

Social Media Networks and its impact on Tertiary Institutions' Students Academics

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Received: 01.10.2025 | Accepted: 06.10.2025 | Published: 17.12.2025

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DOI: [10.5281/zenodo.17966843](https://doi.org/10.5281/zenodo.17966843)

Abstract

Original Research Article

Social networks are becoming an integral aspect of both our society and the wider world. Students are thought to be the largest demographic using social media, and they spend a lot of time there. This study examines how tertiary students in Igbaja Community, Ifelodun Local Government Area, Kwara State, Nigeria, are affected by social media platforms such as Facebook, WhatsApp, Instagram, Skype, Twitter, and others. Students from an Igbaja university, polytechnic, and college of advanced studies make up the correspondents. To gather the required information, a survey method was employed to collect data from these institutions using a questionnaire.

With the aid of statistical software (MINITAB 13), the data were processed and displayed using quality control tools (Pareto and fishbone diagrams), frequency tables (frequencies and percents), and chi-square to test for significance among genders' use of social media networks.

Keywords: Pareto, Fish-Bone, Percentages, frequency, Information and communication Technology, Chi-square.

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1.0 Introduction

1.1 Information and Communication Technology

Information and Communication Technologies can be shortened to ICT. Information and communications technology (ICT) can be defined as the technologies that facilitate information access. Information technology (IT) and this are comparable. This covers mobile phones, wireless networks, and the internet, among other things. The entire society has benefited from an incalculable array of new communication capabilities brought about by information and communication technologies in

recent decades. Voice, video, and instant messaging technology allow people in various nations to connect with one another.

Social media platforms such as WhatsApp, Facebook, Instagram, Twitter, Skype, Blackberry Messenger (BBM), Badoo, and others enable people worldwide to stay in touch and interact often. In the global village made possible by modern information and communication technologies, people can speak with one another from anywhere in the world as if they were in close proximity. ICT is therefore examined in light of the ways that contemporary communication technologies have impacted society.



Citation: Apata O.G, Sanni A.E, Agbede T.J, Kayode O.J and Adeolu A. (2025). Social Media Networks and its impact on Tertiary Institutions' Students Academics. *GAS Journal of Engineering and Technology (GASJET)*, 2(12), 88-98.

1.2 Social networks

Social media, which emerged with the Web 2.0 era, mostly consists of social networks. The 21st-century web application with the quickest rate of growth is social media. It is the century's most popular phenomenon due to its broad range of applications, such as video streaming. According to www.thecountriesof.com, Facebook had over 955 million users in 2013, surpassing Twitter, which had 500 million users. WhatsApp recently surpassed Twitter in our own society (Nigeria). The fact that such a large user base is comparable to nations shows how important these programs are.

On the other hand, Facebook and WhatsApp users are concentrated in younger age groups, with approximately 300 million users aged 18 to 24 and over 120 million between the ages of 13 and 17 (www.quintly.com). There were almost equal numbers of male and female users on this website. Finally, at the end of 2014, Nigeria had over 11 million Facebook users and a comparable number of Internet users (www.internetworldstats.com). According to the numbers above, Nigerians use Facebook on the Internet and on their mobile devices. The significance of Facebook and other social media platforms for youth is demonstrated by this high penetration rate (38%) of these platforms.

On the other hand, one significant element that made it possible for remote learning and the access of educational resources was the use of information and communication technology (ICT). ICT is utilized in universities to facilitate communication, assignment management, and task collaboration in a phenomenon known as "e-learning" (Harb & Abu-Shanab, 2009).

E-learning platforms are growing in importance in educational settings, including schools (Hamam et al., 2008). The National Open University of Nigeria (NOUN) was the first university in Nigeria to embrace e-learning approximately ten years ago, before other universities such as the University of Ilorin, Obafemi Awolowo University, and the University of Ibadan joined.

These developments show how critical it is to reach students globally, particularly through social media

platforms.

