

Trends in Using Social Media by Bangladeshi University Students: Evidence from Cumilla

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This study aims at finding usage of social media among university students in Bangladesh based on samples (respondents) from four universities in Cumilla. This study applies a descriptive research design. A well-prettested questionnaire with 18 items (questions) was administered among 200 university students by applying the simple random sampling method and 153 responses are analyzed with three different software, including R programming, SPSS, and Microsoft Excel. This study finds that the mean time spent by the students is more than 4 hours. The commonly used social media are Facebook, YouTube, Instagram, and most enjoyed content is related to entertainment and education. The mean time spent on social media by male and female students is not statistically different from each other. There is a statistically significant negative relationship between time spent on social media and the academic result of the students. Furthermore, in terms of standardized coefficients, the relative importance of variables, in ascending order of magnitudes, are “chatting with friends”, “connecting with professional people”, “connecting with friends”, and “upload contents” significantly affect the satisfaction of university students while using social media.

Keywords: *Social Media Usage, University Students, Digital Consumer Behavior*

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1. Introduction

For the young generation, social media or social networking sites are becoming more popular than any other site day by day. These sites have got enormous importance since the inception of social media in 1997. Nowadays, students use different types of social media such as Facebook, Whatsapp, Instagram, and Twitter, and so on for various purposes like entertainment, education, online business, games, etc. Facebook enjoys the highest social media market share (97.23%), followed by Youtube (1.41%) in Bangladesh (Statcounter, 2020).

Recently, there has been a rapid change in the usage pattern of social media. The advancement of mobile technology plays a great role in the usage of social media. A report shows that in Bangladesh, total internet users have touched 91.42 million from which 85.63 million uses the internet through mobile devices and 5.78 million through regular ISP (Digital Marketing Agency Bangladesh, 2019).

The broad objective of this study is to explore the social media usage of university students in Cumilla. The specific objectives are to find the extent of usage of social

media, mostly enjoyed social contents, the relationship between age and time spent in social media, the relationship between time spent and academic performance, the difference in the variance of mean time spent by male vs female students, variables influencing the satisfaction level of the students and to estimate mean time spent in social media by the students.

A few studies have been conducted on the student’s social media usage in Bangladeshi context. However, no studies were conducted in Cumilla district. This study fulfills this research gap by analyzing the social media usage of the students in Cumilla.

2. Literature review

Social media has come to be an inevitable part for the younger generation, particularly among undergraduate students (Hamade, 2013). Various studies have been conducted on social media or social networking sites.

According to Hong et al., (2014), Taiwanese university students are engaged with Facebook for more than 4.5 hours per day. The study also specified that Facebook and Twitter were ranked as the first and the

second most preferred sites where LinkedIn was ranked as the least popular site among the participants.

Can & Gökçe, (2019) conducted a study among 549 undergraduate students of a state university of Turkey using cross-sectional survey data and found that male students use social networking sites more than female students for preliminary communication. The study also revealed that WhatsApp and Instagram are the frequently used sites of respondents.

Hamat et al., (2012) surveyed the tertiary level students in Malaysia and found that the participants spent more time on social media for socializing instead of learning activities. Hussain, (2012) evaluated the students of Islamia University, Pakistan. It was observed that students preferred Facebook to other SNS.

Manjunatha, (2013) pointed out that the majority of the students spent 5 to 10 hours per week. Other findings include: female students use social media less than male students, frequently the communications are made with friends rather than professional people.

A cross-sectional study was carried out among the students of the University of Sharjah by Alnjadat et al., (2019) and they found that the average social media usage was 2 to 3 hours per day, the average time spending by males was more than that of females, and the academic performance of female students was better than that of male students and that males were more engaged in social media. Azizi et al., (2019) also conducted a cross-sectional study among Iranian students and found a negative relationship between time spent on social media and academic performance. On the other hand, a study undertaken by (Al-yafi et al., 2017) among the university students of Qatar revealed that there is no significant relationship between social media usage and academic performance.

