Impacts of Social Media on Student's Academic Achievement: A Case of Higher Educational Institutions of Southern Punjab of Pakistan

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Abstract

The purpose of this research was to analyze the roles of social media on student's academic achievement. Data were gathered from 345 students who are enrolled in the higher educational institutions of southern Punjab, Pakistan. The outcomes determine that usage of social media has a significant effect on student's academic performance (SAP). More specifically, usage of social networking sites (USNs), creativity, knowledge sharing, and collaboration and interaction have a leading role in educational understandings that increase student's performance. This study also highlights that social media is an essential platform that conducive to improve students' creative skills and knowledge sharing in academia, and also magnifies their collaboration and interaction with teachers in the accomplishment of educational work. This study develops a framework on the usage of social media and contributes to the field of education that will help the educationalist and faculty in the development of advanced learning methods and strategies that can be beneficial for students.

Disciplinary: Education and Technology (Social Media, eLearning, Digital Education, Online Education, Higher Education).

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1 Introduction

The digital revolution has significantly modified entire aspects of education/learning and nowadays, a large proportion of students spend their majority time on social media (SM) or web-based portals for advanced intellectual learning. These online platforms, such as LinkedIn, Facebook, Twitter, MySpace, Wikipedia, YouTube, Blogger, Live-Journal, Wetpaint, Second Life,

Schoology, Wikidot, and many others, engrossing students' online educational activities and brings forth a social network in academia (Curtis, 2013). It also provides the occasions to get opportunities for virtual education instead of traditional education where the physical distances between faculty and students are immaterial (Chu, 2020). Social media or Social Networking Sites (SNS) are the key sources for interaction with academic people through online-networks. The first emergence of SNS was in the 1990s that effectively connected the individuals of this world. SNS is used for sharing pictures, personal information, messages, video, and multimedia ads. Shah and Balaji (2020) define SM as "technologies that made social communication easy and enable discussions among its participants". Hughes (2009) stated that "Social media are a collection of internet-based websites, services, and practices that support collaboration, community building, participation, and sharing". College students communicate through SNS with their secondary school companions, at the campus level, and shared their daily activities through these sites. The popularity of SM is rapidly ingrained in our society, and its usage consistently making everyone frenzy for online socializing. Similarly, educational specialists are recognizing the importance of SM among youth and introducing various programs for educational advancement. For example, the online service of Microsoft 365 and Google Apps for education, both are providing online connectivity, browsing, and digital classroom tool, and users can easily avail of this support on Apple, Windows, Chrome books, and Android (VSG, 2019).

In this technology-driven world, SM can be easily obtained through internet service on digital devices like computers and mobile phones, etc. Like this, individuals are taking social networking services for the advancement in social and business relations locally and internationally, because every news and information are rapidly available on SNS and become viral through this platform. Students spend daily a huge part of their time on SNS for entertainment (Maqableh et al., 2015) but they also used it for gathering such information which helps them in the accomplishment of educational work and improves their digital skills. For example, a competent student/teacher is successfully running their online educational channels. Research on MBA-students explores that students are well consumers of SM and become major content developers, adding value to SNS (Shah and Balaji, 2020). The trend of using social networking services sites through a "user profile" fabricates interpersonal networks or a social relation that represents his/her cyber-identity or social connections and an assortment of extra services (Wikipedia, 2020). The social networking platforms (SNP) (i.e. Facebook, Twitter, Wikis, and Instagram) have got the attention of researchers, university administrators, educationalists, and policymakers to investigate that how this platform can be used for academia, social, and business development. According to Chu (2020), the effect of digital influences is conspicuous on the fuzzy of advanced education. Therefore, the transformative procedures related to classroom instruments are widely discussed. Social media platform (SMP) has a potential contribution in spreading every sort of informative material worldwide which is also conducive to educational activities. Hence, billions of users are incorporating SNS into their everyday lives schedules. Moreover, digital technologies

facilitate the students to get updated about social and educational activities which become a potential way of exchange learning that is effectively utilized for innovative and productive moves. Researchers, usually agreed that usage of social media (USM) has a significant contribution in the learning process such as, (online education, software programming system, web servers, data storage, or multimedia, etc) and online games also provide entertainment for leisure time (Junco et al., 2011; Nuskiya, 2017).