WhatsApp, Facebook, Instagram, Skype, Blackberry Messenger (BBM), Badoo, and other social media platforms are examined in this study along with their effects on academic students' time management and performance. Nigerians are the largest group of people that use social networks and spend a lot of time online. These kinds of actions are having an impact on students' academic achievement in contemporary society. M. Paul and L. Gelish (2011). Researchers have linked Facebook use to academic performance in schools and universities. Social networks are appealing educational and recreational resources. Humans have a strong need to connect with others and discover shared interests and passions. Two streams are dominant in education:

1. Social networks are used as a tool to assist initiatives that are thought to be crucial for the goals of educational institutions, teachers, and students.
2. The second is the negative impact social media has on students' time management and behavior.

1.3 How can Social Network Improve Students' Performance?

Alonso et al. (2013) listed numerous studies regarding the use of social network applications, classifying them as productivity tools. Information and communication technologies are becoming important tools for educational support. The use of computers and the Internet is becoming more and more important in the learning and teaching processes. Additionally, the advent of mobile phones, especially smartphones, has made it easier to reach students and even utilize the capabilities of technology.

University students' performance significantly improved as a result of Facebook. According to a Vietnamese university study, students who use Facebook as a social media platform have seen a significant improvement in their academic performance (Tuan and Tu, 2013). According to the same study, social network site improvements and value were more closely linked to adjusting to the social environment of school than to academic achievement.

1.4 What is the Negative Aspect of Social Network on Students’ Performance?

Research revealed that Facebook has a detrimental effect on students. For example, a study conducted by Haq and Chand (2012) using a sample of 384 students found that Facebook use negatively affects students' academic performance. According to a study on the subject of multitasking in the classroom, students who use ICT and engage in multitasking—such as texting, Facebook, internet searching, emailing, and instant messaging—will have lower

GPA's, which translates into poorer academic performance based on their behavior (Burak, 2012).

This study focuses on how social media programs, particularly Facebook, Instagram, Whatsapp, BBM, Twitter, and Skype, have a negative impact on pupils. Developing a framework that directs us, the researchers, in this investigation is crucial. In Figure 1, the study's framework is displayed. It shows the main social networks that students frequently use in today's educational communities.

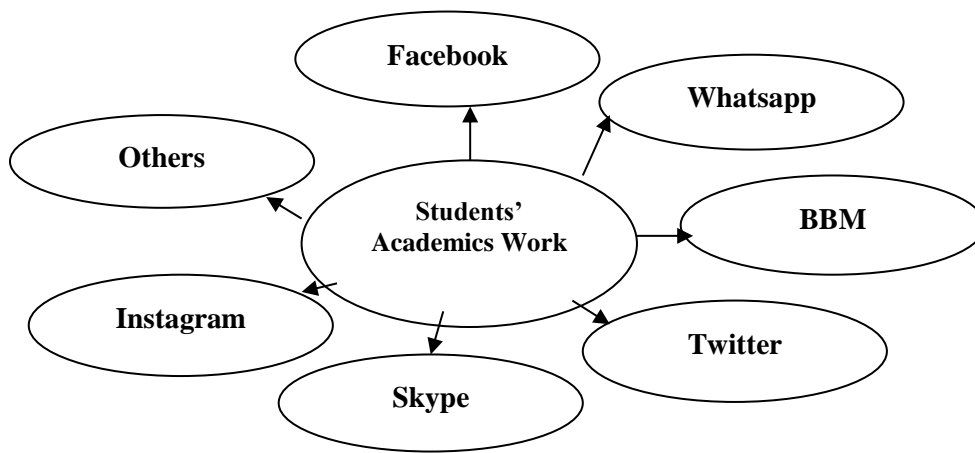


Fig.1: Research model of the networks influencing students’ performance

2.0 Materials and Method

This study was conducted in Kwara State's Igbaja, Ifelodun Local Government. Students from three Igbaja postsecondary institutions—the University, Polytechnic, and College of Education—were the subjects of the study. Students at these institutions were given questionnaires to complete in order to gather the necessary data. A total of 350 questionnaires were distributed, and 321 of them were really collected.

