

Researching the Affecting Factors on the Use of Social Media, Collaborative Learning and Academic Performance in Higher Education, Vietnam

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In the educational context, online technologies are rapidly gaining acceptance. Understanding and applying educational plans and methods of learning through new technologies will be essential through social media. This paper will look at how students' collaborative learning behavior and learner performance can help to address the perceived issues with using social networks. As the research framework, this paper used a version of TAM and DOI, as well as quantitative data collection and analysis methods, surveying 149 university students using stratified random sampling. Thereafter, using structural equation modeling, the data was statistically examined (SEM). The results showed that Perceived Enjoyment and Perceived Usefulness were significant determinants of working in a team and learning via social media. However, it was discovered that Perceived Ease Of Use and intention to use social websites and collaborative learning have a negative association. Furthermore, the research reveals that three elements, Intentions To Use Social Media, Collaborative Learning, and Academic Performance, have substantial correlations. In applying this technique to business education, this study examines the educational benefits, pedagogical implications, and research constraints. These ideas are fleshed out, along with suggestions for future study directions.

Keywords: *Perceived enjoyment, perceived ease of use, perceived usefulness, intention to use social media, collaborative learning, academic performance*

INTRODUCTION

A new classification of social media that provides an effective method for communication, collaboration, and establishing connections among its participants has emerged in recent years as a result of the explosive development of emerging mobile technologies (Ruleman, 2012). Social media has become a popular channel for distributing information among the online users of the twenty-first century. The majority of social media users are young people, with the significant proportion of them being university students. Social networks like Facebook and LinkedIn are progressively being used for academic purposes by institutions and faculties. These mainly serve as a means of communication with current and prospective students and the distribution of educational materials (Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015). Lecturers are utilizing social media for productive conversations with their students about academic problems and to enhance learning outcomes effectively through greater communication both inside and outside of the

classroom. According to various studies, social media implements utilitarian technologies based on TAM foundations. Nevertheless, it has been noted that the time spent on social media has a negative impact on the academic performance of learners (Junco, 2012; Kirschner & Karpinski, 2010). Therefore, the purpose of this study is to investigate the factors that influence student intentions to use social media to participate in social media for collaborative learning and academic performance and the impact of collaborative learning through social media on academic performance in Vietnamese higher education.

LITERATURE REVIEW

TAM and DOI (Diffusion of innovations)

Davis's original research on the Technology Acceptance Model resulted in the concepts of usefulness and ease of use of technology (F. D. Davis, 1989). This is one of the most extensively used models for determining whether or not someone intends to utilize social media. Furthermore, we used TAM in accordance with (Rogers, 2010) constructivist

theory of Diffusion of Innovation (DOI), which was inherently used as a theoretical foundation for most of the applied study.

According to an evaluation of IT adoption studies, the elements for innovations are mostly found in the IT applied literature (Hameed, Counsell, & Swift, 2012; Puklavec, Oliveira, & Popovič, 2014). DOI and TAM reflect two principles: the first is that innovations are appraised by their followers based on their perceptions of their elements, and the second is that the adoption of any invention is determined by its favorable characteristics (F. D. Davis, 1989; Rogers, 2010). TAM and DOI both operate on the idea that adopters evaluate innovations based on the expectations of their aspects, or that innovations with favorable aspects are more likely to be accepted (F. D. Davis, 1989; Rogers, 2010). This article also aims to cover the usage of information technology for students' learning via social media.