Another study done by (Quader, 2011) showed that private university students of Dhaka, Bangladesh used social media basically for maintaining communication with their families and friends. The study also concluded that students' grades were not negatively affected due to using SNS. A survey conducted among the students of ISLM Department of Dhaka University by Islam and Mostofa (2015) observed that their perceptions about Facebook and its usage pattern were influenced by factors such as level of education, gender, age, personality traits, and geographic area. The finding also included that using Facebook would be a complementary gadget in university education.

3. Identification of Variables and Model Development

Student's satisfaction level with the social media they are currently using is considered as the dependent variable for the regression analysis in this research.

Ezumah & Hall, (2013) examined that college students of the Midwestern region of the United States are satisfied with social media they are using since it offers to keep relationships with friends, communicating with family members, uploading materials and entertainment purposes.

A study conducted by Can & Gökçe, (2019) revealed that respondents using social media for a longer time, are engaged in content sharing and business dealing. Hussain, (2012) found that university students use social media for educational content sharing as well as maintaining friendship as these are relatively cheap.

Manjunatha, (2013) pointed out that the Indian college students mainly use social media for chatting, content sharing, and building friendship. Hamade, (2013) highlighted that most of the students using social media are satisfied with sharing content and linking with professional people.

Wickramanayake & Jika (2018) revealed that university students using social media are more satisfied with content sharing and connecting with friends.

However, no studies have been found concerning students using social media for performing live video. The authors propose "live video" facility as an independent variable to test its effect on satisfaction level on using social media of Bangladeshi students.

Considering the previous literature, the authors developed the following model for testing the satisfaction level of Bangladeshi students on using social media.

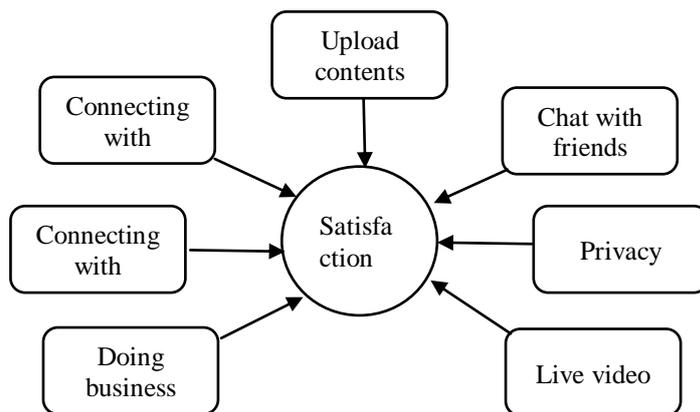


Fig.1. Conceptual Model for the Regression Analysis (Authors)

2.2. Research Objectives

The main objective of this study is to explore the usage of social media by the university students in Cumilla while the specific objectives include the following

1. To estimate the mean time spent on social media by university students in Cumilla.
2. To identify which social media the students prefer and what contents do they consume.
3. To examine the relationship between the time spent on social media and the academic result of university students.
4. To assess the difference in the mean time spent on social media by the male students as opposed to the female students.

- To identify the variables that affects the satisfaction of university students in using social media.

2.3. Research Questions

- What is the mean time spent on social media by university students in Cumilla?
- Which social media are mostly used by university students in Cumilla?
- What types of content do university students in Cumilla enjoyed the most?
- Is there any significant relationship between time spent on social media and the academic result?
- Is there any significant difference in the mean time spent on social media by male and female university students?
- What are the most contributing factors to the satisfaction level of university students about using social media?

2.4. Research Hypothesis

After doing the literature review the following hypotheses were developed to be tested in this study.

- H₀: University students in Cumilla spend no more than 4 hours or 240 minutes a day.
- H₀: There is a negative correlation between time spent on social media and the academic result of university students in Cumilla.
- H₀: There is no significant difference in the mean time spent by male and female students.
- H₀: The effect of all the independents variables altogether (Upload contents, Chat with friends, connecting with friends, privacy, live video, doing business, connecting with professional people) on the dependent variable (Satisfaction) is not different from 0.