The data was analyzed using descriptive statistics (frequency and percentage), chi-square statistics, and quality control tools (Pareto and fishbone diagram). The data and pictures in this research were plotted using statistical software called MINITAB 13.

2.1 PARETO ANALYSIS

When there are numerous options vying for attention, Pareto analysis is a helpful formal tool. Essentially, the problem-solver calculates the benefit that each action will provide and then chooses a few of the best actions that will yield a total benefit that is fairly close to the maximum. Pareto analysis is an innovative approach to problem-solving since it facilitates cognitive organization and stimulation. This method assists in pinpointing the primary factors that must be addressed in order to treat the vast majority of issues. The root causes of the issues can be found using the Ishikawa diagram or fishbone (cause and effect) analysis after the main reasons have been determined.

Pareto is sometimes referred to as the "80/20" rule, based on the idea that 80% of problems are caused by 20% of factors in any circumstance. This ratio should not be regarded as an unchangeable law of nature; rather, it is only a handy guideline. By using Pareto analysis in risk management, managers can concentrate on the risks that will most likely affect the issue.

2.2 Chi-Square Test

To ascertain whether there is a significant difference between the observed and predicted frequencies in one or more categories, the chi-square test is employed. Are there appreciable differences between the number of men and women utilizing these social networks? Is there a genuine discrepancy between the expected and observed, or is it just the result of sampling error?

According to this research paper's null hypothesis, H_0 : There is no discernible difference between men and women who use these social networks.

The significance threshold is chosen at $\alpha = 0.05$,

which is the norm for the majority of scientific investigations. These data were subjected to the following chi-square formula:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i} \quad 1$$

Where E_i represents the expected frequency in the relevant category and O_i represents the observed frequency in each category.

3.1 Data Analysis

Ideally, a Pareto analysis will reveal the social networks that are primarily responsible for the threat of students in our culture becoming distracted and unfocused. The researchers identified six regularly used social media platforms and designed a system to simplify these platforms in order to address the negative effects of these platforms, such as poor academic performance and a lack of seriousness. The cause-and-effect (fishbone) diagram in fig. 2 below illustrates the primary consequence of this social media addiction (lack of focus).