Social media in this modern society become an essential medium that encourages learning and change through cultivating interaction and collaboration with peers (Asterhan and Bouton, 2017; Chu et al., 2017; Raacke and Raacke, 2015). To get the supreme benefits of social media, educationalists need to comprehend the structure and characteristics of this online tool. It will help in acclimating advanced education mechanisms. Biswas (2013) posits that "Schoology supports an intimate partnership between educational institutions and technology developers and serves as a catalyst to empower teaching and educational effectiveness at different levels of any environment (i.e., K-12 education, higher education, corporate)" (p. 189). Therefore, SM is an important platform that provides opportunities to share unique thoughts, ideas, and departmental level educational activities which leads to accomplishing educational goals. The present study gives a brief explanation of how social media contributes to student academic achievement. The foundation of this unique framework will provide an understanding of the USNs and their attributes that take into consideration curriculum learning. Therefore, this study explores the significance of SM among graduates who are enrolled in southern Punjab universities. This model contributes to the literature of education and assists students to share knowledge on curriculum activities that will create an environment for collaborative learning, resultant in academic achievement.

2 Theory and Hypotheses Development

2.1 Usage of SNS

The usage value of SNSs in an educational setting is crucial. Rao (2017) noted that social media enhance the knowledgeability and collaborations among individuals in a supporting sense of educational learning which potentially builds an e-educational system that effectively creates easiness for the students for extra curriculum activities. Connolly (2011) explores the extra advantage of SM; "establishing enduring relationships with real people". For instance, Facebook can enable a student to conquer the sort of seclusion, which experience during college/university dormitory residents. Atul Pant (2013) advocated that "the conversation collaboration, coherence, global reach, scalability and low-cost dimensions that social media offer can be a boon for meaningful, effective and engaging education for all, provided they are used prudently". Durden, (2007), stated that human being is based on social norms, and social media have the potential source for interpersonal communication worldwide. An international report, on Americans' life, demonstrated that "48% of teens visit social networking websites daily or more often; 26% visit once a day, [and] 22% visit several times a day" (Lenhart and Madden, 2007). The overwhelming Internet usage is resultant with more impulsivity, less longanimity, less persistence, less constancy,

and weaker reasoning aptitudes. However, prolonged usage of the internet makes the student habitual of social media and that also diminishes the learning activities (Connolly, 2011). In contrast, SNS is also establishing positive and meaningful existence in academia. It's come up with new learning and benefits, plays a pivotal role in academic achievement with positive usage in the promotion of educational activities. Notwithstanding the advantages USNs are identified in improving digital skills, (McLoughlin and Lee, 2008) uncovered that scholars who do not utilize web-based services and innovative patterns become skeptical for social network integration in academic work. Web-based services are providing the possibilities of cooperative learning through online networking communication like Email, WebEx, and Webinars or any sorts of learning resources that facilitate the students in the completion of routine coursework, and conversation with faculty. The young students get help from scholars; improve their expertise and lessons with the help of social media which is vital for advanced education (Hamid et al., 2011). It is possible to improve the efficient learning process as the main purpose of the online conversation is "to create an online learning environment that will achieve high levels of learning" (Andresen, 2009, p. 251). The usage of SNS is recognized as a valuable tool in student academic learning (Schwartz, 2009). Thus, the study hypothesis is proposed as

*H*1: The usage of social networking websites has a positive effect on student's academic achievement

2.2 Creativity

The role of creativity in professional capability and individual attributes is important, also recognized as a significant component of education in the faster-evolving world, applicable to future practice in any profession, for students and educators. SMP is recognized as a place of creativity, distribution, and investigation in the hands of web clients has been perceived as having an imperative function in democratizing creativity. Allen, et al. (2012) stated that usage of these devices encourages the students in advanced education and promotes creativity in numerous other related capacities: computerized proficiency, autonomous learning, coordinated effort, and relational abilities, and critical thinking. The "New Media Consortium" (NMC) (2012, p.6) reported that "Digital media literacy continues its rise in importance as a key skill in every discipline and profession", but "Institutional barriers present formidable challenges to moving forward constructively with emerging technologies". In novel learning, creativity is the aspiration for higher education students, and on competition of study, it's capable to fulfill their professional, business, and industrial-related requirements (Amabile et al., 1996; Pink, 2005). Dynamic educationalists have resuscitated calls to grasp a holistic education that builds up all potential parts of human character including its creativity (Robinson, 2011; Jackson et al., 2006). Student capabilities, for example, independent learning, association with companions, problem-solving, critical thinking, and inter-disciplinary practice would all be able to identify as a mien for creativity. Student participation in class discussion, brainstorming, positive interaction with faculty on various academic topics, learning to influence them for critical thinking that all based on

the advanced education system that brings creativity (Fryer, 2006; McWilliam and Dawson, 2007). Tynes (2007) noted that SNS beneficial for students in the classroom, it builds confidence, multitask handling, effective usage of media, time management, and how to restore their important academic literature on web-device. The social site is a vital source for social interaction among classmates, faculty, and new entities which improves learning abilities (Rosen and Nelson, 2008). For communication, scholarly help and coordinated effort social media can use to promote creativity (Lusk, 2010). Especially, social media platforms (as Facebook, Twitter, and blogging sites), strengthen student academic fellowship and student-faculty relationships throughout the world that raise creative thinking and generate unique ideas. This provides a structure, and study environment that expanded student commitment to study (Welch and Bonnan-White, 2012). Thus, the study hypothesis is proposed as

H2: Creativity through SNS has a positive effect on student's academic achievement.

