

THE IMPACT OF SOCIAL MEDIA ON STUDENTS' ACADEMIC PERFORMANCE IN
THE DEPARTMENT OF MATHEMATICS OF KYAMBOGO UNIVERSITY.

BY

OKELLO CALVIN EMMY (17/U/13768/STD/PD).

OJAN LAWRENCE PHILIP (17/U/13767/STD/PD)

KIBIRANGO TIMOTHY (17/U/13743/STD/PD)

OYUKU INNOCENT (17/U/13773/STD/PD)

A PROJECT PROPOSAL SUBMITTED TO THE DEPARTMENT OF MATHEMATICS OF
KYAMBOGO UNIVERSITY IN FULFILMENT OF THE AWARD OF BACHELOR OF
SCIENCE IN STATISTICS.

April 2020

Table of Contents

Chapter one: Introduction	1
1.1 Background of the study	1
1.2 Statement of the problem	2
1.3 Study objectives:	3
1.4 Study questions:	3
1.5 The scope of the study	4
1.5.1 Time scope	4
1.5.2 Content scope	4
1.5.3 Geographical scope	4
1.6 Significance of the study	4
1.7 Limitations of the study	5
1.8 Basic assumptions	5
1.9 Definition of terms used	6
Chapter two: Literature review	7
2.1 Concept of social media	7
2.2 Engagement of students on social media and its usefulness	7
2.3 Time spent on social media	8
2.4 Social media relations with academic performance	8
2.5 Preferred social sites	9
Chapter three: Materials and methods	12
3.1 Location of study area	12
3.2 Study design	12
3.3 Sample size determination	12
3.4 Sampling strategy	12
3.5 Data collection	13
3.6 Data analysis and presentations	13
3.6.1 Usage of social media	13
3.6.2 Time spent on social media	13
3.6.3 Activities students engage in, on social media and the contribution of social media to students' academic performance	14
3.6.4 Relations between social media and academic performance	14
3.6.5 The preferred social sites	14
References	15

Chapter one: Introduction

1.1 Background of the study

The advent of internet in the early 1980's and world wide web provided us the ideal medium of social networking through social media (Administrator Admin, harish@logicloop.io, 2018). The coming into being of these sites revolutionized the world of communication, which made the world referred to as a 'global village' (McLuhan, 1962) and today we celebrate sites improvements ranging from education to entertainment.

The evolution of the internet has led to its usage as the best medium of communication whereby two-third (2/3) of the internet world's population visit social networking sites (Ortiz-Ospina, 2019) thus serving as communication and connection tools.

Social media exploded as a category of online discussion, which enables people to create contents, share them, bookmark them and network at a prodigious rate (Bhardwaj, Jha V. , 2012). This has breached the gap that existed in communication where people had to rely solely on traditional methods such as letters and phone calls as a mode of getting in touch with friends and relatives. As we know, nothing interesting is ever completely one-sided, so social media have its outcomes with both positive and negative effects.

(Liccardi, et al., 2007) argued that students are socially connected with one another and therefore share their daily learning experiences and do conversation on various topics through social media. In addition, enhancement of relationships, improvement of learning motivation, and offertory of personalized course materials and development of collaborative abilities was recognized as major advantages of social media in higher education (Wheeler, Yeomans, & Wheeler, 2008).

On the other hand, (Kuppuswamy & Narayan, 2010) reviewed that social network websites grab students' attention and then diverts it towards non-educational and inappropriate actions.

Research has proven the heavy presence of social media usage among students. For instance, (Wiley & Sisson, 2006) argued that previous studies have found that more than 90% percent of tertiary school students use social networks.

It was also found out that, students use social networking sites approximately thirty (30) minutes throughout the day as part of their daily routine life (Nicole, Charles, & Cliff, 2007).

These shows the level at which students are patronizing these sites and this may bring along both positive and negative effects on students of the department of mathematics of Kyambogo University. A University established in 2003 by the Universities and Other Tertiary Institutions Act 2001 of the Ugandan constitution and the Universities and Other Tertiary institutions (Establishment of Kyambogo University) instruments of 2003. It is a merger of the former Uganda Polytechnic Kyambogo (UPK), the Institute of Teacher Education, Kyambogo (ITEK), and the Uganda National Institute of Special Education (UNISE). The university and its mathematics department sits on Banda Hill, Nakawa Division in Kampala.

