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**Research Article****Investigating Effect of Social Media on Management Science Students' Performance****Muhammad Kamran Afzal**

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ABSTRACT

Aim of the current study is to find the relationship between social media and management science students' performance. Survey approach was used and self-administered questionnaire was distributed among students in one public sector and one private sector universities' students. Total 380 were distributed but 366 complete questionnaires were received back and used in the analysis. Descriptive and inferential statistics are applied using SPSS. To check reliability Cronbach alpha and to test hypotheses correlation and regression analysis are run. It was found that twitter has significant role to improve performance of management students.

KEYWORDS

Student Academic Performance, WhatsApp, Instagram, YouTube, Facebook, Twitter, Social Media

1 | INTRODUCTION

Social media is more than just a means of searching for information and entertainment where people create content, share it, bookmark it, and use it for communication, because of its easy use, speed, and access. Social media is rapidly changing the public behaviors in society and setting trends and agendas ranging from the environment and politics to technology and the entertainment industry (Asur & Huberman, 2010). In the last ten years, the online world has been changed dramatically. Thanks to the invention of social media, young men and women now exchange ideas, feelings, personal information, pictures, and videos at a truly astonishing rate. It is hard to imagine a young man who at least once a day did not check for updates on social networks and did not aware through the news lines. Social media such as Facebook, YouTube, and Twitter appeared, divided the world into online and offline (Cornett & Saunders, 2003). Social media are online technology platforms that help to link people far and near. Social media is one of the fast medium and platform to share and receive information and content. This is more popular user friendly and broad. It is highly effective. Social media was first initiated in 1990 the first web site was 6 degree. After that other social media website came into being and bring different communities together such as Migente, Black Planet etc. (Boyd, Danah, Ellison & Nicole, 2007; Dearborn, 2014; Kaplan and Haenlein, 2010). Using social media students can increase their academic performance (Khan, 2010). Social media changes behavior of societies rapidly following are the benefits given by several authors to enhance students' performance which includes one student teacher relationship and second enhances motivation and learning (Asur & Huberman, 2010; Rifkin, Wheeler, Yeomans, and Wheeler, 2008).

The research concluded that if students give sixty minutes daily to their physical activity then several health benefits increased. Unfortunately, most of the institutes do not follow the defined level of physical activity. Many universities and schools around the world limit access to social networks within their buildings. They justify this by helping students concentrate on their studies. On the other hand, they deny students the opportunity to use the numerous materials available on these resources, such as scientific videos on YouTube (Kolan & Dzandza, 2018). Yet some studies found negative effect of social media on academic performance of management science students. These studies were not encouraging. Yet the existing study tried to fill the gaps and offer novel contributions by investigating factors of social media effecting students' performance. The rest of the paper is organized as follows. Section 1, describes the problem statement and research hypothesis. Are view of the literature is presented in section 2. Section 3, based on research methodology. In section 4, we present the data analysis based on the formulation of hypotheses in section 1 and, discuss the results. Finally, section 5, provides the conclusion of the study. Throughout our discussion in this paper, we shall write Social network sites as SNS, District Dera Ismail Khan as DIK as short.

1.1 | Gap Analysis

To the best of researcher's knowledge limited empirical evidence is available on social media factors affecting management science students' performance. The student performance is the main issue for all stakeholders such as employers, parents, teachers and higher education commission of Pakistan. Therefore this study tries to fill this gap and answer following research questions.

1.2 | Research Questions

The following research questions were raised:

1. Is there any relationship between social media factors and students' academic performance?
2. Is there any impact of Social Media Factors on the Academic Performance of students?
3. Is there any meaningful difference in responses due to demographics?

1.3 | Significance of Research

This study is specifically designed to examine social media on the academic performance of university students through postgraduate and undergraduate students in DIK, Pakistan. The study would be valuable to educational administrators not only to determine how social media affects students' academics but scholars, researchers, faculty members and teachers also get benefit from this study findings.

