



EXPLORING SOCIAL MEDIA'S CONTRIBUTION TO ACADEMIC LEARNING THROUGH THE DUAL LENSES OF SOCIAL CAPITAL AND HUMAN CAPITAL THEORIES

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Abstract

Social media (SM) has impact all fields of life including academia. This investigation aimed to explore the contribution of social media to academic learning through the dual lenses of social capital theory and human capital theory. Quantitative research method followed by survey designed was applied to test the study's hypotheses. Results indicated that there is significant positive impact of the collaborative learning on the students' satisfaction however a difference was observed in the collaborative learning on the basis of frequency to use social media. A significant positive correlation was identified among interaction through SM, trustworthiness on SM, intention to use SM, participation through SM and collaboration learning. It was found that collaborative learning is a predictor for academic performance while collaborative learning has no effect upon academic achievement. The study has provided pertinent theoretical, practical, and social implications.

Keywords: Collaborative learning, social media, social capital, academic learning, academic achievement, academic satisfaction

Introduction

In every field of life, Information technology (IT) got evident appearance and changed the scenario. In the academia, IT prominently mounted in all fields of education which has definitely provided opportunities to the students for their learning. Several mediums of IT are introduced and being initiated with the development of IT and its infrastructure which are considered as basic requirement of the current technological era even in academia as well all disciplines. One of the best initiatives of internet is to allow collaboration through various types of softwares which include social media applications as well. During the last few years, social media has become more efficient and universal which is being used by people all over the world for social interaction. Carmichael *et al.*



(2015) also prescribed that social media is getting popularity and significant increase in its usage.

Academic learning is the centric goal for the students of any level and they tried their best to achieve higher grades and marks in their assessments. For this purpose, they interact with their fellows, seniors and teachers so that their aim may be attained in an excellent way. This interaction leads them towards collaboration and group studies which boost up them towards the achievement of their individual or common goal therefore, in the academia many collaborative communities are been observed either as controlled/ closed group or open group. Laal and Ghodsi (2012) in their study prescribed that “Collaborative learning is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task or create a product” (p. 486).

Social media is a marvelous product of IT which is being followed by students, teachers, researchers etc. for academic purposes. Using IT based technologies the social media is commonly accessible and by the laymen and students as well. It provides interactive collaborations to homogenous and heterogeneous groups for the social interface. Social media usage for academic purposes is increasing which allows psychosocial prospects to the community. It has been proven through the empirical evidences that collaborative working in any sense enhances the production or outcomes as Krishna (2012); Hitt and Sirmon (2007); Adler and Kwon (2002) narrated that social media a useful source of social interaction. Putnam (1995; 2000) shed the light of the collaborative aspects of people which can be established using social media for getting shared benefits.

Facebook and WhatsApp are famous types of social media which are being used all over the world for social interaction. These two types of social media facilitate interactive collaboration to the students which create social capital by providing them a place of action. This place allows collaborations in form of closed groups or open groups which are being used for the achievement of individual or common goals of the participants. In academia it has been noticed that many students prefer group study instead of individual learning and for this The major objective of the study is to testify the “Collaboration” aspect of human capital theory for academic learning through the Facebook and WhatsApp allocations used by the LIS students. Various researchers Daniel *et al.* (2003); Prusak, and Cohen (2001); and Woolcock (2001) prescribed that social media is form of social capital which allows sharing the information and collaboration and has positive affect upon grouping communities.

As social capital theory depicts that be liked individuals come together and make a sensible group to achieve their common goals and these collaborative efforts reward better as compare to individualistic efforts. Various studies (Jackson, 2011; Mazman and Usluel, 2010; Wodzicki *et al.*, 2012) support to this perspective. In academia the essence of the theory is also applicable which means that for academic learning students develop a group and use this group for their academic learning. Hence, this gathering is a source of collaborative learning in academia and it is assumed that this collaborative learning



among students is actually academic learning. For collaboration the certain place is required for interaction in physical environment but in this study this place of interaction is supposed the “Social media”. Social media applications have an ability to provide a platform for social gathering without physical existence. So, this study will testify the theory of Social Capital quintessence. According to Coleman (1990), social capital theory constitutes social structure and support individuals’ actions within that structure. It facilitates people to interaction and networking for shared objectives.