4. Research methodology

This research is descriptive in nature. The survey was carried out with a questionnaire containing 18 close-ended questions to collect data through personal interviews. The data pertains to the demographic characteristics of the respondents, their usage of social media, and their satisfaction with using social media. Variable “gender” and “semester” are measured by categorical scale while “age”, “result” and “time spent in social media” are measured on a continuous scale. In order to measure “favorite social media” and “type of contents”, a rank order scale is used while a 7-point Likert scale is used to measure the satisfaction related variables. The questionnaire is pretested with 15 students (respondents) and then necessary modification is made. The population of this research consists of all the university

students who live in Cumilla. University students register is the sampling frame and by adopting the simple random sampling method, 200 students from four universities located in Cumilla (Cumilla University, CCN University, Britannia University, and Bangladesh Army International University of Science and Technology) were selected to conduct the survey. Among 200 students, 192 provided the questionnaires, which made the response rate to be 96%. However, from 192 responses (questionnaires) only 153 were considered for data analysis. as some answers/data were missing in 39 questionnaires. Data is analyzed with three software; R programming, Microsoft Excel, and SPSS.

5. Analysis and discussions

Among 153 students (respondents), 83 (54%) are female and 70 (46%) are male. Cumilla University, CCN University, Britannia University, and Bangladesh Army International University of Science and Technology (BAIUST) are 44, 23, 20, and 60, respectively.

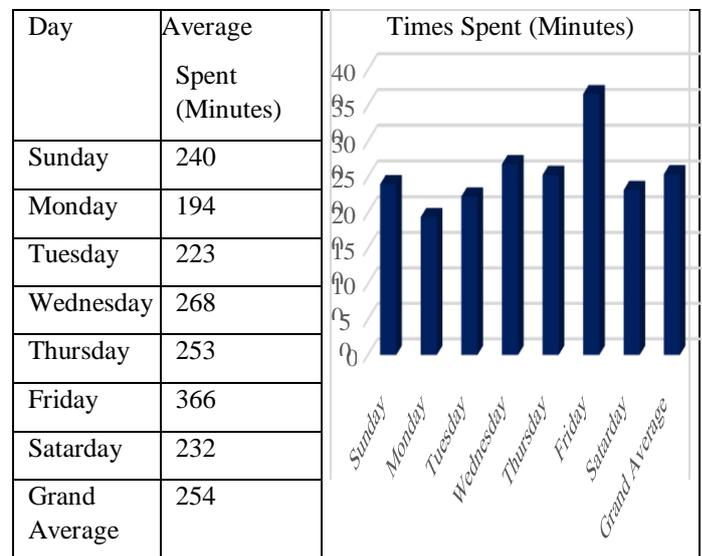


Fig.2. Average time spent by university students (source: Excel output from primary data analysis)

H₀: University students in Cumilla spend no more than 4 hours or 240 minutes (i.e. $\mu \leq 240$)

The researchers test this hypothesis at 5% level of significance ($\alpha = 0.05$), which will be a one tailed test. Here, our sample size, $n = 153$, population mean $\mu = 240$, sample mean, $\bar{x} = 281.16$, sample standard deviation, $s = 132.84$ Although population standard deviation (σ) is not known z test can be used since the sample size is greater than 30 (i.e. $n > 30$)(Napler, 2019). The critical value of Z for one tailed test with $\alpha = 0.05$, is $Z = 1.65$.; which means that if the calculated value of z is greater than the critical value the null hypothesis ($H_0: \mu \leq 240$) will be rejected.

But before applying the Z test, the assumption of normality of the data is to be confirmed. In order to confirm the normality of the data qqnorm plot and histogram are produced with R programming.

