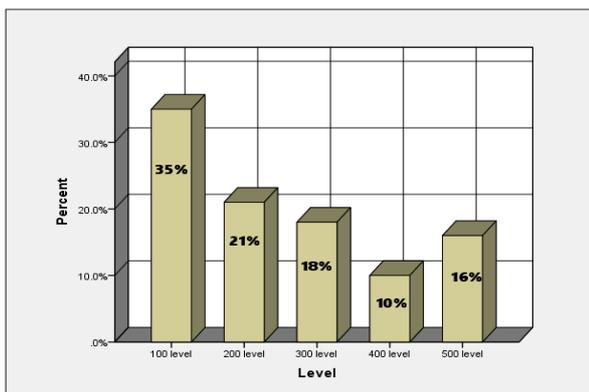


Figure 3: Level of Respondents

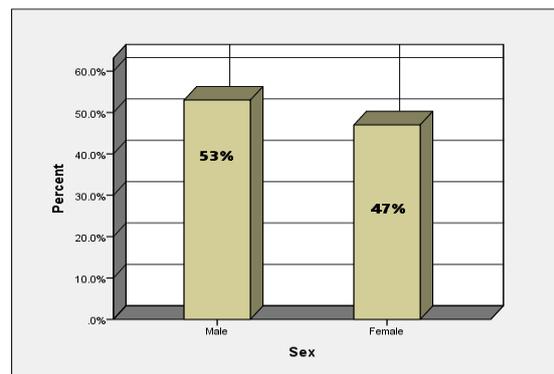


Figure 4: Gender of Respondents

Awareness and Usage of Social Networking Sites by Engineering Students

Findings of the study revealed that on generalized usage of social networking sites, all respondents (100%) makes use of Facebook, 96% makes use of YouTube, 82% makes use of Twitter while 47% makes use of LinkedIn. This implies that Facebook is the most widely used Social Networking Site among engineering students while LinkedIn is the least used among the four social networking sites that this research was based on. On the basis of using social networking

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sites for educational purposes, YouTube is the most widely used social networking site for educational purpose with 89% followed by Facebook with 75%, twitter with 73% while LinkedIn is the least used social networking site for educational purpose with 39%. While on the basis of awareness of social networking site usage by engineers, in accordance to this study, YouTube has the highest percentage or 91% followed by Facebook with 83% and Twitter with 80% while LinkedIn has the least percentage among them all with 46%. This is almost in corroboration with the study conducted by IHS Engineering360 Media Solutions on the usage of social networking sites among engineers in which YouTube is highly used.

Perception of Engineering Students Towards LinkedIn

After analyzing the response of the respondents on the level of awareness and usage of LinkedIn as shown in Figure 5, it is observed that 47% of the respondents uses LinkedIn while the other 53% do not use LinkedIn. 39% of the respondents use LinkedIn for educational purposes while the other 61% do not use LinkedIn for educational purposes. 46% of the respondents were aware that LinkedIn is one of the most preferable social networking sites used by engineers while the other 54% were not aware of the fact that that LinkedIn is one of the most preferable social networking sites used by engineers. However, 52% agreed that they were aware that LinkedIn is a well-established global professional registry for business profits. 41% agreed that LinkedIn is the most used social networking sites by engineers. 45% agreed that LinkedIn allows engineers to have access to expert advice and mentorship from professionals in their field of study. 45% agreed that LinkedIn allows student engineers to get noticed as an upcoming professional in their field of study. 49% agreed that LinkedIn allows engineers to connect with their colleagues from all over the world in their field of study. 46% agreed that LinkedIn allows engineers to have access to latest technologies shared by professionals in their field of study. 49% agreed LinkedIn allows upcoming engineers to find influencers/ mentors in their field of study and follow their posts. 50% agreed that LinkedIn gives professionals the opportunity to initiate discussions in their field of study. Therefore, an average of 47.3% agreed to be aware of the various usage of LinkedIn by professionals in the field of Engineering.