Perceived enjoyment

The increasing popularity of social media is also driven by perceived enjoyment (PE) as a motivating factor (Al-Rahmi & Zeki, 2017; Rauniar, Rawski, Yang, & Johnson, 2014; Ruleman, 2012). Sharing diverse photographs or videos on social networking platforms like Facebook, Twitter, and WeChat is seen to be having fun and enjoyment. It can provide people with entertainment, pleasure, and amusement by giving fascinating posts (Gan & Wang, 2015). According to a study conducted by Hamid et al. (2015), "online social networking (OSN) presented the students with a more engaging learning environment compared to traditional classroom-based teaching and learning" (Hamid, Waycott, Kurnia, & Chang, 2015). The intention to adopt new technology is strongly influenced by PE (G. B. Davis et al., 1992). According to the interdependence idea, it is natural for members of a team to work together to achieve a common goal, which has a substantial impact on team effectiveness (Alsharo, Gregg, & Ramirez, 2017). However, when compared to other external factors, perceived team happiness as an external factor is not typically observed in previous TAM studies in the context of student learning. In light of the preceding discussions, this study proposes following hypothesis to test:

H1: *There is a significant positive relationship between perceived enjoyment and intention to use social media.*

H2: *There is a significant positive relationship between perceived enjoyment and collaborative learning.*

Perceived ease of use

The term perceived ease of use (PEOU) refers to a situation in which a person believes that using a given method requires little effort (F. D. Davis, 1989). Additionally, PEOU was defined as a user's ability to handle a technology and the ease with which they can obtain the system to achieve their aims, the mental effort required to communicate with the server, and the ease with which they can use that system (Oly Ndubisi & Jantan, 2003). Social media platforms are regarded as important educational and learning tools for people, particularly students (Boyd & Ellison, 2007; Sánchez, Cortijo, & Javed, 2014), because they are easy to use (Al-Mashaqbeh, 2015). Furthermore, several studies discovered that perceived ease of use increased people's willingness to use social media for open learning. The term PEOU was used in this study to describe how comfortable students are with using social media for collaborative learning. Based on the earlier discussion, we suggest following hypothesis for this study:

H3: *There is a significant positive relationship between perceived ease of use and intention to use social media.*

H4: *There is a significant positive relationship between perceived ease of use and collaborative learning.*

Perceived usefulness

According to the technology adoption model, perceived usefulness (PU) is the most compelling reason to employ information technology (Cheung, Chiu, & Lee, 2011; Ngai, Tao, & Moon, 2015). PU has the greatest impact on one's intention to use information technology in general, and it also appears to be the driving factor behind the adoption of social media in educational contexts (F. D. Davis, 1989). Within the school, social media is used to improve educational efficiency. Students will plan to use social networks in accordance with the objective of collaborative learning once they discover how valuable they are. The perceived usefulness of social media tools for learning in higher education, according to Mazman, has a strong influence on behavioral intentions (Mazman & Koçak-Usluel, 2010). Other studies on Facebook adoption define perceived usefulness as the degree to which a user accepts (with trust) PU is

critical in defining university students' intentions to use social media as a tool for their studies. In view of the above discussion, we propose the following hypothesis:

- H5: *There is a significant positive relationship between perceived usefulness and intention to use social media.*
- H6: *There is a significant positive relationship between perceived usefulness and collaborative learning.*

Intention to use social media

Intention to use, as defined by (Venkatesh, Thong, & Xu, 2012), refers to users' willingness to use a technology. Individual will in utilizing technology, which include factors that influence any technology utilization, is described as behavioral intention to use (Venkatesh et al., 2012). In this study, behavioral intention indicates the extent to which students will utilize social media platforms for collaborative learning in the future. The research found that behavioral intention has a direct impact on the use of social media applications for collaborative learning (W. M. Al-Rahmi, M. S. Othman, & L. M. Yusuf, 2015a; Labib & Mostafa, 2015).

- H7: *There is a significant positive relationship between intention to use social media and collaborative Learning*
- H8: *There is a significant positive relationship between intention to use social media and students' academic performance*