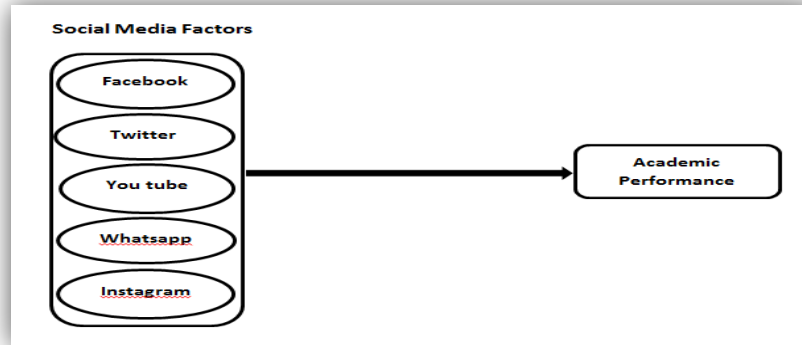


Figure 1 Theoretical Framework

2 | LITERATURE REVIEW of SOCIAL MEDIA FACTORS AND STUDENT ACADEMIC PERFORMANCE

In spite of having several benefits there are disadvantages of social media such as chatting and relationship with strangers. Yet students and teachers can obtain benefits from chatting with each other on social media website and platform such as WhatsApp, Instagram, Facebook, twitter (Jain, Verma, Verma &Tiwari 2012). According to Yunus and Salehi (2012) it increases the vocabulary of students. But they might be inclined to make fake accounts, harassment, and theft. Past studies conducted research and found that young users' use social media for entertainment purpose on other side males use more social media as compared to females (Khan 2012). Tamayo and Cruz (2014) claimed that use of social media reduce knowledge of students. Likewise Owusu, Acheaw, and Larson (2015), reported that students use of social networking sites have positive and negative effects as well. Furthermore Hasnain (2015) also investigate the relationship between student academic performance and social media and found positive relationship between social media and performance and argued that students increase their knowledge using SNS (Jha & Bhardwaj, 2012).

These arguments were supported by other studies such as (Emeka & Nyeche, 2016; Mensah & Nizam, 2016) overall results showed a significant relationship. Other studies also support the notion that use of social networking sites have some positive effects (Rault & Patil, 2016; Zahid, 2016) claimed to have increase in students' performance through use of social media networking sites. Effect of communication by youth on social media was investigated and it was stated that social media is crucial apt of one's life. It cannot be neglected or ignored (Kausar & Awan, 2019). Another study found that use of social emdia physical activities and performance have significant relationship (Hayat et al., 2019).

2.1 | Hypotheses Development

H₁: Social Media positively correlated with SAP

H₂: Social Media positively affect Student academic performance.

H₃: Mean scores difference on basis of demographics and study variables are found significant.

3 | RESEARCH METHODS

The current study is quantitative and deductive approach is used. Self-administered questionnaire is distributed among management science students in one public and private sector universities in southern KP district of Pakistan. The study methods got support from Research Onion by Saunders et al., (2014). Cross-sectional data was collected. The data used in study was primary data (Mugenda & Mugenda, 2003). The instrument used in study has several sections i.e. demographic section, gender, age, qualification and social media factors (WhatsApp, Facebook, Instagram, twitter, YouTube), and Student Academic Performance. SPSS is used for analysis of data. Total population of two universities and their students was seventy one hundred but non probability snow ball sampling technique is used for selecting sample size using Krejcie and Morgan (1970) table and Yamane (1967) formula. Mean frequencies reliability was investigated in descriptive statistics while hypotheses were tested using inferential stats.

4 | RESULTS

Majority of the students study in government Sector University i.e. 57% followed by 42% students in private Sector University. Regarding gender 74% male respondents participated while 26% were female respondents. In addition 53% students were enrolled in undergraduate program followed by 44.5% enrolled in master and remaining 2.5% in master of philosophy. Likewise students were asked about their age most of the students belong to age group of 16-20 years i.e. 49.7% while only 3.3% belong to age of 30 years. See Table 1.

Table 1
Demographic Information

Demographics	Variables	N	Percentage
Sector	Public	211	57.7
	Private	155	42.3
Gender	Female	95	26.0
	Male	271	74.0
Qualification	M. Phil	9	2.5
	Master	163	44.5
	Bachelor	194	53.0
Age	26-30	12	3.3
	21-25	172	47.0
	16-20	182	49.7

Highest mean score is noted for Facebook i.e. M=2.36, S.D=0.741 while least means core is noted for student academic performance M=1.62, S.D=0.526. moreover, reliabilities analysis presented in Table 2 shows that both scales i.e. social media factors and students' academic performance have met threshold i.e. Cronbach alpha >0.70. thus it is assumed that scales used in analysis are found reliable suggested by (Field, 2009;2013).