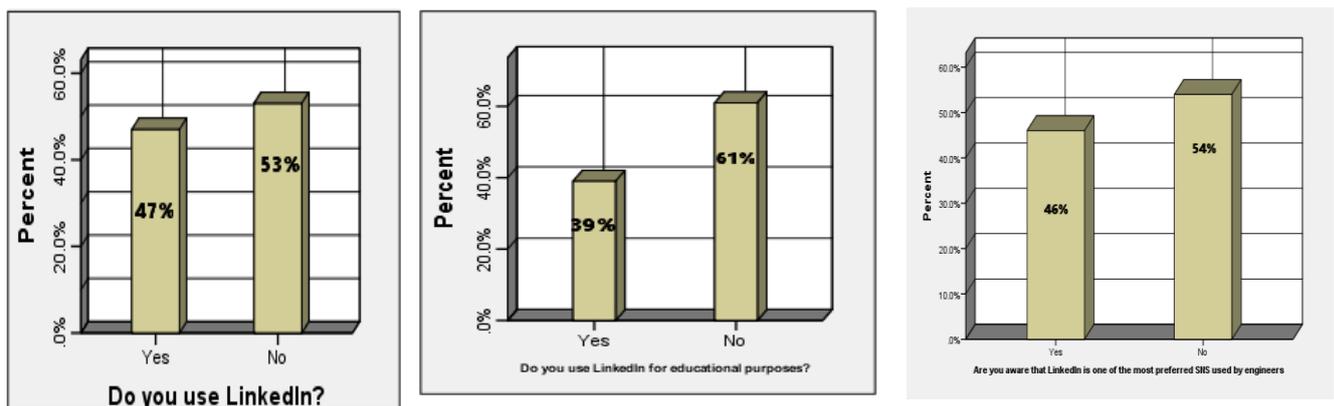


Figure 5 (a) Use of LinkedIn (b) Use of LinkedIn for educational purpose (c) Awareness about LinkedIn being used by Engineers in the Industry

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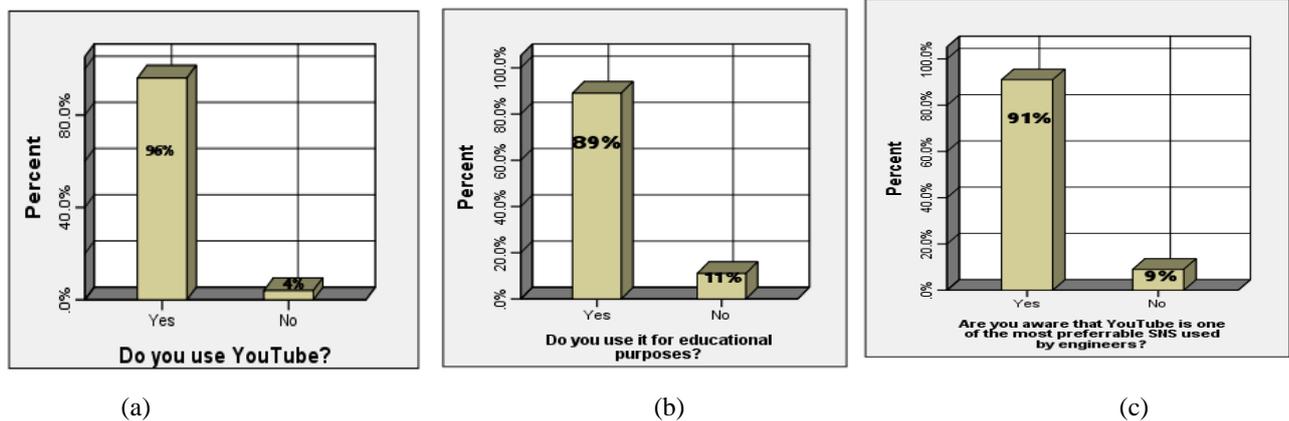


Figure 7(a) Use of YouTube (b) Use of YouTube for educational purpose (c) Awareness about YouTube being used by Engineers in the Industry

experts educate budding engineers by demonstrating how to set-up a particular equipment or troubleshooting a device. 94% agreed that it is a superb social media site for engineers looking to learn new things quickly. 85% agreed that YouTube give access to new methods of solving engineering problems. 89% agreed it that gives professionals in engineering opportunity to impart knowledge in their field of study. Therefore, an average of 91% agreed to be aware of the various usage of YouTube by professionals in the field of engineering.