2.3 Knowledge Sharing

Eid and Al-Jabri (2016) advocated that knowledge sharing (KS) intensifies the exchange expertise of individuals and access to high-tech communications platforms (e.g. social media) facilitates KS (Eid and Nuhu, 2011). SNSs are very appropriate for social interaction, data sharing, and exchanging individual experiences. SNS is the major source of KS, and ongoing advancement in social networking brought new opportunities for marketing and socializing, also for students in academic learning. Like this, "Microsoft Teams" is appreciated for the interpersonal app is an illustration for the usage of educational aim. It is "a cloud app digital hub that brings channels, conversations, meetings, files, and apps to Microsoft 365" (Martin and Tapp, 2019, p.58). Chu (2020) suggested that Facebook, blogging, Schoology, and other online forums; all successfully promote and uphold the imperative educational outcomes. SNS brace the teamwork in managing ordinary issues that students/teachers face in their work. It takes into account sharing of substance, best practices in a benevolent domain and builds up a strong deep-rooted learning strategy that offers an incredible space for sharing experiences, teaming up, looking into updated knowledge (Kharbach, 2012). Rodrigues et al. (2011) talk about the capability of utilizing SNSs as a tool to upgrade the e-learning experiences. Practically all college/university population is linked via web-based networking, nowadays. Many of them use SM for interaction with different academic experts of their field or to share the researches and achievements or also extract information to update their knowledge (Socheski, 2012). Thus, the hypothesis is proposed as

H3: Knowledge sharing through SNS has a positive effect on student's academic achievement.

2.4 Collaboration and Interaction

In the advanced world, social media significantly reshape the ways of social interaction and collaboration to get preferable learning results (Vuopala et al., 2016). SM become resourcefully interceded platforms clarify that effective collaboration related to academic-related tasks is well-managed and promote to others, by using SNS. In particular, "social information processing theory" (SIP) of Walther (2008), and Walther and Burgoon, (1992) suggested that when people are faced with textual and phonetic materials

lacking concrete open highlights (e.g., outward appearances and voices), they rely on the communication signals available to establish and maintain mutual processes. SNS reflects and associates with the real-life network instead of being an online-just network. Secondary-school classmates remain companions at the college/university level. Therefore, their associations with each other carry on at the societal and organizational level that enhances collaboration and interaction among them and also with faculty. They become aware of each other daily social activities through social media (Curtis, 2013). Students and faculty know the importance of social media and they often interact with each other through web-portals. Munoz and Towner, (2009) talk about the upsides of utilizing Facebook in education, and the various strategies and best practices that the educator can use to improve classroom learning. Thus, the study hypothesis is proposed as:

H4: Collaboration and Interaction through SNSs has a positive effect on student's academic achievement.

3 Material and Methods

The purpose of this investigation was to analyze the impact of social media on student's academic achievement. The popularity and usage trend of social media in Pakistan are gradually increasing and students are frequently using the SNS for virtual communication, email, data storage (e.g. Google Drive), publication, interaction with faculty. USNs are appreciating for their valuable services and their effect on curriculum learning is significant. So, this study intends to counter SNS impact on graduates & undergraduates students who are enrolled in southern Punjab institutions like Multan, Bahawalpur, Vehari, Rahim Yar Khan, and Dera-Ghazi Khan. According to the HEC (2015) reports and data from respected university websites, these enrolled students are 57147. Thus, the targeted population in this research was 382 students (n=382) in light of Krejcie and Morgan (1970) and this study chose to utilize a base sample size of 382. All 382 questionnaires were distributed. The direct responses were 280, while some responses online (Google form) and the online response rate was 65. Out of a total of 382, a total of 345 respondents' feedbacks was utilized for statistical analysis, with a response rate of 90%.

A pre-established survey questionnaire was used to gather primary data, and it's adopted from (Khan, et al., 2017). The survey has two sections. Section-A provides information about the respondent's profile while Section-B comprises statistical testing information of four independent variables - USNs and creativity are measured against four items, Knowledge Sharing estimates with three items, Collaboration and Interaction examine with six items and performance of students which is the dependent variable measures against eight items, at five-point Likert scale ranging from "1 for strongly agree" and "5 for strongly disagree".

4 Empirical Results

4.1 Description of Demographic Analysis

The respondents were students, male more than female. The study gathers information about the usage of SNS and 99.4% of students are using the SNS in an out of 345. For the average usages of SNS in a day, 47.8% of students use USNs more than three hours in a day. Table 1 gives all detail regarding respondents' profiles.