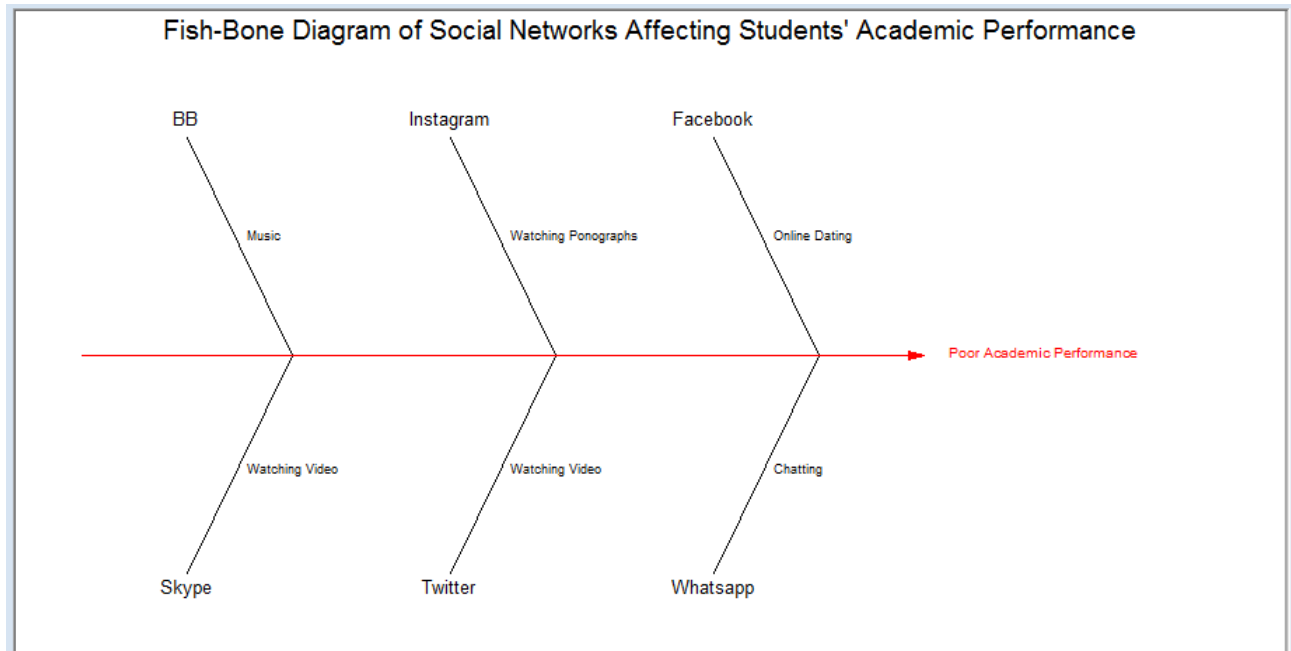


Fig. 2: Cause-and-Effect (Fish-Bone) diagram of social networks

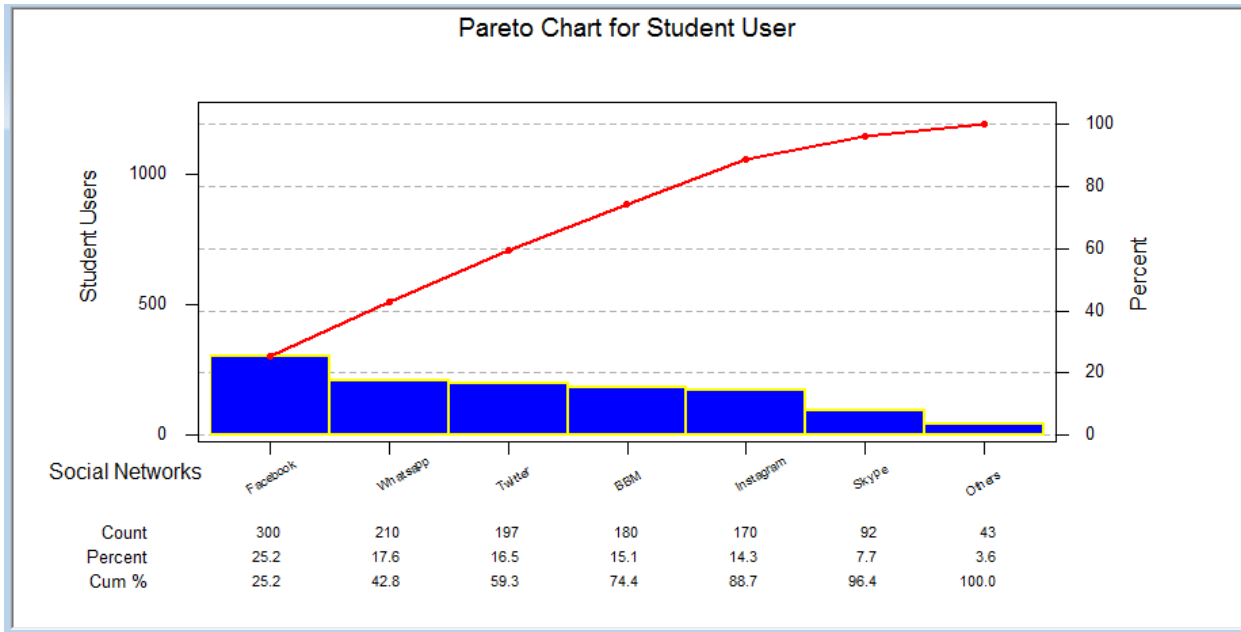


Fig. 3: Pareto chart showing how social networks impact kids' academic achievement and seriousness

Facebook, WhatsApp, and Twitter make up the essential few (about 80%) of all the social networks that are posing this threat, as seen in figure 3 above. This indicates that these three networks are more addictive to students than others.

