

## **INFLUENCE OF SOCIAL NETWORK ON ACADEMIC PERFORMANCE: A FOCUS ON UNIVERSITY STUDENTS**

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### **ABSTRACT**

*Internet is an inseparable part of human life and it involves a variety of routine activities. Bangladesh has officially been connected to the world's information superhighway, submarine optic fiber cable network on 21st May, 2006. University students are one the major groups who use Facebook for fun, with the purposes to connect with their friends, share day to day activities, use features such as photo sharing, publishing wall posts, and stating their status updates. The Research tries to relate students' Facebook using rate to students' academic performance. For fulfilling that objective the author sets objectives to find out the level of students' face book using rates, identify the relationship between Facebook using rate and students' academic performance and explore the important benefit offered by Facebook for students. The respondent of this research is 100 private university students and for collecting data researcher sets structured questionnaire based on Likert scale. For measuring the relationship between dependent (Students' academic performance) and independent (Facebook using rates) variables in this study uses regression model. After analyzing the data the researcher found that there is a significant relationship between Students' academic performance and their Facebook using rates. For analyzing the others variables researcher uses descriptive statistics, frequency and factor analysis. The researcher found here four factors here such as Interconnection, Co-operation with studies, Sharing and Grouping. The results of this study indicate that time and the frequency of using Facebook were predictors of academic performance.*

**Keywords:** Social networking sites, Facebook using rate and Students academic performance

### **INTRODUCTION**

Technological aspects for social needs have become the major communication strategy for most people in the past decade. Internet is an inseparable part of human life and it involves a variety of routine activities. Social media has revolutionized corporate communications, rapidly changing the way that public

relations campaigns or programs are distributed and measured (Matthews, L., 2010).

Internet was introduced in Bangladesh through an UUCP (Unix-to-Unix copy) email connectivity in 1993 by Pradesta Ltd. (Rahman & Sayeedur, 2002), and the online Internet service was activated in June 1996 when VSAT (Very Small Aperture Terminal), a satellite communications system, was legalized by Bangladesh Telegraph and Telephone Board (BTTB). The Board gave VSAT permission to two Internet service providers Information Services Network (ISN) and Grameen Cybernet, to install VSAT data circuits in the same year (Azam, 2007; Internet World Stats, 2014; and Rahman & Sayeedur, 2002). At that moment, the Internet penetration rate in Bangladesh was as low as 0.2%, compared to Thailand 9.3%, Maldives 5.2%, Vietnam 4.2%, India 1.7%, Pakistan 1.0%, and Sri Lanka 1.0% (Internet World Stats, 2014). Later, Bangladesh has officially been connected with the world's information super highway, submarine optic fiber cable network on 21st May, 2006, which has facilitated Bangladesh to get more faster access to Internet, and hence, Bangladesh's ICT position has been ranked at 6th among the seven SAARC countries (Azam, 2007). Now, Bangladesh is treated as a growing ICT (Information and Communication Technology) country in the world where the rate of internet use is increasing day by day (Mahmud, 2011) and, as consequences, there has been much talk about the use of Internet in industry, business, communication, education, research, and in every other sphere of life (Internet World Stats, 2014). University students are one the major groups using Face-book for fun, with the main purposes to connect with their friends, share day to day activities, use features such as photo sharing, publish wall posts, and state their status updates. Because of the social media platform's widespread adoption by college students, there is a great deal of interest how Face book using is related to academic performance (Junco, Heiberger & Loken, 2011). This paper reviews the influence of social media (Face book) on university students' performance analyzing both positive and negative impacts of using Face book.