Objectives of the Study

The study’s objectives are as follows:

- 1- To test the social capital theory in academic learning using social media yard stick
- 2- To examine role of social media in academic learning
- 3- To explore the differences in opinion on the basis of various human characteristics
- 4- To find out the relationship among constructs
- 5- To explore the impact of collaborative learning on academic performance

Hypotheses

To meet the objectives of the study following hypotheses are developed to explore the role of social media in academic learning by following the “Collaboration” element of social capital theory.

H₀₁: There is statistically significant positive relationship between interactivity through social media and collaborative learning

H₀₂: There is statistically significant positive relationship between Trustworthiness on social media and collaborative learning

H₀₃: There is statistically significant positive relationship between participation through social media and collaborative learning

H₀₄: There is statistically significant positive relationship between intention to use social media and collaborative learning

H₀₅: There is statistically significant difference in Mean collaborative learning of male and female students

H₀₆: There is statistically significant difference in Mean collaborative learning of students on the bases of qualifications of students

H₀₇: There is statistically significant difference in Mean collaborative learning of students on the bases of their university

H₀₈: There is statistically significant difference in Mean collaborative learning of students on the bases of frequency to use of social media

H₀₉: There is statistically significant positive impact of collaborative learning on academic satisfaction of students

H₀₁₀: There is statistically significant positive impact of collaborative learning on academic achievement of students



Theoretical Framework

The term social capital has very long citing history and many developments from different researchers Bourdieu (1986); Coleman (1987, 1988); Putnam (1985); Lin (2001) had been made which make it multidimensional term. Social capital includes gathering of people having same or diverse backgrounds which make communities for the attainment of their personal or common goals. These gatherings can be made through physical appearance or virtual existence for getting benefits.

With the advent of social media, the shape of social gathering changed and people around the world getting connected with each other for making interactive communities which provide the opportunities of collaborations. In the field of higher education, the role of social media as a platform of collaborative academic learning should be examined. Therefore, this study explored the role of social media in academic learning using the lens of Social Capital Theory's aspect "Collaborative learning". Putnam (1993; 2000) and Coleman (1988; 1990) characterized the Social Capital as networking or collaborations for collective or mutual benefits.

The previous studies indicate that collaborative learning is a group study of students which enhances the learning outcomes. The social capital theory depicts that joint efforts from a group of people enhances the productivity. So, this study tested whether the academic social capital (collaborative learning) affects the academic performance and achievement of not using social media platform. Whether it is the source of collaboration among students and playing an effective role in the academic learning or not? Figure I illustrates theoretical framework of the study.

