An Analysis On The Effects Of Social Media On Students’ Academic Performance: The Case Of Selected Students Of The Faculty Of Engineering Of The University Of Santo Tomas

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Abstract. In today’s generation, social media has become known worldwide for its ability not just to connect people but to share stories of people. People are able to share pictures, videos, sentiments and happenings in their lives. It is most popular with the youth which uses different types of social media platforms every day. Students in particular have one or more social media platforms that they use for different reasons. Examples of these are: Facebook, Instagram, twitter, snapchat, YouTube and the like. It has been part of our daily lives and it affects the lives of most people today. This research aims to study the relationship of Social Media with the Academic Performance of the student of the Faculty of Engineering of University of Santo Tomas. The study will focus on what social media platforms are most used by the students and how these platforms are influencing their daily activities. It will also look into how much time the students spend on their social media platforms and the amount of time they spend on finishing their academic responsibilities. The data that will be used to determine the students’ academic performance is their General Weighted Average (GWA).

1. Introduction
In today’s lifestyle, it is safe to say that gadgets are now becoming a basic necessity. Some people will have a phone, a tablet, and a laptop where they use all these all at once [1]. The advancement of technology is playing a big role in our society. There are numerous applications such as games, search engines, and the popular Social Media available for free in the Internet. Communication and data sharing between peers are simplified [2].

In the Philippines, some parents believe that social media will only have negative effects on their kids academic performance [3]. Also, there are parents who allow their children to use the social media but with correct guidance and limit on their usage. Educational Institutions are now also taking advantage of the popularity of Social Media. Schools have their own social media accounts where they can communicate and update their students. Educators are also using the social media to share information, send files, and communicate with their students [4]. Students use social media to communicate with their peers, when doing research, and for entertainment [4].

Social Media platforms like Facebook, Twitter, Instagram, etc. diverts the students’ attention. Students spend more time on social media than actually communicating in real life. Social media...
should be used to improve the students’ studies and future career, it should not be used to waste their
time on. In this study of Wang et al. [5] their findings indicate that electronic media use is negatively
associated with the students’ academic performance. They have found that two-third of college
students have been using social networking sites.

According to the author Al-Rahmi et al. [6] social media have become an addiction to many,
especially to the youth. There are benefits and risks associated with using any social networking sites.
Based on their study, there have been reports regarding its effect on students academic performance.
Students who have been using social media for long period of time have been failing in their academic
performance.

The work by Ahn [7] stated that social networking sites such as Facebook and Myspace have a
positive and negative impacts on adolescents’ social academic development. They define adolescents
as between 13-18 years old. The effects of the use of social networking sites depends on how and how
long an adolescent use it.

Dunn [8] enumerates the negative and positive effects of social media on students. The negative
effects start with the students’ relying on the readily accessible information through social media and
the web itself, thus reducing focus on learning and retaining information. The author also stated that
“For teens in this generation, social networking has become sort of an “addiction” [9] as it has been
reported that the are many reasons why students love to spend time using the different social media
platforms.

Heffner [9] conducted a study entitled The Effects of Social Media Use in Undergraduate Students
and found that that social media use by undergraduate students does not positively affect their
academics and social life in college. Hasnain et al. [10] found that social media usage has a negative
relationship with academic performance.

Ebele & Oghenetega [11] found that out that social media is one of the fastest ways information
can be shared but it has caused some negative impact to those addicted to it. The result from their tests
indicated that 71 percent of undergraduate students surveyed do not use social media for academic
purposes.

Online interpersonal organizations (OSNs) have saturated all ages of Internet clients, turning into a
conspicuous specialized apparatus, especially in the understudy network. In this manner, scholarly
foundations and personnel are progressively utilizing long range interpersonal communication
destinations, for example, Facebook and LinkedIn, to interface with present and potential understudies
and to convey instructional substance [12].However, as results, they have discovered that clients who
utilize internet based life at least multiple times amid their examination period is bound to have low
evaluations than expected.

Thus, the main objective of the study is to determine if social media usage have an effect on the
Academic Performance of Engineering students in University of Santo Tomas . This work will focus
on determining the relationship of using social media and the academic performance of students. The
study will only focus on the time spent on social media and will not further take into detail on what
specifically on the activity.