Collaborative learning

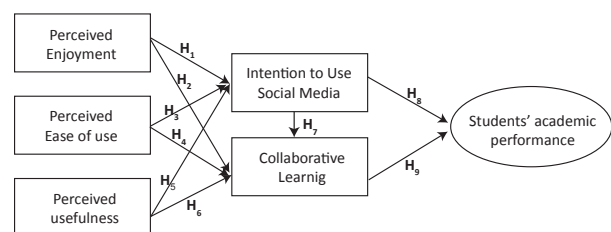
Collaborative learning (CL) is the process in which a group of students work together to achieve a particular learning achievement in a more interactive environment (Alavi, Wheeler, & Valacich, 1995). (W. M. Al-Rahmi et al., 2015a; W. M. Al-Rahmi, M. S. Othman, & L. M. Yusuf, 2015b, 2015c) stated that using social media platforms for engagement and CL had a positive impact on group interactions. As a result, students might be more capable of communicating with their colleagues while finding solutions for issues in a collaborative way (Anderson, 2007). In light of the discussion above, the researcher suggests the following hypothesis:

- H9: *There is a significant positive relationship between collaborative learning and students' academic performance*

Academic performance

Academic performance (AP) is a result of education that indicates whether a student, learner, or educational organization has achieved its educational objectives (MacGeorge et al., 2008). According to Junco (2011), social media has more significant influence on AP of its users than other types of media (Junco, 2012). In addition, Hamid et al. (2011) argued that social media use in higher education could be executed in a variety of ways and produce positive outcomes (Hamid, Waycott, Chang, & Kurnia, 2011). For instance, Madge et al. (2009) insisted that using social media can enhance access to education and engagement (Madge, Meek, Wellens, & Hooley, 2009). Nevertheless, there are some advantages of a social media user. According to (Roblyer et al., 2010), social media are sources of information exchange among students and teachers in their schools (Rutherford, 2010). Furthermore, the use of social media networks promotes the development of positive relationships among students' AP (Al-Rahmi, Alias, Othman, Alzahrani, et al., 2018; Al-Rahmi, Alias, Othman, Marin, & Tur, 2018; Al-Rahmi et al., 2019).

RESEARCH MODEL AND HYPOTHESIS



- H1: *There is a significant positive relationship between perceived enjoyment and intention to use social media.*
- H2: *There is a significant positive relationship between perceived enjoyment and collaborative learning.*
- H3: *There is a significant positive relationship between perceived ease of use and intention to use social media.*
- H4: *There is a significant positive relationship between perceived ease of use and collaborative learning.*
- H5: *There is a significant positive relationship between perceived usefulness and intention to use social media.*

- H6: *There is a significant positive relationship between perceived usefulness and collaborative learning*
- H7: *There is a significant positive relationship between intention to use social media and collaborative Learning*
- H8: *There is a significant positive relationship between intention to use social media and students' academic performance*
- H9: *There is a significant positive relationship between collaborative learning and students' academic performance*

RESEARCH METHOD AND DATA COLLECTION

The aim of the study is to determine the affecting factors on the intention of using social media, learning collaboration as well as students' academic performance in higher education. Therefore, an online survey is conducted to collect data from the students of the private university in Vietnam, typically FPT University Da Nang. The quantitative method is used to analyze statistics and numbers due to its convenience (Osborne, 2008). From that, the relationships between independent variables, mediating variables, and dependent variables are examined clearly throughout the research paper.

An online questionnaire that is delivered to the student in the private school includes 2 parts: The first part is demographic information of participants and The second part has 23 questions related to 6 items in the research model. Moreover, the answers are measured by the Five-Likert Scale, where 1 = "Totally disagree" and 5 = "Totally Agree".

In order to discover the relationship among three kinds of variables, and focus on putting a theoretical framework to the test from a prediction standpoint, the PLS-SEM is a reasonable tool for the study (J. F. Hair, Risher, Sarstedt, & Ringle, 2019). Thus, the estimation of results will be more precise. While Cronbach's Alpha and Composite Reliability CR assess the threshold of reliability in the scale, Average Variance Extracted (AVE) shows the value of convergence. In addition, Fornell and Larcker and HTMT in bootstrapping analysis point out the discriminant validity in latent variables.