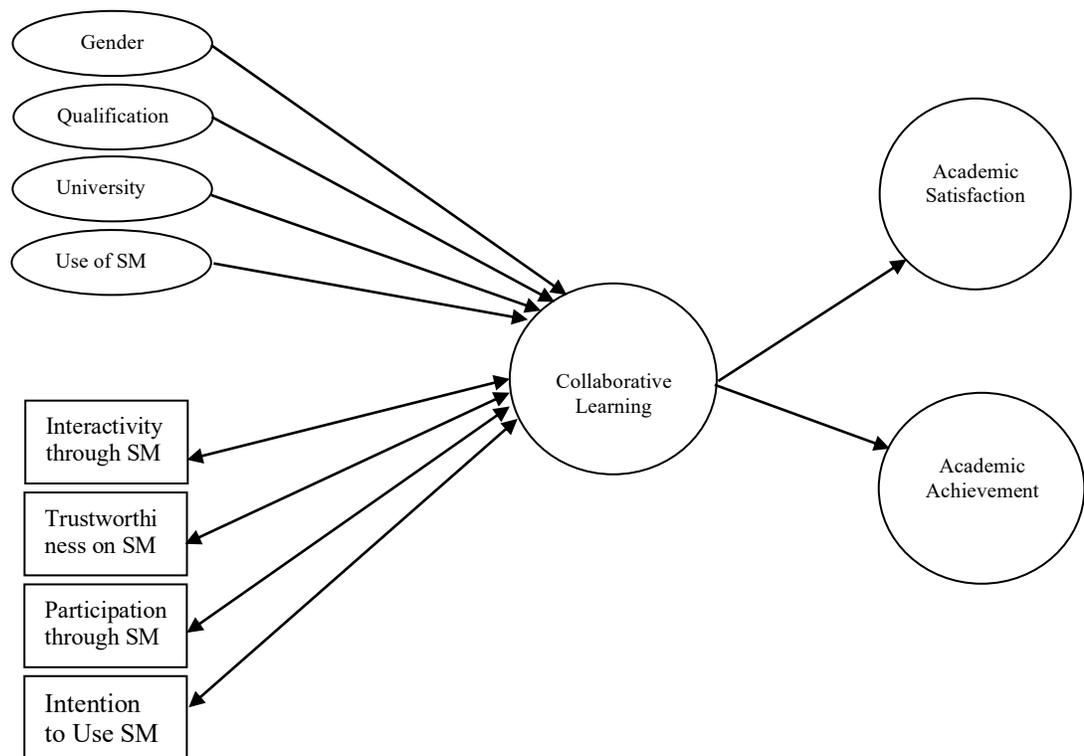


Figure I: Theoretical framework of the study

Literature Review

Ansari and Khan (2020) explored that interactivity with teachers through social media statistically had significant effect on students engagement which in return enhances their academic performance. Al-Rahmi and Yahya (2022) prescribed that social media provides opportunities of collaboration to students for learning process. Rahman et al. (2020) explained that attitude and intention to use social media significantly affect student's collaborating learning. Sabah (2023) narrated that social media is being used by students and teachers for educational and personal use. It enhances learning, performance and satisfaction of students in higher education institutions. Trivedi et al. (2023) exposed that trust in social media and intentions to use social media had significant effect on online learning and collectivism.

According to Hibbitt *et al.* (2001), the social capital is a resource based relationship among people which generate trust, and collaboration. Collaborative learning is not a novel phenomenon; rather there are so many studies which shed the light on various aspects collaborative learning. Gokhale (1995) said about the CL that it is a prospective mode pairing and grouping for learners to achieve their learning goals. He further narrates that CL is like an instructional method which allows working together in small groups for the attainment of common goal, learners are responsible for one and others' learning as well as their own and everyone in the group helps others for their success. Slavin (1980) said that CL provide students an active process of learning.



Bozanta and Mardikyan (2017) stated that usage of Social media has penetrated in many areas and students utilize it in their daily lives to support their academics and communications with friends. They also explored that Social media has significant positive effect on collaborative learning. Kasika (2017) narrated that Social media is an important tool of communication among higher level students and it supports to collaborative learning where students collaborate purposefully for acquiring new knowledge from their peers. Boahen and Mensah (2019) explored that social media has positive impact upon students' academic achievement and students who use social media for academic purposes posses higher GPAs and the students who use social media for other purposes like entertainment or non-academic purposes posses less GPAs. Sarwar *et al.* (2018) mentioned that social media expedite the learning environment.

Many researchers pointed out the various benefits of collaborative learning and said that CL is more productive as compared to individualistic efforts. Johnson *et al.* (1994) and Pantiz (1999) pointed out many benefits of CL including social benefits, psychological benefits and academic benefits. Laal and Ghodsi (2012) also prescribed that CL has more benefits than individual learning as well as CL provide caring, supportive, committed and social behaviour. Tazeem *et al.* (2023) stated that student's intention to use social media enhancing students' learning and performance. Ramzan *et al.* (2023) said that use of social media had significant effect on learning outcomes. Suci *et al.* (2022) synthesized that social media usage proved as successful platform for collaborative learning which provides the facilities of interaction and collaboration for sharing resources as well. Phuthong (2021) also supported that the social media platform are suitable for collaborative learning and academic institutions should promote these platforms for strengthen the collaborative learning process.