1.2 Statement of the problem

The advent of social media sites in the 1990s as led to a deviation, distraction and diving, attention between social networking activities and academic work. It is observed that students devote more attention to social media than they do their students roles and by 2015, only Facebook had 1.49 billion active users (KaradKar, 2015).

Some people believes that social media provides access to knowledge and help students exchange information quickly while others think that students' use social media primarily to communicate about everything except studies and that they only distract students from the

learning process. But according to scientists, social networks are especially dangerous for teenagers, as they form a false impression that love and friendship are easy to conquer and just as easy to destroy. (Gilbert, AlSaad, AlRushaidan, AlHugail, & AlFahha, 2018).

These therefore resulted to a need of exploration of the effect of the prevailing contradicting information about social media amongst students of the department of mathematics.

1.3 Study objectives:

The major objective of this project is to study impact of social media on students' academic performance in the department of mathematics. The study is specifically to explore the following objective statements:

1. To examine whether students make use of social media.
2. To study the amount of time students spend on social media.
3. To find out contributions of social media to students performance.
4. To study the nature of activities students engage in, on social media.
5. To examine if social media influence students' performance.
6. To study the type of social media which students prefer to use.

1.4 Study questions:

Do students make use of social media?

How much time do students spend on social media?

What are the usefulness of social media to students?

What activities do students engage in, on social media?

Do social media influence students' academic performance?

Which social sites do students prefer most?

1.5 The scope of the study

1.5.1 Time scope

The study process will take a period of one and half ($1\frac{1}{2}$) months, with the design process taking two weeks, data collections two days, data validation, cleaning, verification, analysis, interpretations, presentation and evaluation finalizing within the remaining weeks.

1.5.2 Content scope

The study will comprehensively sample students offering courses in the department of mathematics and their estimated time spent on social media, their preferred social sites, contributions of the social sites specified by the respondents to their academic progress and the respondent most recent available CGPA provided by the department.

1.5.3 Geographical scope

The study will be conducted within the departmental lecture theatres where the department students conduct their lectures from and which is within the geographical boundary of Kyambogo University only. Students will be surveyed at their convenient time while within the lecture theatre immediately before or after the lecture is conducted.

1.6 Significance of the study

Social networks are becoming more popular among university students. They are a new way of spending free time, and serves as a separate channel for finding the necessary information and therefore this study will be beneficial to both the department and students in the following ways:

It will equip both the department and students with more useful activities to concentrate on social media to improve academic performance.

The study will provide opportunities for everyone in the mathematics department to learn through social media.

The study will as well create awareness of preferred social sites for both the department and students to reach out to each other in order to facilitate learning.

The study will specify the extent to which social media affects academic performance.

1.7 Limitations of the study

To ensure easy understandings and clarification for future references by others and the stakeholders involved, this study will be conducted with some limitations, which contradicts people's views as well as understandings, and they are as follows:

Academic performance will be estimated using most recent CGPA only and will not consider any practical competency such as internship recommendations, work experiences, ability to participate perfectly in sports or computer literacy and communication skills.

The study will be limited to students offering courses from the department of mathematics only.

The study will be limited to only students who has spent more than a semester and excluding students who has spent more than three years at the university.

1.8 Basic assumptions

In order to derive better generalizations, there are some few inadequacies in the information, which have highly contradicting views by people and thus to settle them, this study will operate with the following assumption:

Students will be assumed to have the same level of understandings in relation to their studies.

Students will be assumed to have perfect knowledge of how to use the social media that they will specify during the data gathering process.

The study will assume that participants who will agree that they use social media have electronic gadgets, which make them easily access social media.

1.9 Definition of terms used

Social Media

They are forms of electronic communication, which facilitates interactions through creation and generation of user-generated contents.

Academic performance

This the extent to which students, lecturers or institution have archived their education goals.

CGPA

This is the average of all student's assessment grade points allocated for all completed courses.

Lecture theatre

This is a room where students have their lectures.

Semester

This is one of the two divisions in an academic year.

Electronic gadgets.

These are electronic devices which is used to perform a particular task that its designed for.