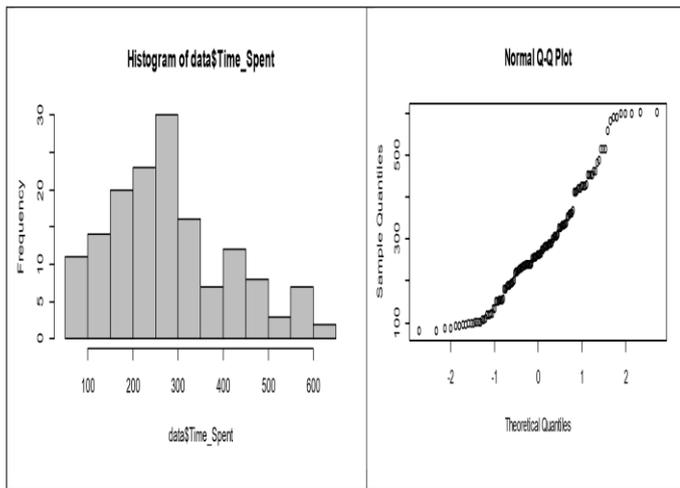


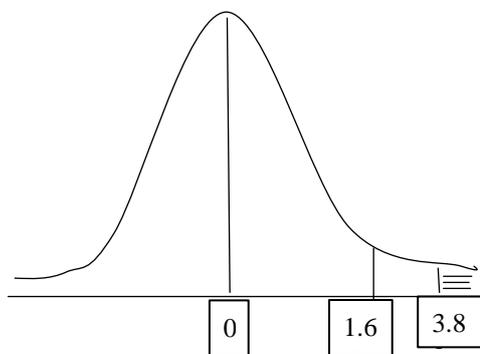
Fig.3.Checking normality of the variable "Time Spent in Social Media" (source: R programming output from primary data analysis)

Here the above figure confirms that the variable "time spent in social media" is almost normally distributed. Hence, if we apply Z test and then make a decision for the population on the basis of sample statistic, it can be considered as valid conclusion.

$$z = \frac{\bar{X} - \mu}{s / \sqrt{n}}$$

$$= \frac{281.16 - 240}{132.84 / \sqrt{153}}$$

$$z = 3.83$$



Since the calculated value $z = 3.83$ which is greater than the critical value of $z = 1.65$, our null hypothesis ($H_0: \mu \leq 240$) is rejected. Hence the alternate hypothesis ($H_1: \mu > 240$) is accepted.

This means that the average time spent on social media by university students in Cumilla is statistically significantly greater than 240 minutes (i.e. 4 hours).

This result confirms the time spent (4.5 hours) by university students in Taiwan (Hong et al., 2014) and in United States (more than 5 hours) (Ezumah & Hall, 2013). However, this result does not match with time spent by students of the University of Sharjah (2 to 3 hours) (Alnjadat et al., 2019).

Table 1:Preferred social media

Social Media	Position					
	1st		2nd		3rd	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Facebook	97	0.6300	29	0.1895	16	0.1045
Youtube	23	0.1500	77	0.5032	33	0.2156
Twitter	1	0.0069	1	0.0065	7	0.0457
Whats app	3	0.1960	9	0.0588	18	0.1176
Tiktok	0	0.0000	1	0.0065	22	0.1437
Linked In	7	0.4570	12	0.0784	7	0.4570
Instagram	22	0.1437	24	0.1568	50	0.3267
Total	153	100%	153	100%	153	100%

Table 1 depicts that most of the respondents (97 or 63%) placed "Facebook" in the first position. Researches conducted in Malaysia, India, and Pakistan also show that Facebook is the most popular social media among the students in these countries (Hussain, 2012; Can & Gökçe, 2019). However, in the case of the second position, this research finds that "YouTube" is the most popular among the 50% of the respondents. Furthermore, YouTube has a dominant presence in both 1st and 3rd positions. Contrarily research in Nigeria shows that what's app is the most favorite social media (Wickramanayake & Jika, 2018). For 3rd choice, Instagram has achieved a majority vote in this region (50 or 32%). The most surprisingly disappointing fact is that Linked In, the professional social media, has not achieved any ranking despite all the respondents being university students.

This information has a useful implication for the marketer. In order to reach digitally to this new and young generation, marketers should focus more on Facebook, YouTube, and Instagram; but that does not necessarily mean they should ignore the other social media for reaching this generation digitally.

Table 2:Contents consumed by university students in social media

Contents	1 st	2nd	3rd
Entertainment	92	32	25
Educational	22	62	34
Online Business	5	14	17
Games	11	17	28
News	21	26	47
Total Respondents (100%)	153	153	153

This study reveals that most of the respondents (60%) enjoy content related to entertainment, which resembles the

result of certain previous studies (Can & Gökçe, 2019; Hamat, Embi, & Hassan, 2012; Parabhoi, Meher, & Sahu, 2017). About 97% of the respondents like the contents of social media, which are related to entertainment. and 77% favor the contents that are related to education. One research found that when students consume education-related content it creates a positive impact on the academic performance of the students (Al-yafi et al., 2017). This research also finds that the students favor the contents that are related to games, news, and online business.