Rahmi *et al.* (2015a; 2015b; 2015c 2014; 2013a; 2013b; 2013c) stated that social media is broadly used by students for collaborative learning, Facebook has an effect of collaborative learning and indirect impact of students' performance and satisfaction, social media can also de-track students, using social media academic conversation is increasing among students and teachers, class assignments can be reviewed through using social media, less familiarity with use of social media has negative impact on collaborative learning, social media is considered best sources of interaction among students, to promote collaborative learning and social media is a significant predictor for academic learning through collaboration. Ainin *et al.* (2015) pointed out that Malaysia is amongst top five countries which are using Facebook and social media is a prominent tool for dissemination of information and instructional contents among higher level students and faculty members. Vie (2008) stated that in higher education social media significantly contribute in students' learning and academic performance. Alloway and Alloway (2012) said that like minded people can interact through social media for their similar interests. Alwreikat *et al.* (2022) supported that use of Facebook associated with the collaborative learning and this association was exposed as more than average which means that the time spent on Facebook enhanced academic performance of the students.



Lin *et al.* (2013) expressed that social media plays a significant role in information sharing among respondents and 62 % are sharing information at least using one social media site. McMillan *et al.* (2003) stated that interactivity has a positive effect on psychological responses. Sohn (2011) says that interactivity is a behavioural dimension and expected interactivity is a form of intention. Kilpatrick *et al.* (2003) stated that there is a link between social capital and community development in education. Liu *et al.* (2022) stated that interaction through social media has significant positive effect on collaboration. Rafique *et al.* (2021) concluded that collaborative learning played significant role in the enhancement of students' learning capabilities. Chung *et al.* (2012) prescribed that the roles social media have become important areas of research for scholars. Further, they defined social capital as a concept of receiving benefits from mutual relationships and social media is closely related to provide this opportunity. Hurst *et al.* (2013) explored in their study that social interaction among students enhances the learning behavior and improves knowledge. Achufusi-Aka *et al.* (2021) stated that teachers should consider and promote collaborative learning system as it enhances academic achievements of students. Gat *et al.* (2022) pointed out that online learning had direct significant effect on collaborative learning and the collaborative learning also had significant effect on students' academic achievements. Hwa Kim (2021) conducted an experimental study in the researchers exposed that the group of those students who were engaged in collaborative learning were more academically satisfied as compare to other group of students which were individually learning. Hanene and Nozha (2022) revealed that there is significant relationship between use of social media and academic performance of learners.

Research Methodology

A quantitative research method followed by survey was applied for this study as survey is better design to test already existing theories and their components. This method of research is supported by Creswell (2017); Creswell and Clark (2017). There were six LIS schools at the time of the conduct of the current study, two in private sector and four in the public sector in the Punjab Province of Pakistan. Masters level students of 2nd semester and 4th semester, 2nd semester's students of M.Phil and 2nd semester's students of PhD (students who were engaged in course work) were the population of the study. The tool was adapted and with the inclusion of already available scale related to constructs, some items were included by the researchers keeping in view the objectives of the study and previous literature. To ensure the reliability and validity of the instrument pilot testing was conducted from 25 respondents as well as expert opinion was also obtained. The cronbach alpha of the constructs is as follows; (Interactivity through social media's cronbach alpha is .847; Trustworthiness on social media's cronbach alpha is .738; Participation through social media's cronbach alpha is .851; Intention to use social media's cronbach alpha is .755; Collaborative learning's cronbach alpha is .835



and Academic satisfaction's cronbach alpha is .817). Statistical Package for Social Sciences (SPSS) was used for descriptive and inferential analysis of the data.