Barclay et al. (1995), Hair et al. (2022), and Chin (1998) suggested a method to identify the minimum sample size when using PLS-SEM, called the "10-times rule"

(Barclay, Higgins, & Thompson, 1995; Chin, 1998; J. Hair, Hult, Ringle, & Sarstedt, 2022) in terms of the quantitative research papers. In the research model, the authors proposed 9 Hypotheses; therefore, the minimum sample size is $9 \times 10 = 90$. Overall, 149 participants took part in the online survey at FPT University Da Nang, whereas a sample was unusable. As a result, the number of samples is satisfied and eligible.

DATA ANALYSIS

Demographics

A total of 148 students at FPT University Da Nang filled in the online survey and the result was shown in Table 1. The statistics showed that there were 57.4% of male students which was higher than that of female students, at 42.6%. People aged 18-19 made up the highest rates during the research period, followed by 22 year old students with 20.9%. Most of the participants are freshmen to seniors, there are no differences in the groups. The survey also pointed out that students had the inclination to simultaneously use many channels for their studies. Facebook was a popular channel to study and took up 53.2% of the total channels, which is higher than Zalo 1.5 times. Meanwhile, the percentage of users was lowest at 2.3% and other channels reported 10.2%. Moreover, social media sites were helpful in learning collaboration remotely while the Covid-19 pandemic situation is complicated. Students often worked in groups of less than 1 hour and 1-2 hours, at 30.4% and 42.6% respectively. Following that, the time of using social media for 2-3 hours accounted for 16.2% and the rest of the total respondents took more than 3 hours to learn with their groups on the internet.

Table1

Demographics of respondents

Measures	Frequency	Percentage
Gender		
Male	85	57.4
Female	63	42.6
Age		
18	32	21.6
19	43	29.1
20	24	16.2
21	17	11.5
22	31	20.9
>22	1	0.7

Student year		
Freshman	69	46.6
Sophomore	25	16.9
Junior	14	9.5
Senior	40	27
Social Media Channel		
Facebook	141	53.2
Zalo	91	34.3
LinkedIn	6	2.3
Other	27	10.2
Usage of social media for studying		
<1 hour	28	18.9
1-2 hours	53	35.8
2-3 hours	30	20.3
> 3 hours	37	25
Usage of social media for collaborative learning		
<1 hour	45	30.4
1-2 hours	63	42.6
2-3 hours	24	16.2
> 3 hours	16	10.8

RESULTS

The collected data were analyzed in two main steps in the procedure (J. F. Hair, 2009). First, the reliability and convergent and discriminant validity were examined to measure the model. Then, to test the meaningful relationships in the constructs, the statistics of the structural model were implemented.

Convergent validity of the measurements

In the first time of data analysis, the outer loading of indicator (PE 2) was under 0.7, and (PE 2) should consider removing the structure (J. Hair et al., 2022). According to (J. Hair et al., 2022), outer loading pointed out significant statistics; the higher outer loading is, the similar indicators are in the construct. Thus, a remarkable outer loading should equal 0.708 or higher (J. Hair et al., 2022). In this case, the researchers should consider these carefully instead of deleting these indicators automatically (Hulland, 1999). Based on (Hulland, 1999), (PE 2) was eliminated, because the indicator of Composite Reliability and Cronbach Alpha also increased in a threshold value.

In the second time analyzing data, the indicators satisfied the recommendations of the previous researchers (Fornell & Larcker, 1981; McCarthy,

2010). All of the factor loadings were above 0.7 and the values of Composite Reliability fluctuated between 0.859 and 0.926. Cronbach Alpha values were in the range of 0.755 to 0.894 and exceeded the value of 0.7. Likewise, Average Variance Extracted (AVE) achieved the highest value at 0.805 and the rest of the values were bigger than 0.5. So, the average of latent variables will explain at least 50% of the variation of each observed variable. The measurement model related to CFA is presented in Table 2.