In order to analyze the relationship between the academic result of the students and time spent in social media plot (data\$Time_Spent, data\$Result) is executed to visualize the scatter plot and the correlation between these two variables is tested in SPSS. The following result is generated.

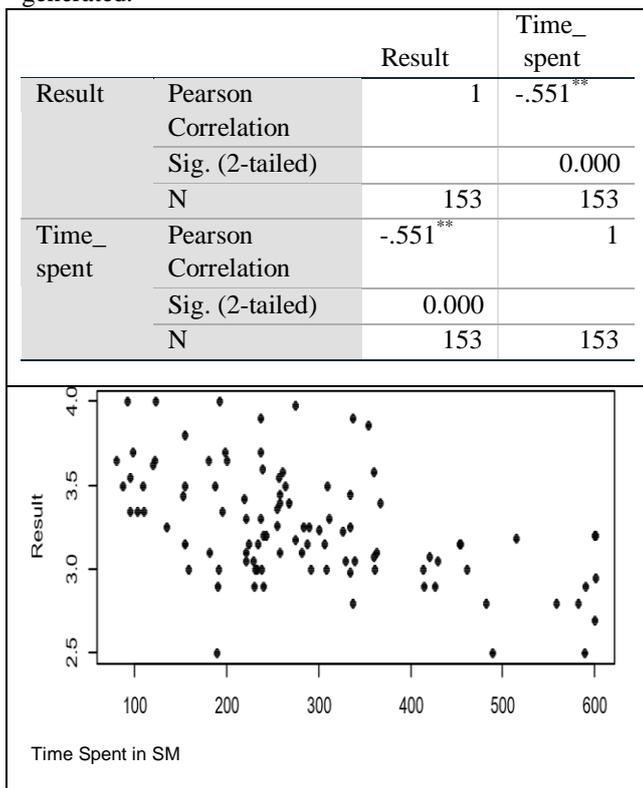


Fig.4. Scatter plot and the correlation coefficient between Time Spent in Social Media and Academic Result (source: R programming and SPSS output from primary data analysis)

The scatter plot shows that there is a negative relationship between time spent on social media and academic results and the table confirms that these two variables are negatively correlated ($r = -0.551$) and this is statistically significant. This means that the more time the students spent on social media the lower becomes their academic results.

In order to answer the research question 5 and testing the 3rd hypothesis H_0 : There is no significant difference in the mean time spent by male and female students (i.e $H_0: \mu_m = \mu_f$). Two sample t-tests are conducted with SPSS and the following result is generated.

Table 3: The mean time spent by male and female university students

Gender	N	Mean	Std. Deviation	Std. Error Mean	
Time_spent	Female	83	273.6506	130.70740	14.34700
	Male	70	290.0571	135.73631	16.22359

The statistics show that the mean time spent by the male group (290) is higher than that of the female group (273) with a standard deviation of 135.7 and 130.7, respectively. This means our sample produced a difference in the mean time spent by a male and female group. However, is this difference in a sample mean can be generalized for the population? We tested the significance of this sample mean difference and it produced the following result.

Table 5: SPSS output of two sample tests

		Levene's Test for Equality of Variances		
		F	Sig.	t
Time_spent	Equal variances assumed	0.737	0.392	-0.760
	Equal variances not assumed			-0.758

The above figure shows that the significance of the two-sample t-test is 0.392 which is greater than 0.05. This means that at 5% significance level and the null hypothesis ($H_0: \mu_m = \mu_f$) is accepted. In other words, this difference in the mean time spent by male and female students ($290 \neq 273$) is because of sampling error. To put it another way, in the population the mean time spent in social media by male and female university students in Cumilla is not statistically different rather they are equal.