2. Methodology

2.1. Research Design

The descriptive correlation method was used in gathering data on the relationship of academic
performance and social media usage of engineering students in University of Santo Tomas. To gather
data needed such as students’ profile, their social media usage, and their academic performance a
descriptive research is used. To identify the relationship of the usage of social media and the student’s
academic performance a correlation research is used.
2.2. Subjects and Study Sites
The population needed for this study consisted of Third to Fifth Year students who are currently enrolled in First Semester AY 2017 – 2018 in the Faculty of Engineering in University of Santo Tomas, who uses social media platforms. Cross-Enrolled students are excluded in this study.
In this study, stratified random sampling was used to identify the respondents. This method was used because the population was divided into categories since the respondents are from six (6) different departments with different number of population. The total population of the Faculty of Engineering students is two thousand seven hundred eighteen (2, 718) and using Slovin’s Formula the sample size of three hundred fifty (350) was computed.

2.3. Data Gathering
The survey questionnaire was simultaneously conducted through uploaded survey on Google Forms while the printed surveys were distributed to the students. In the online survey, the respondent used their university provided account in order to access and answer the survey, in this way it was already verified that the student was indeed from the university and it also limited the student to submit only one response. The results were interpreted and analyzed after. Other data needed were taken from previous studies, related literatures, and from legitimate online sources.

2.4. Mode of Data Analysis
To describe the answers gathered from the respondents, their social media usage and academic performance, the percentage and frequency of the data gathered were utilized. The data were analyzed and interpreted with the use of frequency count, percentage with reference to the majority criterion, and scatter plots. Multiple linear regression was also used as another mode of analysis to identify the relationship between the variables, and if the independent variables are fit to determine the dependent variable (GWA).

3. Result and Discussion
The descriptive method was used to gather needed data in analyzing the effects of social media usage to the academic performance of engineering students in the University of Santo Tomas. In terms of the respondents corresponding department, there are forty nine (49) or 14% Chemical Engineering, ninety seven (97) or 27.71% Civil Engineering, forty four (44) or 12.58% Electrical Engineering, sixty six (66) or 18.86% Electronics Engineering, thirty four (34) or 9.71% Industrial Engineering, sixty (60) or 17.43% Mechanical Engineering. Based from the data gathered, Facebook is the most used social media platform followed by Instagram and Twitter. For Facebook; two hundred twenty nine (229) or 65.62% uses it for 0-3 hours, one hundred (100) or 28.65% uses it for 4-6 hours, and nineteen (19) or 5.44% uses it for 7-9 hours, and one (1) or 0.29% who uses it for more than 9 hours. For Instagram; one hundred sixty five (165) or 69.92% uses it for 0-3 hours, sixty six (66) or 27.97% uses it for 4-6 hours, five (5) or 2.12% percent uses it for 7-9 hours. For Twitter; one hundred fifty seven (157) or 90.23% uses it for 0-3 hours, eleven (11) or 6.32% uses it for 4-6 hours, six (6) or 3.45% who uses it for 7-9 hours. Table 1 shows Frequency Distribution of the Respondents’ Most Used Social Media Platform. As for academic Performance in terms of the General Weighted Average of the Thomasian engineering student, based on the data gathered, one hundred ninety eight (198) or 56.71% studies for 0-3 hours, one hundred twenty four (124) or 35.43% studies for 4-6 hours, eleven (11) or 3.14% studies for 7-9 hours, and seventeen (17) or 4.86% who studies for more than 9 hours. Also there are five (5) or 1.43% who have GWA that ranges from 1.0 to 1.5, one hundred (100) or 28.57% who have GWA that ranges from 1.75 to 2.25, two hundred eight (208) or 59.43% who have GWA that ranges from 2.5 to 3.0, and thirty seven (37) or 10.57% who have GWA that is lower than 3.0.
Table 1. Frequency Distribution of the Respondents’ Most Used Social Media Platform

| Social Media Used | Frequency | Percent |
|-------------------|-----------|---------|
| Facebook          | 349       | 32.68   |
| Instagram         | 236       | 22.09   |
| Snapchat          | 73        | 6.84    |
| Tumblr            | 53        | 4.96    |
| Twitter           | 174       | 16.29   |
| YouTube           | 148       | 13.86   |
| Others            | 35        | 3.28    |
| Total             | 1068      | 100     |

Using scatter plot as the basis for the relationship of social media usage of the top three (3) most used platforms and the academic performance of the student as shown in Figure 1, Figure 2 and Figure 3, there is no significant relationship between the usage of social media and the academic performance. Based on the scatter plots, a student may use the social media for a longer period of time and still get a higher grade and vice versa.

