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Relationship between Facebook Usage and the Student Engagement of Sri Lankan Management Undergraduates

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***Abstract*—**Academics and researchers are interested in the effects of social media on college students, with a specific focus on the most popular social media website; Facebook. Previous studied have found contradictory result on the relationship between Facebook usage and the student engagement with positive, detrimental and no significant relationships. However, these studies were limited to western higher education system. This paper fills a gap in the literature by using a sample (300) of Sri Lankan management undergraduates to examine the relationship between Facebook usage and student engagement. Student engagement was measured 35 item scale based on the National Survey of Student Engagement and Facebook usage by Facebook intensity scale. Descriptive statistics, path analysis and structural equation modeling were applied as statistical tools and techniques. Results indicate that student engagement scale was significantly negatively related with the Facebook usage with the influence from student engagement on Facebook usage.

***Keywords*—**Facebook Intensity, Social Networking Sites, Student Engagement.

I. Introduction

A. University Student Use of Facebook

SOCIAL network sites (SNSs) have become some of the most popular online destinations in recent years [1]. Among the available social networking sites, Facebook has become the most popular social networking site (SNS) and the largest proportion of overall Internet traffic [2]. Especially for university students' most popular social networking site is the Facebook [3], [4]. Researchers show that anywhere between 85% and 99% of college students use Facebook [5]. Mainly because of this wide spread of Facebook usage, the academics put their interests in the impact that these technologies may have on student engagement, development and success [6] and so on. Facebook penetration in Sri Lanka is 7.09% compared to the country's population and 60.98% in relation to number of internet users. Based on the demographics statistics, the largest age group is currently 18-24 with total of 642,360 users, followed by the users in the age of 25-34. 68% of these users are male and 32% are female users [7]. 98.8% of Sri Lankan undergraduates use Facebook as their primary social network site activity and as an average; they use Facebook for a time between one hour and two hour in daily basis.

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Besides that, while Facebook has become the most popular social networking site among college students, it is important to acknowledge that there are persistent differences along gender, educational background and different demographic, social, psychological factors in usage [8]–[11].

B. Student Engagement

Student engagement can be defined as "the amount of physical and psychological energy that the student devotes to the academic experience Astin (1984) in [5]. And according to today's context, student engagement is conceptualized as the amount of time and effort that students spend on educational activities that are related to college academic work [12]. As per the scholars' demonstrations, there is a significant relationship between student engagement, student development and success. Reference [13] in [5] highlighted that the higher level of student engagement in academic work and in the academic experiences of college, leads to higher level of knowledge acquisition and cognitive growth. According to the National Survey of Student Engagement (NSSE), student engagement can be further extended in to cognitive and psychological engagement. In another corner, based on some demographic facts such as gender, age, ethnicity, parental education and etc, it can be seen a differences on the level of student engagement as well [14], [15].

C. Facebook and Student Engagement

There are two general reasons which led to examine the relationship between Facebook usage and student engagement of undergraduates. At first, in Sri Lanka also it can be seen a high rate of Facebook usage among undergraduates which was confirmed by the preliminary survey done under this study. The other one is various scholars' findings and interest on the relationship between Facebook usage and the student engagement.

Is Facebook a valueless waste of time for students? Does it snip time and energy that they would otherwise spend on education or homework? Is it focusing them on trivia and facilitating unhealthy collaborations with peers and teachers? [5] Although many parents and teachers certainly feel this way, researchers have shown that the reality is a bit more nuanced [16]. On the other hand, the problem arising why still students are highly using Facebook, despite the acceptance that it was a time waster by majority of elders. Also is it actually a time waster?

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D. Purpose of the Study and Research Questions

There is a contradiction on previous research findings on the relationship between Facebook usage and the student engagement. Some studies concluded with positive effects from Facebook while some others with negative effects or no effects on students. [17] also demonstrated the same concept, i.e. some studies have found a negative relationship between time spent on Facebook and academic performance while others have found positive relationships between what students do on Facebook and academic performance and so on.