Results

Demographical representation of the respondents

The demographical representations shows that there is majority of MLIS students (73.8 %) who are enrolled in the LIS schools of the Punjab Province of Pakistan and M. Phil enrollment (18.3 %) follows while only (8 %) students are enrolled in the most higher LIS level degree (PhD). Data symbolize that in LIS female students are in majority with (57.4 %) and male (42.6 %) are less in this field of study. The large majority of students in the field of LIS prefer public sector as data represents that (90.5 %) students are doing their degrees from public sector universities and only (9.5 %) are studying in private sector universities. Table 1 illustrates the demographical representation of the respondents.

Table 1: Demographical representations of the respondents

		Frequency	Percentage
Student Level	MLIS	194	73.8
	M.Phil	48	18.3
	PhD	21	8
	Total	263	100
Gender	Male	112	42.6
	Female	151	57.4
	Total	263	100
University Type	Public	238	90.5
	Private	25	9.5

Usage of social media

There were a large majority of respondents (56.7 %) who "Often" social media applications for their collaborative academic learning and (35.4 %) are using "Sometimes" for the same purpose. Less number of students (6.1 %) in the field of LIS are using "Seldom" social media while a few (1.9 %) "Never" used social media for collaborative academic learning. Figure 2 displays the usage of social media.

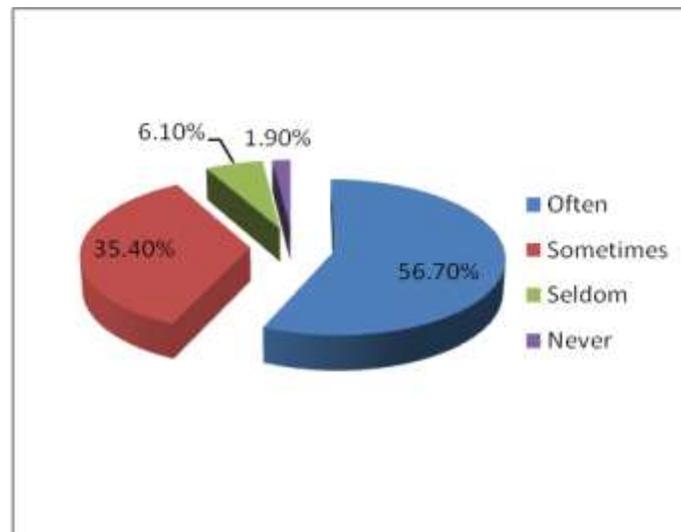


Figure 2. Usage of Social Media (Facebook and Whatsapp)

Correlation between constructs

As there were four “Constructs” including Interactivity through SM, Trustworthiness on SM, Participation through SM, Intention to use SM whose relationship and to explore their relationship with Collaborative learning was the intent of the proposed framework. To explore the relationship between these constructs the Pearson correlations test was executed and found that all the four constructs have statistically significant positive relationship with “Collaborative learning” which means that these constructs move towards the same direction and if any construct from these four increases, the collaborative learning will also increase and if any construct from these four decreases, the collaborative learning will also decrease. Table 2 reveals correlations between constructs.

Table 2: Correlations between constructs

Constructs	Correlation Coefficient (r)	P-value
Collaborative Learning	.438**	.000
Interactivity through SM		
Collaborative Learning	.541**	.000
Trustworthiness on SM		
Collaborative Learning	.611**	.000
Participation through SM		
Collaborative Learning	.620**	.000



Intention to use SM

Alpha = .05

Difference in mean collaborative learning of male and female students

To see the difference between Mean score of collaborative academic learning of male and female students Independent Sample *t*-test was conducted. The results statistics shows that as P-value is $.323 > .05$ so there is no statistically difference in Mean score of collaborative academic learning of male and female students. Table 3 shows the difference in mean collaborative learning of male and female students.