Table 2

Convergent validity

Factors	Code	Outer Loading	Composite Reliability	Average Variance Extracted (AVE)	Cronbach Alpha
(PE)	PE1	0.795	0.859	0.670	0.755
	PE 3	0.831			
	PE4	0.830			
(PEOU)	PEOU 1	0.882	0.914	0.726	0.874
	PEOU 2	0.784			
	PEOU 3	0.860			
	PEOU 4	0.879			
(PU)	PU 1	0.834	0.926	0.759	0.894
	PU 2	0.905			
	PU 3	0.844			
	PU 4	0.899			
(ITUSM)	ITUSM 1	0.892	0.925	0.805	0.879
	ITUSM 2	0.913			
	ITUSM 3	0.887			
(CL)	CL 1	0.862	0.904	0.704	0.856
	CL 2	0.868			
	CL 3	0.910			
	CL 4	0.702			
(AP)	AP 1	0.858	0.924	0.753	0.891
	AP 2	0.884			
	AP 3	0.884			
	AP 4	0.884			

Discriminant validity of the measures

Discriminant value indicates the distinctiveness of a structure when compared with other structures in the model. The traditional approach to assessing discriminants is to use the square root index AVE in the rows and columns respectively proposed by (Fornell & Larcker, 1981). Moreover, each construct's square root AVE should be larger than the correlations with other latent constructs (J. Hair et al., 2022). Table 3 showed that discriminant validity for this measurement model can be accepted, and it

supports discriminant validity among the constructs (Fornell & Larcker, 1981).

Table 3

Fornell-Larcker Criterion

	AP	CL	ITUSM	PE	PEOU	PU
AP	0.868					
CL	0.748	0.839				
ITUSM	0.690	0.790	0.897			
PE	0.614	0.746	0.678	0.819		
PEOU	0.695	0.744	0.693	0.738	0.852	
PU	0.733	0.794	0.773	0.722	0.756	0.871

For the HTMT index, (Watson et al., 1995) and (Kline, 2015) used a standard threshold of 0.85 to ensure a discriminant value between two latent variables. Meanwhile, three values in the column of Collaborative learning (CL) and Intentions to use social media (ITUSM), Perceived enjoyment (PE), and Perceived ease of use (PEOU) exceeded the standard point. However, according to (Henseler, Hubona, & Ray, 2016), the HTMT should be smaller than 1 to ensure the discriminant between two factors. As a result, the data was also accepted in ratio HTMT, see Table 4.

Table 4

Heterotrait-Monotrait Ratio (HTMT)

	AP	CL	ITUSM	PE	PEOU	PU
AP						
CL	0.854					
ITUSM	0.774	0.907				
PE	0.739	0.915	0.827			
PEOU	0.780	0.850	0.780	0.893		
PU	0.818	0.907	0.869	0.867	0.848	

Structural model analysis

The R square coefficient is a measure in the prediction of the model. In terms of variance explained by the independent constructs compared to the overall variance retrieved from the actual data, the R square achieved with the PLS model is the same as for multiple regression (J. F. Hair, Sarstedt, & Ringle, 2019).

Table 5 indicated that the R square values of (AP), (CL), and (ITUSM) were 0.585; 0.748; and 0.639 respectively. The dependent variable (CL) could be explained 74.8% by independent variables, which means that the factors (PE, PEOU, PU) can explain

74.8% of the studying in the group of students. Other variables outside the model account for the remaining 25.2%. Simultaneously, the independent factors of the TAM model can expound on 63.9% of the intentions of using social media while the variables (CL, ITUSM) can interpret 58.5% of the students' academic performance in higher education.

Table 5

R square of the Latent Variables

	R square
AP	0.585
CL	0.748
ITUSM	0.639

Path analysis

After analyzing the set of data by the SmartPLS, Table 6 described the revised structural modeling results. If the p-value is less than 0.05 or the 95% confidence interval that helps to explain the significant predictors of the relationships in a structural model (J. F. Hair, Risher, et al., 2019).