## OBJECTIVES

The main objective of this study is to focus students' face-book using rates and their academic performance. The specific objectives are given below:

- i. To examine the level of students face book using rates
- ii. To identify the relationship between face book using rates and students' academic performance
- iii. To explore the important benefit offered by face book for students

### HYPOTHESIS

*Null Hypothesis:* There is no significant relationship between students’ face-book using rates and their academic performance

*Alternative Hypothesis:* There is significant relationship between students’ face-book using rates and their academic performance

### METHODOLOGY

The data were gathered from 100 University students. They are asked to rate 19 variables according to their academic performance related with Facebook use. The author tries to present the necessary data based on primary and secondary information sources by analyzing the literature review and the practical experience of researcher identified 19 variables where 18<sup>th</sup> is independent and 19<sup>th</sup> is dependent variable. Other variables are mentioned here for identifying most important benefit offered by face-book, level of face book using. Dependent variable and the independent variables are highlighted here. Convenient sampling method was used to collect data from the target population i.e. questionnaires were sent to the target population by directly or through mail. Questionnaires are formed through 5 point likert scale. Different statistical tools and software were used for analyzing data such as tabulation and SPSS. Descriptive statistics have been used to analyze data to identify the specific factors for importance of Facebook using. Most appropriate type of research design for this study was causal research because, as a kind of conclusive research, it deals with the potential cause and effect relationship among identified variables in any study. This study consists of independent variables and dependent variables: X18 =Face book using rates (independent) and X19= Students’ academic performance (Dependent). For measuring the relationship between dependent and independent variables the researcher used regression model.

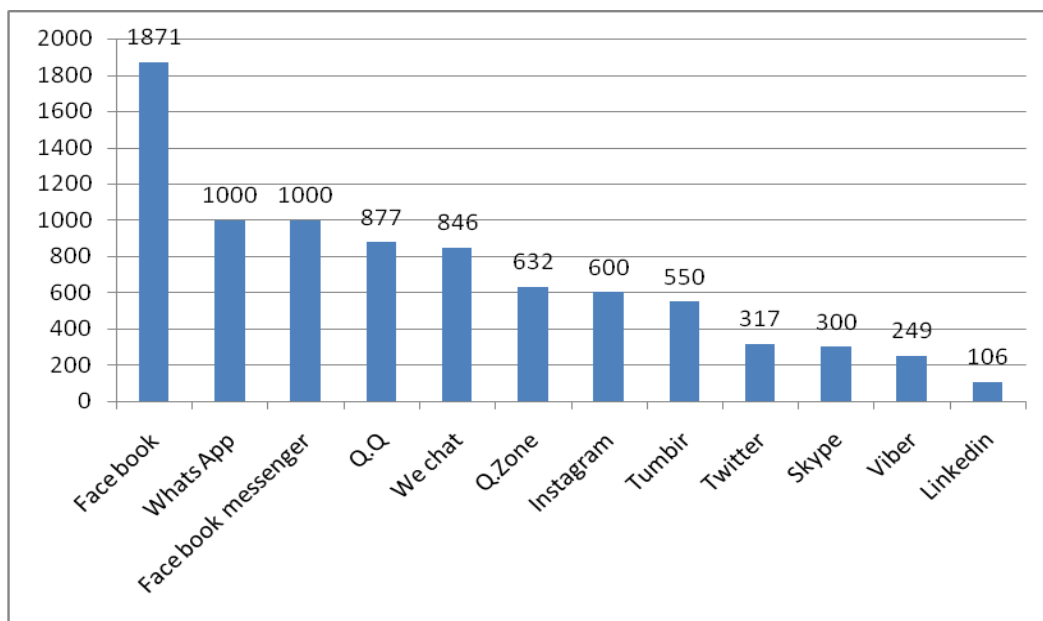
**Table 01: List of Variables.**

x1= Active using	x10=helps in studies
x3= time of using	x11=collaboration with batch mates
x4 =duration of using daily	x12=stress reduction
x5 =study group	x13=discovery and exploring
x2 = level of using	x14=connection with friends
x6= share information	x15=current issue of the world
x7= share picture	x16=emergency information
x8=face book group	x17=minimum cost
x9=social networking	X18 =Face book using rates (independent)
	X19=Students academic performance (Dependent)