Chapter two: Literature review

2.1 Concept of social media

Social media is the collection of online communication channels dedicated to community-based input, interaction, content sharing and collaboration. Websites and applications dedicated to forums, microblogging, social networking, social bookmarking, social curation, and wikis are among the different types of social media. Some prominent examples of social media are Facebook, twitter, google+, Wikipedia, LinkedIn, Reddit, and Pinterest (Rouse)

2.2 Engagement of students on social media and its usefulness

The use of social media in education provides students with the ability to get more useful information to connect with learning groups and other educational systems which, makes education convenient. Social network tools afford students and institutions with multiple opportunities to improve learning method (London College of International Business Studies, 2017).

In school, the use of online platforms such as school website will give students the right access to quality information about the school environment, departments, faculties, rules, and regulations. It has been observed that social media has a wider and faster means of circulating information not only to the students of an institution but also to the generality of the public (BlogDashContent creation by bloggers, 2017).

A report in the International Journal of Advanced Information Technology (IJAIT) Vol. 8, No.4/5, about the usage of social media by (Talaue, AlSaad, AlRushaidan, AlHugail, & AlFahhad, 2018) revealed that 35% of students use social media for communication. 29.5% use it to watch movies and listen to music, 25.5% use it to find information for educational purposes and only 10% use social media for online games. It turned-out that students' main purpose is for

communication. Aside from communication, their study revealed that students are using internet and social media for learning.

Based on the study by (Alwagait & Shahzad, 2014), it was found that social media usage on weekly basis displayed a positive skew where most students do not use social media excessively. Respondents in their study felt that time management and football were factors that contributed towards negative academic performance besides excessive social media use.

2.3 Time spent on social media

According to news agency (Newspoll, 2013), 99% of teenagers aged 16 to 17 years use social networks and 78 percent of children aged 8-9 visit sites like Facebook, young people spend up to 7 hours a day in them. Truth be told, a huge number of individuals today don't speak to their lives without every day visits to interpersonal organizations, draw data from the news sources of Internet destinations, convey through remarks from different networks, and so forth

2.4 Social media relations with academic performance

To shed light on the positive and negative sides of using social media in general, as well as discover its effects on students' academic performance, existing studies were reviewed.

Studies found out that academic outcome of students who spent most of their time interacting using social media are positive because they were able to share and generate ideas and concepts related to their studies. They also use these sites for having fun as these social media sites are helpful in their academic work (Amin & Mansoor, 2016).

A similar study revealed that online social media had improved the communication between the faculty member and students, which facilitate the communication of the correct information and improve understanding and the development of the ideas and the courses. Based on the

information collected, it is noticeable to say that the use of the social media during the lecture time is not recommended (Abousaber & Oueder, 2018).

According to the study of (Owusu-Acheaw & Larson, 2015), it was revealed that the use of social media had affected the academic performance of their respondents negatively and further

International Journal of Advanced Information Technology (Talaue, AlSaad, AlRushaidan, AlHugail, & AlFahhad, 2018) confirmed that there was a strong positive relationship between the use of social media and academic performance. Their study further revealed that most of their respondents use social media sites to chat rather than for academic purpose.

However, according to (Landry, 2014), social media is a tool that could be used for good or bad, it all depends on the person. Social media has its layers of good and bad and it is easier to remember the bad rather than the good but social media sites have created opportunities for people all over the world.

2.5 Preferred social sites

Facebook

According to (Kristi, 2020) Facebook is the most used with active monthly users of 2.45 billion.

The journal indicated that Facebook was founded in 2004, it is headquartered at Menlo Park, and some of the leading industries on Facebook include financial services, ecommerce, retail, gaming, entertainment, media, telecom, technology, consumer goods, and automotive businesses.

Also according to (Global social networks Statistics, 2020), Facebook is the leading social site with 2449 million active users.

Twitter

According to (Kristi, 2020) Twitter is the second most used site with active monthly users of 330 million. The journal indicated that Twitter was founded in 2006 and it is headquartered at San Francisco. Some of the leading businesses on Twitter are related to entertainment, sports, politics, or marketing. The researcher stated that on Twitter, brands have an opportunity to craft and hone their voice thus, there's room to be clever and personable in addition to informative and helpful. (Global social networks Statistics, 2020) Ranked Twitter in the 13th position with the 340 million users.

LinkedIn

(Kristi, 2020) Ranked LinkedIn founded in 2003 and headquartered at Mountain View, in the 3rd position with 310 million active monthly users. The researcher estimated that 44% of LinkedIn users have an income above the national median and more than 50% of Americans with a college degree use LinkedIn whereas LinkedIn never appeared in the top 16 most used social site in (Global social networks Statistics, 2020).