4.1 Measuring Satisfaction

In order to find out the variables that influence the satisfaction of the university students regarding the usage of social media, a multiple regression analysis is run considering the following equation.

$$\text{Satisfaction} = \alpha + \beta_1 (\text{Upload contents}) + \beta_2 (\text{Chat with friends}) + \beta_3 (\text{Connecting with friends}) + \beta_4 (\text{Privacy}) + \beta_5 (\text{Live video}) + \beta_6 (\text{Doing business}) + \beta_7 (\text{Connecting with professional people})$$

But before conducting multiple regression analyses, whether the independent variables have a multicollinearity problem needs to be tested. Hence, we examine the correlation matrix presented in Figure 5.

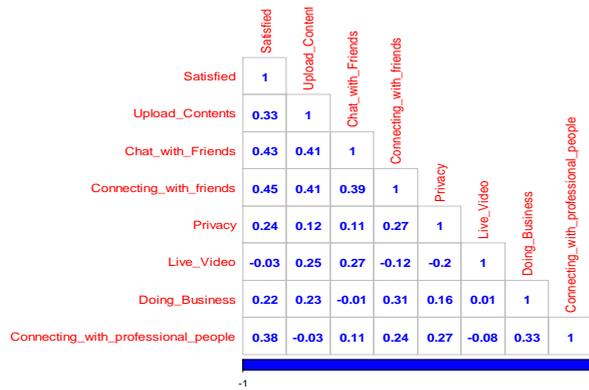


Fig.5. Correlation Matrix of the variables (source: R programming output from data analysis)

The above correlation matrix clearly expresses that there is almost no multicollinearity since no correlation coefficient between any two variables is greater than 0.50. Hence, conducting regression analysis on this data set will be valid.

The null hypothesis for this regression model is ($H_{0:\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = \beta_9 = 0}$) which is to be tested with 5% level of significance.

Table 6: Regression model summary of the study (source: SPSS output from data analysis)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616 ^a	.379	.349	1.366

Table 7: ANOVA table

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	165.156	7	23.594	12.653	.000
Residual	270.373	145	1.865		
Total	435.529	152			

In ANOVA analysis, this is clear that the model is significant at 5% significance level ($.000 < .05$). That means the result of the model (37%) is not because of sampling error. Rather, in the population, all independent variables (i.e. upload contents, chat with friends, connecting with friends, privacy, live video, doing business and Connecting with professional people) can explain variance in the dependent variable “satisfaction”.

Now, the question is which variables are the most significant to determine the satisfaction level of a university student in Cumilla. The following table will answer this question.

Table 7: Table of Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.917	.612		1.499	.136
Upload_contents	.170	.084	.162	2.025	.045
Chat_with_friends	.289	.080	.288	3.603	.000
Connection_with_friends	.151	.074	.170	2.042	.043
Privacy	.029	.055	.038	.533	.595
Live_video_f acility	-.089	.068	-.097	-1.311	.192
Online_bu sin ess	.033	.074	.033	.444	.658
Connect_with _professional _people	.247	.064	.282	3.830	.000

Here this study has found that only four variables (upload contents, chat with friends, connecting with friends, and connecting with professional people) are statistically significant at 5% significance level for contributing to the satisfaction level. In addition to that contribution of these four statistically significant variables follows, chat with friends >connecting with professional people >connecting with friends >upload contents chronology. However, the most surprising fact is that students are not concerned about the privacy of their data in social media; hence, the privacy variable is not statistically significant.

6. Limitations

This study collects data by applying a cross-sectional data collection technique. But time spent on social media can vary the same respondent from time to time. This study solely focuses on university students in Cumilla. Hence the results of this study cannot be generalized to Bangladesh.

7. Conclusions

This study concludes that university students in Cumilla spent more than 4 hours on average and the most used social

media are Facebook, Youtube, and Instagram and most enjoyed content are related to entertainment and education. The mean time spent on social media by male and female students is not statistically different from each other. There is a statistically significant negative relationship between time spent on social media and the academic result of the students. Furthermore, in terms of standardized coefficients, the relative importance of variables, in ascending order of magnitudes, are “chatting with friends”, “connecting with professional people”, “connecting with friends”, and “upload contents” significantly affect the satisfaction of university students while using social media.

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