*Source: Identify by author*

### LITERATURE REVIEW

Social media consists of online technologies that people generally use to generate content and share thoughts, visions, experiences and viewpoints with each other. The word social networking is known as the alliance of individuals or specific set of potential groups or subdivisions. Social networking allows individuals to express their thoughts to other users. Social networking is the leader in promoting digital journalism (Thuseethan & Vasanthapriyan, 2014). Social network issued for several purposes like promoting or distributing the news contents all over the world. Social networking sites and Face book socializing via the internet has become an increasingly important part of young adult life (Gemmill & Peterson, 2006). Most of the high schools, colleges and universities get connected by internet encompassing individuals who look forward to mingle other individuals with same interest, to gather and share knowledge and first-hand information. Social networking websites act as an online society of user who is familiar with internet. Social networks are developed with advance features after the year 2003. Since Face book holds the largest number of active users, it has been referred as the name social network.



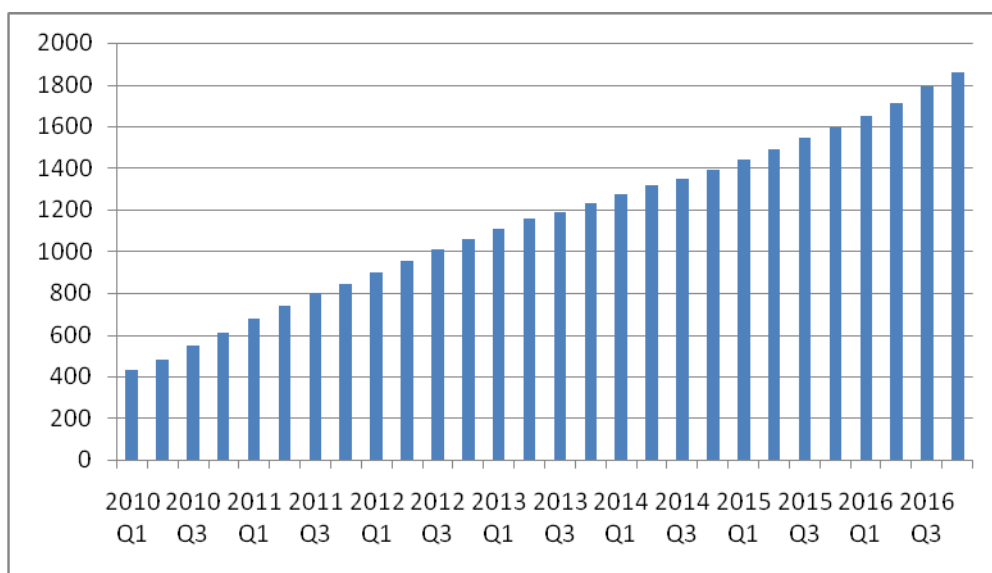
**Figure: 1** indicates the leading social networks worldwide as of January 2017, ranked by number of active users.

Source: <https://www.statista.com>.

The statistics of the above chart provides information on the most popular networks worldwide as of January 2017, ranked by number of active accounts. As

the Market leader, Face book was the first social network to surpass 1 billion registered accounts and currently sits at 1.87 billion monthly active users. WhatsApp and Face book messenger had over 1000 million monthly active accounts. Twitter, Skype and Viber had over 317, 300 and 249 million monthly active accounts respectively.

According to Thuseethan & Kuhanesan, (2014) the advancement in technology and communication leads to a considerable improvement in social networking such as Facebook and MySpace, used to keep in touch or share information with other individuals. By giving people the control over whole site; we're making the worlds more transparent site. Making the world connected is the ultimate goal behind Face book. Facebook is an online directory that connects people through social networks in universities. Facebook was launched in 2004 by Mark Zuckerberg, Dustin Moskovitz and Chris Hughes to help university students with the purpose of identifying students who are residing in other residences. One month later, it was expanded by Mark and friends to any Harvard university students.