Table 2
Mean Values and Reliability Analysis

Variables	Mean	S.D	Cronbach Alpha
Facebook	2.36	0.741	0.703(23 Items)
Twitter	2.26	0.593	
YouTube	2.56	0.574	
WhatsApp	2.35	0.662	

Instagram	2.35	0.662	
SAP	1.62	0.526	0.754 (9 items)

Bivariate correlation is run to test hypotheses number 1 it was found that the relationship among Facebook and student academic performance is found significant $r = 0.127$, $p < 0.05$, moreover twitter and student academic performance (SAP) also correlated significantly $r = 0.205$, $p < 0.05$, on the contrary YouTube does not have significant relationship with SP $r = 0.055$, $p > 0.05$. But WhatsApp and Instagram are correlated significantly $r = 0.309$, $p < 0.05$ and for Instagram and SAP $r = 0.300$ $p < 0.05$ respectively. Though relationships are weak but significant. These findings are in line with past studies of (Ainin 2015; Moghavvemi, Sharabati, Ramanathan, & Rahin, 2017; Doleck 2018; Shahzad, Alwagait & Alim 2014; Aifan 2016; Barry, & O'Keeffe & Clarke-pearson, 2016; Nanda, 2019; Mansor & Rahim 2017). Thus H_1 is substantiated.

H_1 : There are significant and positive relationships between social media factors and student academic performance.

Table 3
Correlation Matrix

Variables	1	2	3	4	5	6
Facebook	1					
Twitter	.246**	1				
YouTube	.337**	.197**	1			
WhatsApp	.285**	.239**	.304**	1		
Instagram	.285**	.239**	.304**	0.89**	1	
SAP	.127*	.205**	.055	.309**	.300**	1

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Multiple regression analysis was run to test hypotheses two. All predictors such as Facebook, twitter, YouTube, WhatsApp and Instagram are added and students' academic performance was added as criterion variables. Table 4 presented findings of multiple regressions. The correlation between predictors and criterion is $r = 0.345$, while coefficient of determination $R^2 = 0.119$ explained variance by predictors upon criterion is 0.119, 11.9%. Goodness of fit index i.e. $F = 9.739$, $p < 0.05$. While individual effects of predictors are recorded as well. Facebook effect on SAP $\beta = 0.31$, $p > 0.05$, it means use of Facebook does not bring any change in student academic performance moreover, effect of twitter is found significant $\beta = 0.143$, $p < 0.05$ it implies one percent increase in use of twitter bring 14.3% change in SAP. In addition YouTube does not have insignificant effect on SAP $\beta = -0.071$, $p > 0.05$ on the contrary WhatsApp and Instagram have significant effect on SAP $\beta = 0.251$, $p < 0.05$ and $\beta = 0.329$, $p < 0.05$ respectively. Hence H_2 is substantiated.

H_2 : Social Media positively affects student academic performance.

Table 4
Direct Effects

Criterion	Predictor	r	R ²	B	β	f	T-stat	P
SAP	Constant	0.3450	0.1190			9.7390		0.000
	Facebook			0.022	0.031		6.037	.571
	Twitter			.126	.143		.632	.007
	YouTube			-.065	-.071		2.723	.191
	WhatsApp			.237	.251		1.31	.000
	Instagram			.261	.329		5.351	.000

On basis of demographic variables mean scores are computed. Students from public university score high for Facebook M=2.28, M=2.41, for twitter WhatsApp, and Instagram public sector students recorded higher mean score M=2.32, M=2.40, M=2.40 respectively but for YouTube both have same means core on the basis of this student academic performance of public sector students is higher than private sector students M=1.73 M=1.47. On the basis of education bachelor degree students have high score followed by master and least for MPhil students. On the other hand MPhil student score is high for twitter followed by bachelor. Likewise for YouTube MPhil student scored high mean values followed by master students. But for WhatsApp master students score high followed by bachelor and least for MPhil students and same percentage for Instagram but academic performance of bachelor students is recorded high than MPhil and last master students. Female students use more Facebook, twitter, YouTube and WhatsApp while male students use more Instagram as compared to female students. Academic performance of female students is different and better than male students. On basis of age younger students use more Facebook, older students use more twitter, followed by middle age group students and same for YouTube WhatsApp and Instagram while performance of younger students is higher than middle and older age students. See Table 5

H₃: Mean scores difference on basis of demographics and study variables are found significant.