Table 3: Difference in Mean collaborative learning of male and female students
Independent Sample *t*-test

Gender	Mean Collaborative learning score	of t	P-value
Male	3.79	.991	.323
Female	3.71		

Alpha = .05

Difference in mean collaborative learning of students on the bases of qualifications of students

To explore the difference between Mean score of collaborative academic learning on the bases of qualifications of the respondents One Way ANOVA test was executed. The results statistics shows that as P-value is $.183 > .05$ so there is no statistically difference in Mean score of collaborative academic students on the bases of their qualifications. Table 4 illustrates the difference in mean collaborative learning of students on the bases of qualifications of students.

Table 4: Mean difference on the basis of respondents' qualifications

Qualification	Mean Collaborative learning score	of F	P-value
MLIS	3.70		
M.Phil	3.87	1.71	.183
PhD	3.82		

Alpha = .05

Difference in Mean collaborative learning of students on the bases of their university

To see the difference between Mean score of collaborative academic learning on the bases of university type the Independent Sample *t*-test was conducted. The results statistics shows that as P-value is $.322 > .05$ so there is no statistically difference in Mean



score of collaborative academic learning of public sectors universities's student and private sectors' students. Table 5 shows difference in Mean collaborative learning of students on the bases of their university.

Table 5: Difference in Mean collaborative learning on the basis of university

University Type	Mean score of Collaborative learning	t	P-value
Public	3.73	-.933	.322
Private	3.86		

Alpha = .05

Difference in Mean collaborative learning of students on the bases of frequency to use of social media

To find out the difference among Mean score of collaborative academic learning on the bases of frequency to use Social Media the One Way ANOVA test was performed. The results statistics shows that as P-value is $.021 > .05$ so there is statistically difference in Mean score of collaborative academic students on the bases of their frequency to use Social media. Further to point out the difference between groups the LSD examinations was taken and it was found that the students who "Never" used Social Media for Collaborative Academic Learning they are statistically different with those who are using Social media Often, Sometimes and Seldom for their collaborative learning. Table 6 shows the difference in Mean collaborative learning of students on the bases of frequency to use of social media.

Table 6: Difference in Mean collaborative learning of students on the basis of frequency to use of social media

Frequency to Use SM	Mean score of Collaborative learning	F	P-value
Often	3.79	3.32	.021
Sometimes	3.69		
Seldom	3.86		
Never	2.93		

Alpha = .05

Impact of C.L. on academic satisfaction

To measure the impact of collaborative learning on the academic satisfaction, the linear regression analysis was conducted and the results shows as the P-value is $.000 < .05$ so there is statistically significant impact of collaborative learning on the academic satisfaction. Table 7 shows the impact of C.L. on academic satisfaction.



Table 7: Impact of C.L on Academic Satisfaction

Predictor	Dependent	Standardized Coefficients Beta	R square	F	P-value
Collaborative Learning	Academic Satisfaction	0.636	0.405	163.059	.000

P-value = .05

Impact of collaborative learning on academic achievement of students

To measure the impact of collaborative learning on the academic achievement, the linear regression analysis was conducted and the results shows as the *P*-value is .858 > .05 so there is no statistically significant impact of collaborative learning on the academic satisfaction. Table 8 reveals the impact of collaborative learning on academic achievement of students.

Table 8: Impact of C.L on Academic Achievement

Predictor	Dependent	Standardized Coefficients Beta	R square	F	P-value
Collaborative Learning	Academic Achievement	0.011	-0.004	0.32	0.858

Alpha = .05

There were ten hypothesis of the study which that tested through the LIS community. Data indicated that statistically significant correlations lies between “Interactivity through social media and collaborative learning”, “Trustworthiness on social media and collaborative learning”, “Participation through social media and collaborative learning” and “Frequency to use social media and collaborative learning”. Further the results point out that collaborative learning is predictor for academic performance while collaborative learning has no effect upon academic achievement. Overall, the results are aligned with the theory of Social Capital which emphasis that collaboration better for the achievement of common goals. Table 9 shows the status of tested hypotheses.