**Figure 2 shows the rapid growth of Face book during the years 2010-2016.**

**Source:** <http://www.statista.com/>.

This statistics shows a timeline with the worldwide number of monthly active Face-book users from 2010 to 2016. As of the fourth quarter of 2016, Face book had 1.86 billion monthly active users. In the third quarter of 2012, the number of active Facebook users had surpassed 1 billion. Active users are those which have logged in to Facebook during the last 30 days.

**Table 2: Internet Use, Population Data and Facebook Statistics - March 2017**

	Population (2017 Est.)	Internet Users, (Year 2000)	Internet Users 31-Mar- 2017	Penetration (% Population)	Users % Asia	Facebook 30-Jun- 2016
<a href="#">Bangladesh</a>	164,827,718	100,000	63,290,000	38.4 %	3.4 %	21,000,000

*Source: <http://www.internetworldstats.com>*

Overwhelming 80 percent internet users of Bangladesh are on social networking website Facebook, authorities said that monitoring the internet. Bangladesh Telecommunication Regulatory Commission (BTRC) Chairman Sunil Kanti Bose made the statement public at a press conference in his office. “The social media platform has earned significant growth. We see that the use of Facebook has risen enthusiastically,” he said. “Socialization is increasing with internet connectivity.” According to the BTRC (The Daily Star, 2015), law enforcement and intelligence agencies, the amount of internet abuse in the country is less than 10 percent.

According to Mostofa, (2011) 137 Private university students were found in his study that, 56.2 percent students used the internet for educational purposes, 15.3 percent for research purposes, 10.2 percent for communication purposes, 16.8 percent for entertainment purposes and remaining 1.5 percent used it for other purposes. Mostofa (2011) also has identified in his study that most (82.5%) of the students responded that internet can play a significant role in the field of education. Mafiz, Ismail & Bhuyan (2011) have studied the impact of socio-economic, demographic and internet exposure factors on school performance among 10 grade students of Nilkhet High School and hence, they have found that, overall 80.5% out of 87 students were exposed to internet, and among these internet users, 79.3% had Facebook account. They also have found that, majority of the students (50.6% out of 87) used internet for entertainment, 20.7% used internet for educational purposes (Mafiz et al., 2011). Besides, Asad, Mamun & Clement (2012) by studying 200 respondents comprised of 100 teachers and 100 students, have found in their study that Facebook is used by 90% students and 82.1% teachers; 47% of students and 57.1% of teachers have logged on in to these SNSs at least once in a day; 87% students and 96.4% teachers have used their computers to access internet; 22% students have used mobile phone and 36.9% teachers have used the same device for accessing it In terms of different devices to access the internet and different places from where the internet has been accessed, they have found 87% have used computers, 22% used their mobile phones and 2% used other devices; and majority (52%)

have accessed the internet from their hostels, 43% from computer laboratory, 8% from their classes and 3% from the library respectively. Besides, in terms of the duration of use, Asad et al. (2012) have further report in their study that majority (47%) of the students have indicated that they logged in once in a day.

The students’ performance (academic achievement) plays an important role in producing the best quality graduates who will become great leader and manpower for the country thus responsible for the country’s economic and social development (Ali et.al, 2009). The undergraduates who obtain high quality and good education can contribute the country hugely. The use of internet and World Wide Web is an important factor affecting the academic performance. Somehow Facebook affects the academic performance of students. Most of the researcher around the world used the GPA to measure the student performance (Galiher, 2006; Darling-Hammond, 2005 and Broh, 2000).

### FINDINGS AND THEIR ANALYSIS

The students use the Facebook most of the time for different academic purpose. Major benefits the students get from using face book are showed in the appendix-03. Now the researcher found that highest mean value =4.36 where the variable x15 = getting up-to-date information about the current issue of the world, and according to standard deviation the lowest SD=.630 for the variable x14= Interconnection with friends.