3.1 Descriptive Analysis

Frequencies and percentages were used in the frequency distribution tables to consolidate and show the responses from our correspondents, who were tertiary students.

Do you utilize social networks for educational purposes? The frequency of responses to this question is displayed in the table below.

Table 1: frequency distributions among the most popular social networks and the answers provided by students when asked if they use social media for learning.

Network	Response	Frequency	Percent	Valid Percent
Facebook	Yes	93	28.97	28.97
	No	207	64.49	64.49
Whatsapp	Yes	11	3.43	3.43
	No	199	61.99	61.99

Twitter	Yes	54	16.82	16.82
	No	143	44.55	44.55
BBM	Yes	86	26.79	26.79
	No	94	29.28	29.28
Instagram	Yes	3	0.93	0.93
	No	167	52.025	52.025
Skype	Yes	25	7.79	7.79
	No	67	20.87	20.87
Others	Yes	6	1.87	1.87
	No	37	11.53	11.53

According to table 1 above, fewer people answered "YES" than "No" when asked if they utilize social networks for educational purposes. Students are not using these social networks for academic (educational) objectives, according to this

implication.

Regarding the question, "How much time do you spend chatting on social networks on a daily basis?" The table below displays the respondents' frequencies.

Table 2: Frequencies of student responses regarding the amount of time they spend on social media each day

Network	Response	Frequency	Percent	Valid Percent
Facebook	1-3 Hours	132	44.00	44.00
	3-6 Hours	168	56.00	56.00
Whatsapp	1-3 Hours	101	48.10	48.10
	3-6 Hours	109	51.90	51.90
Twitter	1-3 Hours	110	56.84	56.84
	3-6 Hours	87	44.16	44.16

BBM	1-3 Hours	93	51.67	51.67
	3-6 Hours	87	48.33	48.33
Instagram	1-3 Hours	94	55.29	55.29
	3-6 Hours	76	44.71	44.71
Skype	1-3 Hours	70	76.09	76.09
	3-6 Hours	22	23.91	23.91
Others	1-3 Hours	19	44.17	44.17
	3-6 Hours	24	48.84	48.84

According to table 2 above, students used Facebook, Twitter, Instagram, and Skype for 3-6 hours more frequently than they used BBM and WhatsApp, which they used for 1-3 hours every day. The frequency of responses to the question is

displayed in this table: Is it a challenge for kids to develop simple and correct English when they are addicted to talking because of the abbreviations they use?

Table 3: The impact of social networks on proper English composition at various frequencies

Network	Response	Frequency	Percent	Valid Percent
	Strongly Agree	143	44.55	44.55
	Agree	96	21.91	21.91
	Neutral	19	5.92	5.92
	Disagree	39	12.15	12.15
	Strongly Disagree	24	7.48	7.48

Total		321	100	100
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According to table 3 above, in response to the question, "Is construction of simple and correct English language a problem for students when they are addicted to chatting due to abbreviations used during chatting?" The percentage of respondents who "Strongly Agreed" and "Agreed" is significantly higher than those who "Disagreed" and "Strongly

disagreed."

The frequency of responses to the question: Do social networks have a detrimental effect on students' academic performance and their ability to focus on their studies? is displayed in this table.

Table 4: Frequencies of adverse effects on pupils' academic achievement

Network	Response	Frequency	Percent	Valid Percent
	Strongly Agree	121	37.69	37.69
	Agree	113	35.20	35.20
	Neutral	12	3.74	3.74
	Disagree	46	14.33	14.33
	Strongly Disagree	29	9.03	9.03
Total		321	100	100

Additionally, table 4 above shows that the percentage of respondents who "Strongly Agreed" and "Agreed" was significantly higher than the percentage of respondents who "Disagreed" and "Strongly Disagreed" with the following question: "Do social networks affect the level of students' concentration on their studies and have a negative impact on their academic lives?"