YouTube

YouTube appeared as the second most used social Media in (Global social networks Statistics, 2020) with 2 billion active users but never appeared in the top 7 list by (Kristi, 2020)

Instagram

Instagram headquartered at Menlo Park and launched in 2010 was ranked in the fourth position with 1 billion active monthly users by (Kristi, 2020) and in the sixth position with 1 billion users by the (Global social networks Statistics, 2020).

Pinterest

Pinterest founded in 2010 and headquartered at San Francisco was ranked in the 6th position with 322 million active monthly users by (Kristi, 2020) and in the 14th position with 322 million users by (Global social networks Statistics, 2020).

(Kristi, 2020) Claimed that 81% of Pinterest users are female and that 40% of new Pinterest signups are male.

Snapchat

Snapchat founded in 2011 and headquartered at Los Angeles was ranked 5th with 360 million active monthly users by (Kristi, 2020) and 12th rank with 382 million users by (Global social networks Statistics, 2020).

Some of the social media that appeared in the 16 most used social media statistics of (Global social networks Statistics, 2020) and are not provided in the part of the study include WhatsApp, Facebook Messenger, Weixin/WeChat, Douyin/ Tik tok, QQ, QZone, Sina Weibo, Reddit and Kuaishou listed in order or ranks in ascending order.

Due to these controversies, this study therefore tends to explore this information from the department of mathematics of Kyambogo University.

Chapter three: Materials and methods

3.1 Location of study area

3.2 Study design

Both quantitative and qualitative exploratory study designs will be employed in this study. The data will be gathered from the students offering courses from the mathematics department and their responses towards usage and preferences of social sites, activities engaged in, on social media and its contributions to academic performance will constitute the qualitative study. Whereas amount of time spent on social media and academic performance will be rated on a scaled basis thus quantitative exploration part of this study.

3.3 Sample size determination

The entire population size of the department students will be requested for, from the management of department of mathematics and the appropriate sample size will be determined using Slovin's formula of sample size determinations with 5% error tolerance level (Ellen,

2017). Mathematically the formula is denoted as; $n = \frac{N}{1+Ne^2}$ Where;

n is the sample size

N is the population size

e is the error tolerance level.

In case of a floating value arising from the calculation, the resulting value will be rounded-up to the nearest integer value.

3.4 Sampling strategy

A stratified simple random sampling with proportional allocation in strata will be used to sample members of a particular course in the department of mathematics and students with multiple

courses in the department of mathematics will be surveyed in not more than one course. The strata will constitute a combination of the program of study, year of study, the study time and groupings within a particular study time to ensure a comprehensive coverage of the entire population.

For instance [BSTAT year 1, Day A], [BSTAT year 1, Day B] and [BSTAT year 1, Evening] will constitute three different strata for Bachelor of Science in Statistics students in their first year of study.

3.5 Data collection

A self-enumerated questionnaire will be used in the collection of data. All the respondents will be sampled, contacted with the help of course coordinators and given each a questionnaire while in their lecture rooms awaiting their lectures or upon completion of the lecture.

3.6 Data analysis and presentations

The data collected will be entered into the Microsoft Office Excel worksheet, cleaned and exported to STATA statistical package for further analyses, which will be done and presented as described below:

3.6.1 Usage of social media

A pie chart will be used to reflect the percentage of students who likes using social media in the department of mathematics.

3.6.2 Time spent on social media

The mean time rated by respondents will be used to conclude the average time spent by students on social media, however a range of mean time that students spend on social media at 95% confidence will be stated and the standard amount of time spent on social media that deviate amongst students will be clarified.

3.6.3 Activities students engage in, on social media and the contribution of social media to students' academic performance

The findings from the preliminary study and the literature reviews will be grouped according to similarities and a proper description of similar views will be tabulated. The percentage strength of agreements by the respondents will be summarized in this analytical case.

However, views not captured from the preliminary study and the literature reviews into the questionnaire will be listed.

3.6.4 Relations between social media and academic performance

Pearson correlation coefficient between time spent on social media and the academic performance will be determined to assess the association between them. This will be converted to percentage correlation to clarify the interpretations of strength of the relation to everyone.

3.6.5 The preferred social sites

A histogram showing the five most used social media and showing the percentage appearance (counts) in the questionnaires will be used to illustrate the students' preferences of the social sites.