The findings suggest that (PE) has a significant effect on (ITUSM) ($\beta = 0.181$, $t = 2.196$, $p < 0.05$). Therefore, the first hypothesis is supported. Similarly, the relationship between (PE) and (CL) is strong and positive ($\beta = 0.218$, $t = 2.354$, $p < 0.05$). By contrast, in affecting of two next hypotheses include (PEOU) and (ITUSM) (H3); (PEOU) and (CL) (H4) have no positive influences, the values are ($\beta = 0.172$, $t = 1.671$, $p > 0.05$) and ($\beta = 0.153$, $t = 1.601$, $p > 0.05$) respectively. Because the p-values are higher than the standard 0.05, (H3) and (H4) are rejected. However, (PU) is reported to impact positively (ITUSM) ($\beta = 0.512$, $t = 5.800$, $p < 0.05$); thus, (H5) is accepted in the model construct. The next relationship (H6) is supported and the value is following the results ($\beta = 0.265$, $t = 2.655$, $p < 0.05$). (PU) has obviously a significant predictor of (CL). Furthermore, there is a powerful effect on the relationship between (ITUSM) and (CL) ($\beta = 0.331$, $t = 3.886$, $p < 0.05$). It means that (H7) is also positive and supported. In predicting (AP), two predictors as (ITUSM) and (CL) are reported to be significant. While the value of (H8) is ($\beta = 0.263$, $t = 2.614$, $p < 0.05$), the value of (H9) is ($\beta = 0.540$, $t = 5.431$, $p < 0.05$). So, the last two hypotheses (H8) and (H9) are accepted when the p-values are also satisfied the condition of the construct. In sum, seven hypotheses in a total of nine hypotheses are positive and supported.

Table 6*Hypotheses testing results*

H	Relationship	β	Mean	SD	t-statistics	p-values	Results
H1	PE → ITUSM	0.181	0.179	0.083	2.196	0.029	Supported
H2	PE → CL	0.218	0.212	0.092	2.354	0.019	Supported
H3	PEOU → ITUSM	0.172	0.177	0.103	1.671	0.095	Rejected
H4	PEOU → CL	0.153	0.160	0.095	1.601	0.110	Rejected
H5	PU → ITUSM	0.512	0.507	0.088	5.800	0.000	Supported
H6	PU → CL	0.265	0.265	0.100	2.655	0.008	Supported
H7	ITUSM → CL	0.331	0.331	0.085	3.886	0.000	Supported
H8	ITUSM → AP	0.263	0.260	0.100	2.614	0.009	Supported
H9	CL → AP	0.540	0.547	0.100	5.431	0.000	Supported

DISCUSSION

The results of the study stated that the factors of the TAM Model such as (PE), (PEOU), and (PU) have positive predictors of (ITUSM), as well as (CL). From that, it could help students improve and enhance their academic performance at University. The success of this research is to make clear the crucial role of the independent variables in the research model.

The findings showed that (PE) and (PU) were a significant impact on the intentions of using social media. The students would feel excited while exploring more information by using social media channels. Also, using social media could be able to improve their learning performance. These hypotheses also received the same results from (Al-Rahmi & Zeki, 2017; Alenazy, Al-Rahmi, & Khan, 2019; Sarwar, Zulfiqar, Aziz, & Ejaz Chandia, 2019). However, the articles (Al-Rahmi & Zeki, 2017; Alenazy et al., 2019) supposed that (PEOU) predicted positively for using social media by students, this study had the opposite result. Students felt have any problem learning about social media sites' features and their interaction with social media was not clear and understandable. Although this result has differed from former studies, (Ernst, Pfeiffer, & Rothlauf, 2013; Oum & Han, 2011) agreed that (PEOU) did not support social media use. (PEOU) simultaneously had no positive influence on (CL) and it was similar to (Al-Rahmi et al., 2022) while the last researchers supported it (Al-Rahmi, Othman, & Musa, 2014; Sarwar et al., 2019). Therefore, students believed that using social media might not