Hypothesis Testing

Using a chi-squared analysis, the hypothesis "H0: There is no significant difference among gender (males and females) use of these social networks" is examined. Below, in table 5, are the observed (O_i) and expected (E_i) contingency values.

Table 5: Chi-Square Test: MALE, FEMALE

CATEGORY	O_i		E_i	
	Male	Female	Male	Female
Facebook	203	97	174.92	125.08
Whatsapp	117	93	122.44	87.56
BBM	101	79	104.95	75.05
Twitter	94	103	114.86	82.14
Skype	51	41	53.64	38.36
Instagram	93	77	99.12	70.88
Others	36	7	25.07	17.93

Therefore, the chi-square value ($\chi^2 = 33.48$) was obtained using statistical software (MINITAB 13) The critical value (P-Value = 12.59) was obtained at $\alpha = 0.05$ level of significant with degree of freedom (DF = 6).

However, we reject the null hypothesis that there is no significant difference between the number of males and females using these social networks based on the results of the chi-square analysis that was conducted. Additionally, our data showed that more men than women use these social networks.

4.0 Result

This section presents the findings from our investigation. First, the Fishbone (cause-and-effect) diagram is shown in fig. 2.

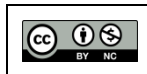
Facebook and WhatsApp, which make up only 20% of the social networks, are the main culprits behind the threat of low academic performance among the most popular social networks, according to the Pareto chart shown in Fig. 3.

Table 1 shows that the proportion of people who do not utilize social networks for educational reasons is higher than the proportion of people who do.

According to table 2, students who regularly use Facebook, Instagram, Twitter, Skype, and other social media platforms spend more time speaking and engaging in other social activities outside of their academic pursuits than those who use BBM and WhatsApp.

According to tables 3 and 4, students' concentration levels and the way they construct the Simple and Correct English language are both negatively impacted by their addiction to social media talk.

Last but not least, the chi-square test used to determine whether there is a significant difference between the number of men and women using these social networks showed us that there is, as the computed chi-square value (33.48) is higher than the critical value (12.59), which results in the hypothesis being rejected.



5.0 Conclusion

According to our research, students most frequently use Facebook, WhatsApp, and Twitter on a regular basis. Students did not use these social networks for academic purposes but only for chatting and other social activities. On average, students use these social networks for over three hours per day. The majority of respondents (students) also concurred that these social media platforms have had a significant impact on their written English, as evidenced by the way they have shortened terms in their notes during class and exams.

The majority of students attest that these social networks have caused them to focus more on social activities than academic ones; in fact, some students are even known to chat during lectures. Finally, there are notable differences in how men and women use these social networks.

In conclusion, students who use these social networks suffer from issues like addiction, time waste, information overload, poor English construction, and social isolation.

6.0 Recommendation

The recommendations listed below were made in light of our findings. The risk factors for social network misuse at postsecondary institutions should be more widely known. For pupils who are addicted to social media or not, schools should offer workshops that offer therapeutic services. Another way to prevent misuse of social networks is to avoid them for a few days of social events. This allows users to experience new things in real life, meet new people off-campus, and lessen their urge to discover themselves on social networks.

- 1) Students with social networks can receive individual or small group counseling from school counselors.
- 2) A new publication or magazine for social psychology schools should be created with an emphasis on social network use and addiction/disorder.
- 3) To better understand the underlying motive of addiction to social networks, such

successful recovery programs and ongoing study are crucial.

- 4) To effectively manage these symptoms, future research should create treatment plans and carry out outcome analyses.

Therefore, these few points can be used as a perfect solution to this threat and help students become more productive and healthy while using social networks, have a greater appreciation for the interface between the real and virtual worlds, exercise self-control when using social networks, and work toward developing their social responsibility and raising awareness of social network addiction.

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