Therefore, it makes sense to examine the effect of Facebook use on the student academic and co-curricular engagement which directly leads to their development and success. Since most of the previously done researches on Facebook usage and the student engagement are based on the western higher education system it arise a need to study the effect of Facebook usage on students within Sri Lankan higher education system.

Also in the practical aspect it might be an effect from amount of work load that a student needs to perform on the time spent on Facebook usage as well. Since the amount of workload and the amount of time spent on academic activities, limit the available time for the particular student to engage with the social networking activities, student engagement may lead to change the Facebook usage. Based on these facts, the researcher expects to assess the relationship between Facebook usage and the student engagement of Sri Lankan management undergraduates.

Thus, the problem of this study was investigating is there a significant relationship between Facebook usage and the student engagement of Sri Lankan management undergraduates both in direct and indirect way. Accordingly, the research questions examined were:

What is the Facebook usage among Sri Lankan management undergraduates?

What is the student engagement among Sri Lankan management undergraduates?

Does Facebook usage relate with the student engagement among Sri Lankan management undergraduates?

II. Methodology

A. Participants

The target population of the present study is the management undergraduates of Sri Lankan state universities. Thus, 15 state universities under the university grant commission, Sri Lanka are representing the population group of the study and there are 5542 total number of undergraduates who fall into commerce and management category in the 2011/2012 academic year (UGC 2012) in which the present study was taken place. Simple random sampling technique was applied in the present study under the probability technique approach. Accordingly, 300 management undergraduates were participated as the respondents of the study representing five selected state universities. A structured questionnaire was used under a survey type study for data collection purpose.

B. Instruments and Measures

The aim of the study was to examine the relationship between Facebook usage and the student engagement both directly and indirectly. Also, social support and loneliness from the social aspect, five personal types and the perceived stress from the psychological aspect and technical acceptance from the technology aspect were tested as the independent variables. Facebook Intensity scale was used to measure Facebook usage beyond simple measures of frequency and duration, incorporating emotional connectedness to the site and its integration into individuals' daily activities [18]. There were eight questions of the scale which can be asked either as open ended or as closed ended questions. National Survey of Student Engagement (NSSE) scale was the base instrument used to develop the measurements of student engagement in the study, which was the most used and applied scale in the student engagement context [19]–[21]. The NSSE scale was specifically designed to assess the extent to which students are engaged in empirically derived good educational practices and what they gain from their college experience [13]. In addition to those, different scales based on the literature evidence including perceived stress scale, multidimensional social support scale, short version of big five dimensionality was used to develop the measurements of independent variables in the study. All the measurements were tested for validity and reliability and applied the corrective actions before applying in the real study.

C. Data Analysis

The present study is fall into exploratory correlation research design hence the researcher had to select statistical methods to achieve the stated research objectives through the quantitative data of the study. For the statistical analysis, SPSS version 20 and AMOS 20 software were used in the study and based on the research objectives the statistical analysis were selected in the present study. Consequently, to address the first and second objectives, descriptive statistics; frequencies, percentages and pie charts were applied in the study. Then to address the third objective of the study which is to explore the relationship between student engagement and the Facebook usage with the influence of identified psychological, social and technological factors, path analysis, structural equation modeling under the multivariate data analysis methods applied in the study.

III. Results

A. Facebook Usage and Student Engagement

Addressing the research question number one and two, majority of students (more than 75%) represents moderate Facebook Intensity level (Score range between 1.7 to 3.3) while the majority (85%) represents high level of student engagement (mean value 3.4 – 5.0).

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B. Path Analysis

The researcher test the significant relationship between Facebook usage and the student engagement both in direct and indirect way with the influence from nine independent variables from social, psychological and technical aspects. Accordingly there was no significant relationship found between the Facebook usage and the student engagement at 0.05 significant level, when Facebook usage influencing on student engagement.

Since the initial model has not shown significant results, the researcher intended to apply the alternative model align with other direction which was identified based on the practical scenario. Consequently, the model was tested with the influence from student engagement on the Facebook usage and concluded with negative significant relationship between student engagement and Facebook usage with the significant influence from all the applied independent variables except two personality types (extraversion, neuroticism). And the model was best fit akin to the model fit indices introduced by [22] for the path analysis in structural equation modeling.