be easy to incorporate and approach peers in my classroom. As the same as (Al-Rahmi & Zeki, 2017; Alenazy et al., 2019), (PE) and (PU) were not only supported for social media use but these factors also were positive and significant in the relationship with (CL). It means that social networks would go a long way towards improving students' satisfaction with learning collaboration and making them feel satisfied in their teams. In addition, the statistics revealed that the benefits of social platforms would be of use for academic purposes to discuss and communicate with colleagues. That facilitated to development of new knowledge with peer collaboration via social media. That is why (ITUSM) influenced significantly (CL) which was agreed by (Al-Rahmi, Alias, Othman, Marin, et al., 2018; Alenazy et al., 2019). Besides, both (ITUSM) and (CL) were significant predictors of (AC). Thus, the students considered social platforms as an effective channel to work in groups and increase their performance academically as much as they expected. According to (Alalwan et al., 2019; Alenazy et al., 2019) these relationships were also strong and positive.

Overall, this research backs up the idea that social media may help students improve their skills by allowing them to communicate with their peers. Their enjoyment of utilizing social media encourages them to use technology in combination with various platforms, which increases their abilities and academic accomplishment through collaborative learning.

CONCLUSION AND LIMITATIONS

The paper's aim is to determine the factors that influence student intentions to use social media for collaborative learning and academic performance. The students at FPT University Da Nang, Vietnam would be the respondents. From provided results, both educational organizations and media companies might develop useful platforms and enhance students' performance.

TAM model indicated its advantages in assessing the intentions and behaviors of a specific object in terms of using technology. Hence, based on the previous studies, the authors synthesized the factors for the development of a proposed research model. Due to the important role of the TAM model, three independent variables were chosen consist (PE), (PEOU), and (PU) (Al-Maatouk et al., 2020; Al-Rahmi & Zeki, 2017; Othman & Al-rahmi, 2013; Rietz, Benke, & Maedche, 2019). Two mediate variables were

(ITUSM) and (CL) which was proposed by (Al-Rahmi & Zeki, 2017; Alenazy et al., 2019). Finally, (AC) was displayed as a dependent variable in the construct (W. Al-Rahmi, M. S. Othman, & L. M. Yusuf, 2015; Al-Rahmi et al., 2022).

PLS Smart algorithm shows that (CL) has the highest impact on students' performance in school. They believe that learning with groups or teams experience in the social media environment is better than in a face-to-face learning environment. Additionally, the effect of the Covid-19 pandemic could be a considerable factor to increase communication via the Internet. Although obtained results in this study are similar to the last articles (Al-Rahmi & Zeki, 2017; Alenazy et al., 2019), (PEOU) was not able to predict both the intentions of using social websites and learning cooperation. The students suppose that social media sites are not easy to connect and discuss with their classmates due to their features. Meanwhile, the rest of the TAM model's factors (PE) and (PU) strongly support teamwork and learning via online platforms. Furthermore, the study suggests significant relationships among three factors (ITUSM), (CL), and (AC). If the use of social media helps students open the interaction with their colleagues and lecturers in the university, the connection of these behaviors will supplement more knowledge and skills from other people. Thereby, the students may accomplish higher academic performance. However, social media sites also have some negative impacts on students. In order to reduce this problem, education organizations and social media companies play an important role in the orientation of applying social channels in studying in higher education.

On the other hand, this study contributes to developing literature reviews concerned with the concept of the TAM model, (ITUSM) and (CL). That would be a vital element for future researchers to exploit the meaningful relationship of the construct in different contexts. Moreover, educators and enterprises can utilize the collected data and analyzed results from this research to make decisions for the enhancement of students' performance. Generally, the efficient approach to social networks would boost the motivation of students to create more ideas in class and help them enhance their performance in academics.

Nevertheless, the study also has some limitations. The first is the number of independent variables. In addition to the factors mentioned in this paper, there are still other factors that need to be considered to

supplement the research. Second, the sample size of the study should be expanded in the future instead of stopping at the facilities of private schools such as FPT University Da Nang instead of public universities. Thus, future researchers might develop more affecting factors and open research scope in more quantities of universities.

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