#### The most important factors affecting of Facebook for student’s performance

**Table-03: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.762
Bartlett's Test of Sphericity	Approx. Chi-Square	262.674
	Df	66
	Sig.	.000

Customers are asked to rate 12 variables on a five point of scale according to their face book using experience. The test of validity was examined with the help of a Kaiser-Meyer-Ohlin (KMO) measure of sample adequacy and Bartlett’s test of sphericity. The KMO statistic varies between 0 to 1; on the other hand 1 indicates that factor analysis should be distinct and reliable factor. Kaiser 1974 recommended accepting values greater than.5 as acceptable. Furthermore, values 0.5 and 0.7 are mediocre; values between 0.7 and 0.8 are good. Values between

0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson & Sofroniou, 1999). In table-03, Kaiser-Meyer-Ohlin (KMO) and Bartlett’s test of sphericity.

The above table provides the information regarding data adequacy and validity of factor analysis for the current research. For these data KMO vale lies on 0.762. According to Kaiser (1974) which falls into the range of being good; so, we should be confident that factor analysis is appropriate for these data. On other hand Bartlett’s test of sphericity is chi –square value 262.674 with 190 degree of freedom at the 0.01 level of significance. The Test of Sphericity shows the significant  $p < 0.01$ . So the appropriateness of factors suggests further investigation using principles axis factoring method.

**Total Variance Explained**

**Table-04: Extraction Method**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.552	29.600	29.600	3.552	29.600	29.600	2.276	18.966	18.966
2	1.557	12.972	42.572	1.557	12.972	42.572	2.006	16.718	35.684
3	1.288	10.730	53.301	1.288	10.730	53.301	1.816	15.133	50.817
4	1.040	8.665	61.966	1.040	8.665	61.966	1.338	11.149	61.966
5	.844	7.030	68.996						
6	.774	6.451	75.447						
7	.641	5.339	80.786						
8	.543	4.527	85.313						
9	.515	4.293	89.606						
10	.465	3.877	93.483						
11	.413	3.443	96.926						
12	.369	3.074	100.000						

**Extraction Method: Principal Component Analysis.**

Principles component analysis has been used as the extraction method to identify the key factor having significant correlation with the variables. The table-04 showing the principles component analysis indicate that there are four factors whose Eigen values exceeds 1.00 of a factor representing the amount of the total variance explained by that factor. The four factors show the 61.966 % total variance. The First factor consists of variable x11, x14, x15, and x16 .here x11=collaboration with batch mates, x14=connection with friends, x15=current issue of the world, x16=emergency information. First factor can be renamed as *Interconnection*. The Second factor is consists of variables: x10=helps in studies, x12=stress reduction, x13=discovery and exploring, x17=minimum cost. Second factor is *Cooperation with studies*. The third Factor is consists of variables: x6= share information, x7= share picture, x9= social networking, third factor can be



renamed *Sharing* and finally the Fourth factor consists of variable: x8=face book group, can be renamed as *grouping*.

**Regression model for measuring effect of Face book using rate on students’ academic performance:**

Regression analysis is a statistical techniques used to measure the dependence of one variable, on one or more other variables, the explanatory or independent variables in order to estimate the value of the former in terms of knowing values of the later (Gujarati & Damodar, 2003).

Multiple regression analysis is an analysis of association in which the effect of two or more independent variables on a single interval sealed dependent variable are investigated simultaneously. (Zikmund & Babin, 2011) the independent variable is face book using rate and dependent variable, students’ academic performance are used for regression analysis The regression have been done using the following software SPSS and result have been shown in the table-05.

**Table-05: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.276 <sup>a</sup>	.076	.067	.633	.076	8.099	1	98	.005	2.385

a. Predictors: (Constant), x18

b. Dependent Variable: x19

The result of regression analysis reveals that, it has a significant relation with dependent variables and independent variables in our used model. There is relationship between students’ academic performance and face book using rates i.e. students’ academic performance is affected by face book using rates. So the alternative hypothesis is accepted. Model summary indicates that, R=0.276 i.e. 27.6% indicates the linear relation between dependent and independent variables as whole.