Accordingly, there was a significant negative relationship (β=-0.24, p=.002) between student engagement and Facebook usage. Also social support, loneliness, perceived stress and technical acceptance significantly influence both on student engagement and Facebook usage and agreeableness and conscientiousness personality types were significant only on student engagement while openness personality type was significant only on Facebook usage.

TABLE I
SIGNIFICANCE ESTIMATIONS OF THE FINAL MODEL

Variable	Student Engagement	Facebook Usage
	Estimation	Estimation
Social Support	.34	.14
Loneliness	.17	.22
Perceived Stress	.18	.17
Agreeableness	.32	-
Conscientiousness	.18	-
Openness	-	.12
Technical Acceptance	.30	.58

IV. DISCUSSION

Research Question 01: What is the Facebook usage among Sri Lankan management undergraduates?

It was found that, Facebook is the most popular social networking site among the undergraduates in Sri Lanka. The results clearly showed that 99% of Sri Lankan undergraduates use Facebook mainly as their social networking site. Although Facebook shows more popularity among undergraduates, based on the data analysis and findings, as per the Facebook intensity scale, majority of the Sri Lankan management undergraduates (more than 75%) were shown a moderate level of Facebook intensity.

Research Question 02: What is the student engagement level among Sri Lankan management undergraduates?

For the NSSE student engagement scale, average ratings of 3.0 or higher show engagement in school while average ratings below 3.0 some degree of disengagement. If higher the score, it is higher the level of engagement [23]. According to the data analysis of the study, majority of the undergraduates represent a higher level of student engagement which range from 3.4 mean value to 5.0 mean value and the total score mean value was 3.81. Consequently, Sri Lankan management undergraduates show high level of student engagement relating to their academic experience in the university.

Research Question 03: Does Facebook usage relate with the student engagement among Sri Lankan management undergraduates?

The conceptualized model which was developed based on the literature evidences, initially direct from Facebook usage to the student engagement. However, as per the results of data analysis, in the initial model there was no significant relationship found between the Facebook usage and the student engagement. Hence it concluded that, management undergraduates' Facebook usage does not lead to make any changes of their student engagement level. On the other hand, although students are having a moderate level Facebook usage level which saw an acceptable high usage, it does not having any impact to their student engagement level. Therefore the myth of many parent and teachers having that Facebook snip the time and energy that they would otherwise spend on education or homework [17] is not valid further more within the Sri Lankan context.

Since the initial model has not shown any significant results, researcher modified the model based on the practical scenarios which was observed in Sri Lankan society. Accordingly, in the alternative model, student engagement influence to Facebook usage and based on that direction, the researcher has found possible significant relationship between Facebook usage and the student engagement. Accordingly, Facebook usage has shown a significant negative relationship with student engagement (β=-0.24, p=.002) when student engagement influencing to the individual student's Facebook usage. Hence, teachers' and parents' myth on Facebook, that it is a valueless waste of time for students, again loss the soundness. The negative beta value (β=-0.24) between the Facebook usage and the student engagement concluded that, if students are highly engaged on their academic activities it will lead to reduce the Facebook usage of them. Therefore it cannot say that because of the Facebook usage, the students' academic activities and performances will tend to reduce and so on. If they are having the enough academic related work load they are engaging within it ignoring the use of Facebook.

V. CONCLUSION

Thus, although scholars have demonstrated the Facebook as a platform in which can make influence to the student engagement [17], [2]; in Sri Lankan culture, Facebook cannot be used as a technological platform in which academics can increase the students' engagement in their university works. Based on the Facebook Intensity scale results, in Sri Lanka most Facebook users within management undergraduate population have shown that they are using Facebook to connect with offline contacts and they are highly miss the

Facebook when it is shut down. Therefore as per the literature review, Sri Lankan undergraduates confirm the prior research findings which shows the negative relationship between Facebook usage and the student engagement. But it is not as the same way what prior scholars said, i.e. Facebook use not lead to minimize or reduce the student engagement but student engagement lead to minimize and reduce the Facebook usage level.