**Figure 1.** Facebook general weighted average

**Figure 2.** Instagram general weighted average
A multiple linear regression analysis was calculated to determine whether the number of hours spent studying, number of courses failed, using social media as a reason for failing said courses, and using specific social media platforms (Facebook, Instagram and Twitter) were valid determinants of the academic performance of students in terms of their GWA. The summarized results of the multiple regression analysis is shown in Table 2 and Table 3. Based on Table 2 and Table 3. The r-square value for Facebook is 0.11, therefore the independent variables are not good fits to determine the students” GWA. The first hypothesis is rejected for Facebook. The R-square value for Instagram is 0.12, therefore the independent variables are not good fits to determine the students” GWA. The first hypothesis is rejected for Instagram. The R-square value for the number of social media platforms used is 0.11, therefore the independent variables are not good fits to determine the students’” GWA. The first hypothesis is rejected for the number of social media platforms used. Among all independent variables used in all four multiple regression models, only the p-value for the number of courses failed was less than the alpha used (0.05). Therefore, only the number of courses failed was determined to have a relationship with the dependent variable. The second hypothesis is rejected. The multiple regression analysis determined that all the independent variables used are not enough to be determinants for the GWA, except for the number of courses failed.

Table 2. The summarized results of the multiple regression analysis for Facebook, Instagram and Twitter

| Regression Statistics | Facebook | Regression Statistics | Instagram | Regression Statistics | Twitter |
|-----------------------|----------|-----------------------|-----------|-----------------------|---------|
| Multiple R            | 0.336820892 | Multiple R            | 0.340026297 | Multiple R            | 0.334933931 |
| R Square              | 0.113448314 | R Square              | 0.115617882 | R Square              | 0.112180738 |
| Adjusted R Square     | 0.099703326 | Adjusted R Square     | 0.101906532 | Adjusted R Square     | 0.098416098 |
| Standard Error        | 0.810432009 | Standard Error        | 0.809439757 | Standard Error        | 0.81101173 |
| Observations          | 263      | Observations          | 263       | Observations          | 263     |
| Variables P-value     | 9.13485E-25 | Variables P-value    | 1.15544E-27 | Variables P-value    | 6.65348E-28 |
| Intercept             | 0.183887639 | Intercept             | 0.118582068 | Intercept             | 0.160864315 |
| Courses Failed        | 3.21036E-07 | Courses Failed        | 1.68563E-07 | Courses Failed        | 2.66337E-07 |
| SM a reason Facebook  | 0.117525266 | SM a reason Instagram | 0.121978838 | SM a reason Twitter   | 0.111578457 |
| Facebook              | 0.526864549 | Instagram             | 0.309838696 | Twitter               | 0.856872418 |
Table 3. The summarized results of the multiple regression analysis for Number of Social Media Platforms Used

| Regression Statistics | Number of Social Media Platforms Used |
|-----------------------|--------------------------------------|
| Multiple R            | 0.335131091                          |
| R Square              | 0.112312848                          |
| Adjusted R Square     | 0.098550257                          |
| Standard Error        | 0.81095083                           |
| Observations          | 263                                  |
| Variables             | P-value                              |
| Intercept             | 4.69272E-21                          |
| Study Hours           | 0.185970751                          |
| Courses               | 3.2258E-07                           |
| Failed                | 0.105536961                          |
| SM a reason           | 0.790105524                          |
| Platform used         |                                      |

4. Conclusion
The incorporation of social media in the academics department has certainly made communication and sharing of ideas simpler and convenient. Most academic professionals have even utilized using the social media for ease of communicating with their students or subordinates. With all the advantages brought about by social media in terms of convenience, one should never forget the purpose of incorporating those platforms in the academic aspect. One can easily be distracted and get off-track when undertaking academic related activities when a click of the mouse as shown by the outcome of this work. As long as the social media is used for its specific purpose in academic related activities, one cannot go wrong in utilizing all of its advantages to further the student’s academic performance.

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