Table 9: Status of tested hypotheses

Hypotheses	Status
H ₀₁ : There is statistically significant positive relationship between interactivity through social media and collaborative learning	Accepted



H ₀₂ : There is statistically significant positive relationship between trustworthiness on social media and collaborative learning	Accepted
H ₀₃ : There is statistically significant positive relationship between participation through social media and collaborative learning	Accepted
H ₀₄ : There is statistically significant positive relationship between frequency to use social media and collaborative learning	Accepted
H ₀₅ : There is statistically significant difference in Mean collaborative learning of male and female students	Rejected
H ₀₆ : There is statistically significant difference in Mean collaborative learning of students on the bases of qualifications of students	Rejected
H ₀₇ : There is statistically significant difference in Mean collaborative learning of students on the bases of their university	Rejected
H ₀₈ : There is statistically significant difference in Mean collaborative learning of students on the bases of frequency to use of social media	Accepted
H ₀₉ : There is statistically significant positive impact of collaborative learning on academic satisfaction of students	Accepted
H ₀₁₀ : There is statistically significant positive impact of collaborative learning on academic achievement of students	Rejected

Discussion

This study contributes to the rapidly growing discussions on digitally mediated learning by examining social media enabled collaboration through the dual revealing lenses of Social Capital Theory and Human Capital Theory. Findings of the study offer empirical support for the argument that interactivity, trustworthiness, participation, and intention to use social media significantly foster collaborative learning among LIS students. These constructs represent relational dimensions that facilitate the conversion of social connections into academically productive exchanges. In this regard, social media platforms function as structured environments where relational capital is mobilized for cognitive development.

From the perspective of Human Capital Theory, collaborative learning can be interpreted as an investment mechanism through which students accumulate knowledge, refine competencies, and enhance intellectual capabilities. The strong positive impact of collaborative learning on academic satisfaction indicates that students perceive tangible developmental benefits from their engagement in digitally facilitated group learning. Academic satisfaction, in this context, reflects not only emotional fulfillment but also



perceived growth in skills, understanding, and academic confidence. Thus, social media–supported collaboration appears to strengthen subjective dimensions of human capital formation. However, the absence of a statistically significant direct effect of collaborative learning on academic achievement (GPA) invites a more nuanced interpretation. Human capital development is often cumulative and long-term, whereas GPA represents a short-term and structured performance indicator. The findings suggest that while collaborative engagement enhances students’ learning experiences and perceived competence, its translation into formal academic metrics may be mediated by additional factors such as assessment design, individual study habits, or institutional evaluation mechanisms. This divergence underscores the distinction between capability enhancement and measurable performance outcomes.

The non-significant differences across gender, qualification level, and university type further indicate that social media–facilitated collaborative learning operates as an inclusive academic equalizer within the LIS context. Conversely, the significant variation based on frequency of use highlights the centrality of active participation in capital formation processes. Human capital is not passively acquired; it is cultivated through sustained engagement. Students who frequently utilized social media for academic collaboration reported stronger collaborative learning outcomes, reinforcing the premise that intentional digital participation enhances learning capital. On the whole, the findings position social media as a catalytic intermediary between social capital and human capital. By enabling interaction, fostering trust, and encouraging participatory learning behaviors, platforms such as Facebook and WhatsApp create ecosystems conducive to collaborative knowledge construction. Within the LIS academic community of Punjab, Pakistan, these digital environments appear to extend beyond social networking functions and serve as strategic instruments for academic capability development. The study therefore advances theoretical understanding by demonstrating how digitally mediated collaboration operationalizes social capital into human capital within higher education settings.

Conclusion

The study explored the contribution of social media to academic learning through the lenses of social capital and human capital theories. Quantitative research method followed by survey designed was applied to address the study’s objectives. Findings showed that there is significant positive impact of the collaborative learning on the students’ satisfaction. A difference was observed in the collaborative learning on the basis of social media usage. It was found that collaborative learning is a predictor for academic performance how collaborative learning has not significant positive impact upon academic achievement. The study has contributed worthwhile theoretical, practical, and social implications.



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