Table 5
Mean scores

Demographics	Characteristics	N	FB	Twitter	YT	WhatsApp	Instagram	SAP
Sector	Private	155	2.28	2.18	2.56	2.27	2.27	1.47
	Public	211	2.41	2.32	2.56	2.40	2.40	1.73
Education	Bachelor	194	2.44	2.26	2.55	2.33	2.33	1.71
	Master	163	2.28	2.24	2.56	2.37	2.37	1.51
	MPhil	9	2.11	2.66	2.80	2.24	2.24	1.56
Gender	Male	271	2.33	2.26	2.52	2.23	2.37	1.69
	Female	95	2.44	2.27	2.68	2.26	2.26	1.42
Age	16-20	182	2.44	2.18	2.60	2.33	2.33	1.68
	21-25	172	2.27	2.33	2.51	2.35	2.35	1.55
	26-30	12	2.43	2.50	2.80	2.46	2.46	1.64

5 | DISCUSSION

Descriptive statistics like normality and reliability test was used, while inferential statistic correlation and regression test were used in this study. SPSS 20 version was used for the analysis of data. The results of normality/validity and reliability were found satisfactory. The study revealed that the independent variable social media factors have highly correlated with the dependent variable academic performance, except one factor of social media i.e. YouTube not significantly and negatively correlated with academic performance (Calvete, Orue, Estévez, Villardón, & Padilla, 2010; Tokunaga, 2010; Zahid, Ahmad, Syed & Faisal, 2016). 3 hypotheses are developed by researcher, one is there is a significant relationship between social media factors and student academic performance. All the factors of social media except the YouTube factor have a significant relationship with students’ academic performance. So, H₁ is

accepted. The second research hypothesis was social media factor has a significant impact on student academic performance. All the factors, except Facebook and YouTube have not significant and positive impact on student performance. So, H_2 is accepted. The third research hypothesis was there are significant mean differences in research variables due to the demographic features of respondents. It was found that social media factors significantly change due to the change in demographic variables. So, H_3 is accepted. The findings are in line with findings of past studies (Abbas, Aman, Nurunnabi, & Bano, 2019; Mensah & Ismail, 2016).

6 | CONCLUSIONS

Total 366 completed questionnaires are used in this study. Adapted questionnaires were used. The title “The Analysis of Social Media Factors on the Academic Performance of Students Management Science in DIK, Pakistan” thoroughly scrutinized by the project supervisor was used for data collection. The instrument was validated and found to be reliable. The data collected were analyzed with the use of descriptive statistics of frequency count and percentage and, the hypotheses were tested using inferential statistics like correlation and regression. Social media factors i.e. Facebook, Twitter, YouTube, WhatsApp, and, Instagram were used as independent variables while student academic performance was used as a dependent variable.

7 | RECOMMENDATION

The authorities in Pakistani institutions should pass laws that restrict students’ use of social networking sites during lectures and library sessions. Tertiary institutions should enlighten students on the positive and negative effects of social networking sites as a medium of interaction on students’ academic performance. Students should like or share academic websites and follow academic. Teachers should ensure they use social media as a tool to improve the academic performance of students in schools. Students should better manage their study time and prevent distractions that can be provided by social media. Social networking sites (SNS) should be expanded and new pages should be created to enhance academic activities

8 | SUGGESTIONS FOR FUTURE RESEARCH

Single method of data collection is sued this is a limitation so future studies may use qualitative data or mix data to have better understanding of subject matter. Data was collected from students it is important to include employers, teachers and parents who are main stakeholders in the education sector. Longitudinal data can be used in future studies.

9 | LIMITATIONS

Offering several contributions study has few limitations which are essential to be addressed. First is small data sample size from students is used one should be careful while generalizing the findings. Higher Education sector is second limitation. Other sector such as primary, middle and high schools might be investigated. Number of male and female students must be same.

10 | CONTRIBUTIONS

This study has several contributions. Different studies on Social Media factors have been previously done but this study is unique as we have added five factors of social media in the model, which were not mentioned by any researcher in their study. This study has successfully added those factors in the study model which are very popular through the history. This study has extended the literature of each factor of social media in detail. This is an extension of the study in southern areas explaining that such factors bring favorable contribution to the learning behavior of teachers and students at the Higher Education levels.

11 | PRACTICAL IMPLICATIONS

Higher Education Institutes can implement and adopt social media factors amongst their students for learning behavior and motor skills improvement. Institutes can manage different groups according to their programs and can monitor every student daily, either he or she is absent from the class, the teacher can put into contact through such groups and all the daily activities of classes related to the assignment, class schedule, project and so on can be noted by each student.

Conflict of Interest: There is no competing interest

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