**Table-06: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.894	.352		8.212	.000	2.194	3.593
x18	.245	.086	.276	2.846	.005	.074	.416

a. Dependent Variable: x19

The regression the coefficient for the predictor variables: 0.245

**The Model present by Multiple Regression as Follows:**

**Students' academic Performance ( $X_{19}$ ) = 2.894 + (0.245) ( $X_{18}$ )**

Where:  $X_{18}$  = Face book using rates ( $Y$ );  $X_{19}$  = Students academic performance ( $X$ )

## CONCLUSIONS

The study found a correlation between social media usage and academic performance. Researcher found four factors here as *Interconnection, Co-operation with studies, Sharing and Grouping*. By considering Test Cases, there is a significant relationship between Facebook using rates and students' academic performance. 45% students navigate Facebook 5 times daily. Highest duration of using Facebook is 5 times and more is 11%. The academic performance of the students showed that 45% students gets A grade, 16% students gets A<sup>+</sup> and 20% students gets A<sup>-</sup>. The results of our study indicate that time and the frequency of using Face book were predictors of academic performance.

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**APPENDICES**  
**Appendix-01**  
**Reliability Scale: All Variables**

Case Processing Summary			
		N	%
Cases	Valid	100	100.0
	Excluded <sup>a</sup>	0	.0
	Total	100	100.0

a. List wise deletion based on all variables in the procedure.

**Appendix-1.1**  
**Reliability Statistics**

Cronbach's Alpha	N of Items
.778	18

**Appendix-2**  
**Frequency Table**

**Active user of social networking sites**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Facebook	98	98.0	98.0	98.0
	Linkedin	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

**X3= time of using(face book)**

		Frequency	Percent	Valid Percent	Cumulative Percent
	single times	21	21.0	21.0	21.0
	2 times	34	34.0	34.0	55.0
	5 times	45	45.0	45.0	100.0
	Total	100	100.0	100.0	

**X4 =duration of using(face book) daily**

		Frequency	Percent	Valid Percent	Cumulative Percent
	1 hour	41	41.0	41.0	41.0
	2 hours	48	48.0	48.0	89.0
	5 times and more	11	11.0	11.0	100.0
	Total	100	100.0	100.0	

**X2 =Level of using (face book)**

	Frequency	Percent	Valid Percent	Cumulative Percent
strongly disagree	2	2.0	2.0	2.0
disagree	12	12.0	12.0	14.0
Neutral	21	21.0	21.0	35.0
Agree	38	38.0	38.0	73.0
Strongly Agree	27	27.0	27.0	100.0
Total	100	100.0	100.0	

**X19 =Students Academic Performance**

	Frequency	Percent	Valid Percent	Cumulative Percent
B-	4	4.0	4.0	4.0
B+	7	7.0	7.0	11.0
Valid A-	28	28.0	28.0	39.0
A	45	45.0	45.0	84.0
A+	16	16.0	16.0	100.0
Total	100	100.0	100.0	

**Appendix-3**  
**Descriptive Statistics for variables**

	N	Minimum	Maximum	Mean	Std. Deviation
x6	100	1	5	4.05	.770
x7	100	2	5	3.78	.848
x8	100	2	5	3.91	.726
x9	100	2	5	4.30	.674
x10	100	1	5	3.79	.769
x11	100	1	5	4.26	.787
x12	100	1	5	3.32	.931
x13	100	2	5	3.66	.819
x14	100	3	5	4.26	.630
x15	100	2	5	4.36	.689
x16	100	1	5	4.19	.918
x17	100	1	5	4.00	.841
Valid N (listwise)	100				

**Appendix-4**  
**ANOVA**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	3.249	1	3.249	8.099	.005 <sup>b</sup>
Residual	39.311	98	.401		
Total	42.560	99			

a. Dependent Variable: x19

b. Predictors: (Constant), x18