The percentage rankings of the social sites will also be tabulated to differentiate between or amongst social sites that may have the same counts if any.

References

- Abousaber, I., & Oueder, M. (2018). A Study on the Impact of Social Media Usage on Student Academic Performance. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASJETS)*, 77-88.
- Administrator Admin, harish@logicloop.io. (2018, February 6). Advent of Social Media. *Social Media*.
- Alwagait, E., & Shahzad, B. (2014). *Impact of social media usage on students' academic performance in Saudi Arabia*. <http://dx.doi.org/10/1016/j.chb.2014.09.028> .
- Amin, Z., & Mansoor, A. (2016). Impact of Social Media of Student's Academic Performance. *International Journal Business and Management Invention*, 22-29.
- Bhardwaj, Jha V. . (2012). The new marketing renaissance: Paradigm shift in social. *International Journal of Engineering and management Sciences*, 384-387.
- BlogDashConten creation by bloggers. (2017). *Social Media by Students*. <http://blog.blogdash.com/media-industry/positive-negative-use-social-media-students/> .
- Ellen, S. (2017). *Slovin's Formula Sampling Techniques*. *Sciencing*. <https://sciencing.com/slovins-formula-sampling-techniques-5475547.html> .
- Gilbert, M. T., AlSaad, A., AlRushaidan, N., AlHugail, A., & AlFahha, S. (2018). THE IMPACT OF SOCIAL MEDIA ON ACADEMIC PERFORMANCE OF SELECTED COLLEGE STUDENTS. *International Journal of Advanced Information Technology (IJAIT) Vol. 8, No.4/5*, 28.
- Global social networks Statistics. (2020). *Global social networks ranked by number of users 2020*. J. Clement.
- KaradKar, A. (2015, September 13). The impact of social media on student life. *The impact of social media on student life*.
- Kristi, K. (2020). The 7 Biggest Social Media Sites in 2020. *Search Engine Journal*.
- Kuppuswamy, S., & Narayan, P. (2010). The impact of Social Networking Websites on the Education of Youth. *Internal journal of virtual Communities and Social Networking* , 67-69.
- Landry, T. (2014). *How Social Media Has Changed Us: The Good and The Bad*. <https://returnnonnow.com/2014/09/how-social-media-has-changed-us-the-good-and-the-bad/> .
- Liccardi, I., A., O., R., P., E., M., P., K., S., L., . . . C., S. (2007). *The role of social networks in students learning experiences*. citeseerx.ist.psu.edu.
- London College of International Business Studies. (2017). *The Role of Social Media in Education*. <https://lcibs.co.uk/the-role-of-social-media-in-education/> .
- McLuhan, M. (1962). The Making of Typographic Man. In M. McLuhan, *The Gutenberg Galaxy* (p. 293). Canada: University of Toronto Press.

- Newspoll. (2013). *Like, Post, Share Young Australians' Experience of Social Media*. Australian Communications And Media Authority.
- Nicole, B., Charles, S., & Cliff, L. (2007). The benefits of Facebook “friends”, Social Capital and College students’ Use of Online Social Networks Sites. *Journal of Computer Mediated Communication*, 1143-1168.
- Ortiz-Ospina, E. (2019, September 18). The rise of social media. *Our World in Data*.
- Owusu-Acheaw, M., & Larson, A. (2015). Use of social media and its impact on academic performance of tertiary institution students. *A study of students of Koforidua Polytechnic, Ghana, Journal of Education and Practice*, 94-101.
- Rouse, M. (n.d.). *Social Media*. <https://whatis.techtarget.com/definition/social-media> .
- Talaue, G. M., AlSaad, A., AlRushaidan, N., AlHugail, A., & AlFahhad, S. (2018). THE IMPACT OF SOCIAL MEDIA ON ACADEMIC PERFORMANCE OF SELECTED COLLEGE STUDENTS . *International Journal of Advanced Information Technology (IJAIT)*, 32.
- Wheeler, A., Yeomans, P., & Wheeler, D. (2008). Evaluating student-generated content for collaborative learning. *British Journal of Educational* , 39(6).
- Wiley, C., & Sisson, M. (2006). *Ethics, Accuracy and Assumption: the use of Facebook by students and employers*. Paper presented at the Southwestern Ohio Council for higher education Special Topics Forums, Dayton, OH. Retrieved from <https://www.books.google.com.gh>.