Accordingly, future researches can extend the study addressing the overall undergraduate in Sri Lanka. Because, based on the different educational streams the students' engagement level will differ. On the other hand, future researchers can study on the same research interest addressing the effect of Facebook on students' life.

APPENDIX

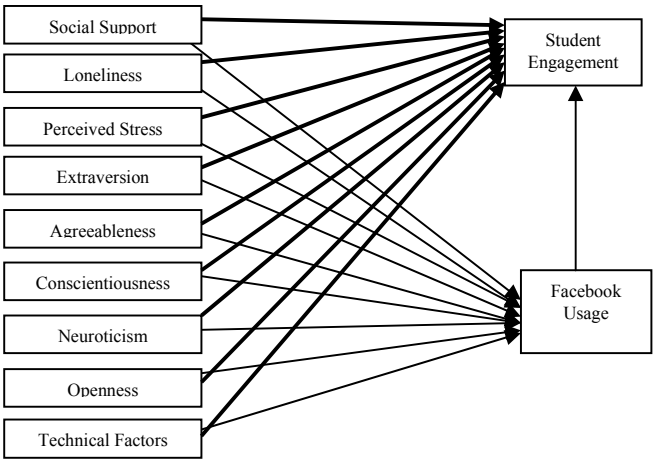


Fig. 1 Initial Conceptual Model

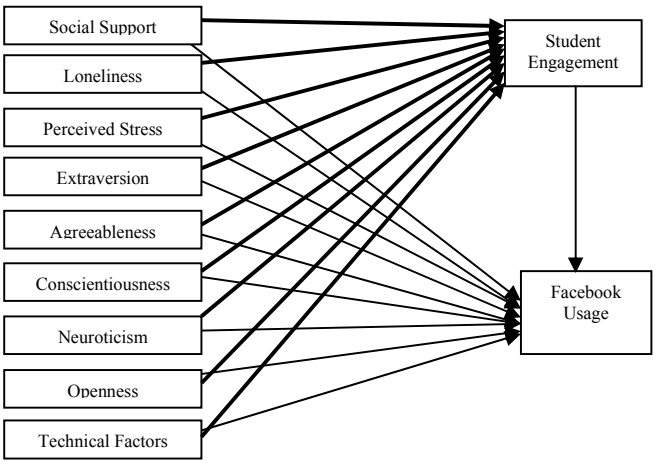


Fig. 2 Alternative Conceptual Model

TABLE II
REGRESSION WEIGHTS OF THE FINAL MODEL

		Estimate	S.E.	C.R.	P	Label
SE	Social Support	.023	.005	4.905	***	par_23
SE	Loneliness	.035	.014	2.514	.012	par_24
SE	Stress	.020	.007	2.807	.005	par_25
SE	Agreeableness	.125	.029	4.253	***	par_26
SE	Conscientiousness	.079	.029	2.718	.007	par_27
SE	Technical	.045	.010	4.511	***	par_28
FBUsage	Technical	.981	.092	10.619	***	par_29
FBUsage	Openness	.808	.301	2.684	.007	par_30
FBUsage	Stress	.228	.062	3.668	***	par_31
FBUsage	Loneliness	.507	.109	4.630	***	par_32
FBUsage	Social Support	.109	.044	2.464	.014	par_33
FBUsage	SE	-2.768	.909	-3.047	.002	par_36

TABLE III
STANDARDIZED REGRESSION WEIGHTS

			Estimate
SE	<---	SocialSUpport	.338
SE	<---	Stress	.176
SE	<---	Agreeableness	.315
SE	<---	Conscientiousness	.178
SE	<---	Technical	.304
SE	<---	Loneliness	.170
FBUsage	<---	Technical	.581
FBUsage	<---	Openness	.121
FBUsage	<---	Stress	.174
FBUsage	<---	Loneliness	.219
FBUsage	<---	SocialSUpport	.140
FBUsage	<---	SE	-.244

REFERENCES

[1] Comscore. (2007). comScore Media Metrix Releases Top 50 Web Ranking for July. Retrieved December 23, 2013, from http://www.comscore.com/Insights/Press_Releases/2007/08/Top_50_US_Web_Sites

[2] Wang, J., Lin, C.-F. C., Yu2, W.-C. W., & Wu, E. (2013). Meaningful Engagement in Facebook Learning Environments: Merging Social and Academic Lives. Turkish Online Journal of Distance Education, 14, 302-322.