Table 1: Profile of respondents

Description	Number of respondents	Frequency (n=345)	Percentage
Gender	Male	199	57.7
	Female	146	42.3
City	Vehari	82	23.8
	Multan	83	24.1
	Bahawalpur	79	22.9
	RY Khan	48	13.9
	DG khan	53	15.4
Age	18-22	208	60.3
	23-27	130	37.7
	28 or above	7	2.0
Education	Bachelor	219	63.5
	Master	105	30.4
	MS/MPhil	21	6.1
Usage of Social Media (USM)	Yes	343	99.4
	No	2	.6
The average usage of SNS in a day	Less than one hour	44	12.8
	Two or three hours	136	39.4
	More than three hours	165	47.8

4.2 Statistical Analysis

Reliability is an essential factor to estimate the instrument measurement and evaluate data consistency (Tavakol and Dennick, 2011). It is also being checked that the reliability of a test is associated with its validity. A mechanism cannot be considered valid unless it's reliable. To test the reliability of data quality through Cronbach's alpha, and the value of alpha is 0.70 or greater than 0.70 demonstrate results are reliable and acceptable (Hair et al., 2016). The values of Cronbach's alpha of all constructs were higher than 0.70, shows that study data were reliable, see Table 2.

Table 2: Reliability and Descriptive Statistics (N = 345)

	Cronbach's Alpha	Mean	SD
PS	.832	19.00	6.264
USNs	.711	9.47	3.154
SIC	.714	14.72	4.448
CRT	.810	9.10	3.863
KS	.742	6.92	2.963

Table 3 explains that USNs and SIC were moderately positive correlated with PS where r= .594, .560, p < .01 and CRT and KS were strong positive correlation with PS where r= .660, .710 p < .01. There was a positive correlation between USNs, SIC, CRT, and KS.

Table 3: Pearson Correlation (N = 345)

		PS	USNs	SIC	CRT	KS
PS	Pearson Correlation	1				
	Sig. (2-tailed)					
USNs	Pearson Correlation	.594**	1			
	Sig. (2-tailed)	<.001				
SIC	Pearson Correlation	.560**	.460**	1		
	Sig. (2-tailed)	<.001	<.001			
CRT	Pearson Correlation	.660**	.496**	.553**	1	
	Sig. (2-tailed)	<.001	<.001	<.001		
KS	Pearson Correlation	.710**	.477**	.540**	.644**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	

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

The variables model summary is exhibited in Table 4. R^2 in the model was 0.628, which means that USNs, SIC CRT, and KS determine and explain 62.8 % variation by PS.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.795[a]	.633	.628	3.818	.633	146.478	4	340	<.001

a. Predictors: (Constant), KS, USNs, SIC, CRT

Table 5 indicates the significance of the model as the value of sig. is <0.01 which is lesser than .05 it means the research model is significant.

Table 5: ANOVA Statistics

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	Regression	8542.101	4	2135.525	146.478	<.001[b]
1	Residual	4956.896	340	14.579		
	Total	13498.997	344			

a. Dependent Variable: PS   b. Predictors: (Constant), KS, USNs, SIC, CRT

Linear regression provides the significance of the hypotheses data. The t-value of a variable is 1.96 or higher than shows a positive and significant relationship. Table 6 shows that the t-value of USNs, SIC, CRT, and KS towards PS that are higher than 1.96. The P-values of variables that are less than 0.05 revealed that USNs, SIC, CRT, and KS have a positive and significant impact on PS.

Table 6: Regression Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	3.040	.791		3.844	<.001
	USNs	.489	.079	.246	6.183	<.001
1	SIC	.160	.059	.113	2.696	.007
	CRT	.368	.075	.227	4.886	<.001
	KS	.814	.096	.385	8.450	<.001

a. Dependent Variable: PS

5 Conclusion

The study empirically examines the social media roles in students' academic achievement and found that usages of social networking sites have a positive and meaningful effect on students' academic performance. Data from 345 students validate our research model and all the hypotheses of this study (*H*1, *H*2, *H*3, and *H*4) are accepted. The findings suggest that USNs are proving to be an essential aspect of enhancing student's awareness about academia in a technology-driven world. It helps them in collaboration and interaction with their teachers in terms of illuminating educational activities and plays a leading role in augmenting student's creativity and knowledge sharing by producing novel thoughts and ideas that are identified as conducive for academic performance. Students spend daily a huge part of their time on SNS for entertainment and also gathering such information through these sites which helps them in the accomplishment of educational work and improve their digital skills. The study developed a framework on the usage of

social media and contributes to the field of education which will help the educational specialist and faculty in the development of advanced learning methods and strategies that can be beneficial for students.

6 Availability of Data and Material

Data can be made available by contacting the corresponding author.

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