Perception of Engineering Students Towards Facebook

After analyzing the response of the respondents on the level of awareness and usage of Facebook as described in Figure 8, it can be deduced that all the respondents use Facebook. Although only 75% of the respondents use Facebook for educational purposes while the other 25% do not use Facebook for educational purposes. 83% of the respondents were aware that Facebook is one of the most preferable social networking sites used by engineers while the other 17% weren't aware of the fact that that Facebook is one of the most preferable social networking sites used by engineers. However, 83% agreed that Facebook allows engineers to have access to expert advice and mentorship from professionals in their field of study through a group created for such purpose. 82% agreed that Facebook allows engineering student to get noticed as an upcoming professional in their field of study. 83% agreed that Facebook allows engineering student to get noticed as an upcoming professional in their field of study. 82% agreed that Facebook allows engineers to have access to latest technologies shared by professionals in their field of study. 83% agreed that Facebook allows upcoming engineers to find influencers/ mentors in their field of study and follow their posts. 80% agreed that Facebook gives professionals opportunity to initiate discussions in their field of study. Therefore, an average of 82.9% agreed to be aware of the various usage of Facebook by professionals in the field of engineering.

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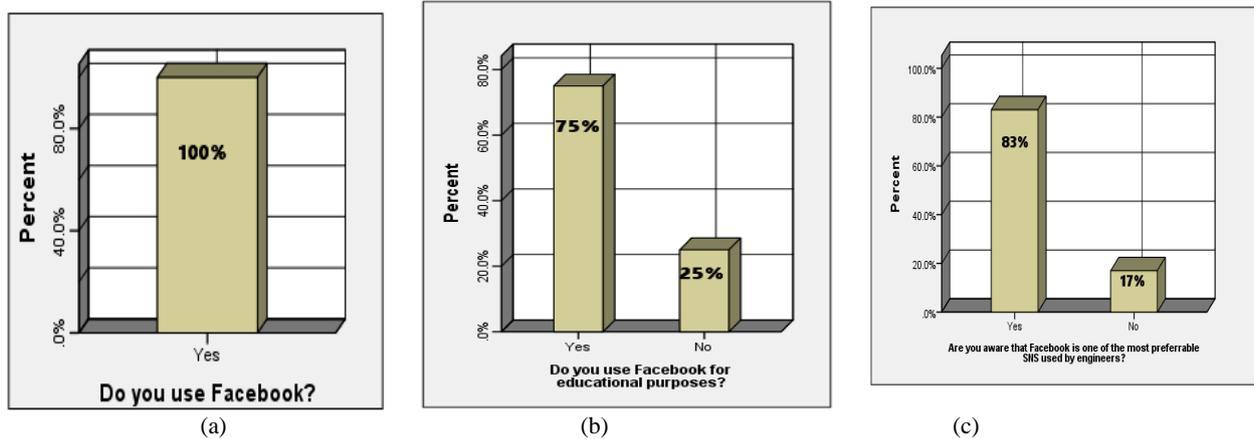


Figure 8(a) Use of Facebook (b) Use of Facebook for educational purpose (c) Awareness about Facebook being used by Engineers in the Industry

Summarily, according to the Table 1 39% of respondents use LinkedIn for educational purpose, 73% of the respondents use Twitter for educational purpose, 89% of students' respondents make use of YouTube for educational purposes making it the most widely used by respondents in this research while 75% makes use of Facebook for educational purposes.

Table 1: Social Networking Sites for Educational Usage

Variables (n=100)	Frequency	Percentage (%)
Do you use LinkedIn for educational purposes?		
Yes	39	39
No	61	61
Do you use Twitter for educational purposes?		
Yes	73	73
No	27	27
Do you use YouTube for educational purposes?		
Yes	89	89
No	11	11
Do you use Facebook for educational purposes?		
Yes	75	75
No	25	25
Total	100	100

V. CONCLUSION

This study was conducted to assess the usage of four major SNS by Engineering students of Federal University of Technology Minna, using a non experimental descriptive cross sectional survey. This is because a study conducted by IHS Engineering360 Media Solutions have established it that they are the most used by engineers in the field. Also, it was conducted to find out if they are aware of the importance of these SNS with respect to their career advancement. The following conclusions were drawn from this research work:

- All respondents make use of Facebook, 96% makes use of YouTube, 82% makes use of Twitter while 47% makes use of LinkedIn. YouTube is the most widely used for educational purpose by these students followed by Facebook and Twitter. LinkedIn is observed to be least used social networking site among the engineering students.

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- Sequel to the findings obtained in this study, it is recommended that all stakeholders in engineering education should enlighten and encourage engineering students and upcoming engineers about the usefulness of LinkedIn as a means of getting mentorship and creative ideas from engineers in the field for their career advancement.

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