[3] staff, M. (2007). College Students: Facebook Top Site, Social Networking Really Hot. Retrieved December 25, 2013, from http://www.marketingcharts.com/wp/online/college-students-facebook-top-site-social-networking-really-hot-1914/

[4] Hargittai, E. (2007). Who's Space? Differences among Users and Non-Users of Social Network Sites. Journal of Computer-Mediated Communication, 13(1), 276-297.

[5] Junco, R. (2011). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. Computers & Education, 58, 162 – 171.

[6] Junco, R. (2010). Using Emerging Technologies to Engage Students and Enhance Their Success. Retrieved January 27, 2014, from http://www.nacada.ksu.edu/Resources/Academic-Advising-Today/View-Articles/Using-Emerging-Technologies-to-Engage-Students-and-Enhance-Their-Success.aspx

[7] Socialbakers. (2013). Student Sri Lanka. Retrieved November 03, 2013, from http://studentlanka.com/2013/04/30/facebook-users-in-sri-lanka/

[8] Varma, R. (2009). Gender differences in factors influencing students towards computing. Computer Science Education, 19(1), 37-49.

[9] Junco, R., Heiberger, G., &Loken, E. (2010). The effect of Twitter on college student engagement and grades. Journal of Computer Assisted Learning, 01-18.

Open Science Index, Industrial and Manufacturing Engineering Vol:8, No:8, 2014 publications.waset.org/9999306/pdf

[10] Ruleman, A. B. (2012). Social media at the university: a demographic comparison. New Library World, 113 (7/8), 316 - 332.
[11] Rulemana, A. B. (2013). Comparison of Faculty and Student Ownership and Use of Technology. Technical Services Quarterly, 30(1), 38-55.
[12] Kuh, G. D. (2009). What student affairs professionals need to know about student engagement?
[13] Pascarella, E., &Terenzini, P. (2005). How college affects students: Athird decade of research. San Francisco (02 Ed.). San Francisco: Jossey Bass.
[14] Conard, M. A. (2006). Aptitude is not enough: How personality and behavior predict academic performance. Journal of Research in Personality, 40(3), 339–346.
[15] O'Connor, M. C., &Paunonen, S. V. (2007). Big Five personality predictors of post-secondary academic performance. Personality and Individual Differences, 43(5), 971–990.
[16] Ojalvo, H. E. (2011). How Facebook Use Correlates With Student Outcomes. Retrieved December 23, 2013, from http://learning.blogs.nytimes.com/2011/10/21/q-and-a-how-facebook-usecorrelates-with-student-outcomes/?_r=0, Journal of College Student Development, 683–706.
[17] Junco, R. (2013). Inequalities in Facebook use. Computers in Human Behavior, 29, 2328-2336.
[18] Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students use of online social network sites. Journal of Computer-Mediated Communication, 12, 1143-1168.
[19] Carini, R. M., D. Kuh, G., & Klein, S. P. (2006). Student Engagement and Student Learning: Testing the Linkages. Research in Higher Education, 47(1), 1-32.
[20] Brint, S., Cantwell, A. M., & Hanne, R. A. (2008). The Two Cultures of Undergraduate Academic Engagement. Research in Higher Education, 49(5), 383-402.
[21] Pascarellaa, E. T., Seifertb, T. A., &Blaich, C. (2010). How effective are the NSSE Benchmarks in Predicting Important Educational Outcomes? The Magazine of Higher Learning, 42(1), 16-22.
[22] Bentler, P., & Bonnet, D. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. Psychological Bulletin, 88(3), 588-606.
[23] Appleton, J., Christenson, S., Kim, &Reschly, A. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. Journal of School Psychology, 44, 427-445.

Open Science Index, Industrial and Manufacturing Engineering Vol:8, No:8, 2014 publications.waset.org/9999306/pdf