Use of Social Media in Student Learning and Its Effect on Academic Performance

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17.1 Introduction

The widespread use of social media sites has become a global phenomenon in recent years (Acheaw and Larson 2015). It facilitates communication between people, shares information, sends messages, creates blogs and conducts real-time conversations (Al-rahmi et al. 2015). The term "social media" has been defined as electronically mediated technologies to facilitate sharing and creation of information, ideas and interests (Bajpai 2018). According to El-Badawy and Hashem (2015), social media provide a platform that uses two-way communication to facilitate interaction between people who have online accounts. Due to speed, reach and ease of use, social media are changing the public discourse in the society and making new trends (Asur and Huberman 2014). Such media have a variety of applications and tools, including social networks, blogs, online videos and other online and electronic tools (Tenopir et al. 2013). Growing attention to social media can be seen in disciplines as different as economics, marketing, health, education and other industries (Phillips and Shipps 2012).

Social media have changed not only communication between people but also the way students learn (Mingle and Adams 2015). According to Al-rahmi et al. (2015), a considerable number of social media users are young people engaged in higher education. Higher education institutes use social media to connect with students and alumni and to deliver instructional content (Al-rahmi et al. 2016). The incorporation of social media within the educational context is easy, because most students tend to create accounts on many social media sites such as Facebook, Twitter, Instagram,

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YouTube, Google, etc. (Tess 2013). Collaborative learning, information distribution and communication between peers have been the common benefits of using social media in higher education (Collins and Hide 2010; Nicholas et al. 2014; Al-rahmi et al. 2016). Further, social media facilitate investigation-based and collaborative learning among students in higher education and make them active learners (Al-rahmi and Othram 2013).

However, other studies identify an adverse effect of social media on academic performance. Many students are unfocused on their lessons and highly distracted because of using social media during lectures (Bajpai 2018). A significant negative relationship between social media usage and academic performance has been cited (Acheaw and Larson 2015; Kirschner and Karpinski 2010; Brooks 2015). According to Mingle and Adams (2015), undergraduates have had negative experiences such as lack of time to study, late assignment submissions and poor spelling and grammar due to heavy use of social media. El- Badawy and Hashem (2015) have argued that there is no relationship between social media use and academic performance – positive or negative.

Although a considerable number of studies have explored the impact of social media in higher education, the findings have been inconclusive. Thus, further research is important to identify the effect of social media use on students' academic performance (Melani and Andrew 2018; Thuseethan and Vasanthapriyan 2015). Little attention has been given to studying the impact of social media on students' academic performance, specifically in the Sri Lankan higher education context. The purpose of this study was, therefore, to develop an integrated multi-dimensional model to provide a more comprehensive view of the impact of social media usage on performance.

The rest of the paper is organized as follows. The review of literature is presented in section two. Section three presents the conceptual model developed based on the literature, followed by formulation of hypotheses in section four. The methodology used is presented in section five. Section six provides the results and section seven discussion of findings. Section eight reports the conclusion, and in section nine practical implications are provided.

17.2 Literature Review

Due to the invention of social media, the online world has changed drastically. Billions of people exchange their opinions, personal information, pictures and videos at an amazing rate (Acheaw and Larson 2015). This has transformed communication and all areas reliant upon it. Social media comprise electronic tools such as blogs, collaborative projects, social networking sites, virtual social worlds, virtual games, virtual second world and content communities (Kaplan and Haenlein 2010). Examples include Facebook, Twitter, Myspace (Asur and Huberman 2014) and YouTube (Al-rahmi and Zeki 2016). Al-rahmi and Othman (2013) and Nicholas et al. (2014) have identified Wikipedia also as part of social media. In this study,

"social media" refers to the applications, services and systems that allow users to create, remix and share content (Junco 2012).

Khurana (2015) emphasizes that most social media users are in the 15–25 age range, representing the youth generation. The majority of users are college students or undergraduates (Al-rahmi et al. 2016). Hence a number of researchers have examined the impact of social media in education (Al-rahmi and Othram 2013; González et al. 2016; Lau 2017). Wheeler et al. (2008) found four major advantages of using social media: improved motivation for learning, enhanced relationships, personalized course materials and enhanced collaborative learning. With the popularity of social media, universities use them as a marketing tool and as a tool to communicate with students and alumni (Al-rahmi et al. 2014).

Studies report positive effects (Al-rahmi and Othram 2013; Bajpai 2018; Michikyan et al. 2015) and negative effects (Acheaw and Larson 2015; Mingle 2015) on students' academic performance. Phillips and Shipps (2012) indicate that use of social media increases collaborative information sharing without considering time and geographical barriers and it is helpful for educational purposes. College students can have opportunities to enhance creative work, get support from peers and alumni and have mutual contacts with their institution by associating with social media (Al-rahmi and Zeki 2016). As positive outcomes, social media usage improves writing skills and vocabulary and reduces spelling mistakes (Yunus and Salehi 2012). Social media also help students become active learners (Rutherford 2010). Al-rahmi and Othman (2013) highlight that social media enhance academic performance through collaborative learning along with the interactivity with teachers, peers and engagement. Said, Alshuaibi et al. (2018) argue that people can learn from other's multiple intelligences, by creating and sharing information via social media, which means they can analyse the way others think. Moghavvemi et al. (2018) have identified YouTube as an effective medium for students in a learning process if the videos are relevant to their courses.

Using social media for non-academic purposes and multitasking in social media have negatively affected academic performance (Lau 2017). To examine multitasking performance, Sweller (1994) used cognitive load theory, which explains the role of working memory in educational aspects. Despite the advantages of social media, misuse leads to negative impacts on learning such as less study time, late submissions and spelling and grammar mistakes (Mingle and Adams 2015). According to Bandura's (1998) social learning theory, individuals, peers and situations may affect individuals' learning outcomes. Higher usage levels of social media lead to lower performance of tasks as well as increased technostress and lower happiness (Brooks 2015). Kolan (2018) argues that, although students gain many advantages by using social media, such as information sharing, discussions with others and building relationships, usage may lead to addictions to an extent, resulting in reduced concentration that seriously affects academic lives. Considering these aspects, Kolan called social media a "useful servant but a dangerous master" that can be further described as a "two-edged sword". Bajpai (2018) argue that there should be a balance between social media usage for academic and non-academic purposes. They stress that restrictions on social media are undesirable in this globalized era; students

should be encouraged to use social media more and more for academic purposes (see also Mingle and Admas 2015).

A review of literature highlights that prior studies have used the technology acceptance model (TAM) (Davis 1989), the theory of reasoned action (TRA) (Fishbein and Ajzen 1975), the theory of planned behaviour (TPB) (Ellen and Ajzen 1992) and the unified theory of acceptance and use of technology (UTAUT) model (Venkatesh 2000) to predict the acceptance and adoption of information technology, and these are also commonly applied in social media research (Lu et al. 2009; Phillips and Shipps 2012; Fan et al. 2013). TAM and TPB have been commonly used in predicting IT acceptance and adoption (Fan et al. 2013; Choi and Chung 2013; Lu et al. 2009; Pavlou and Fygenson 2006; Liao et al. 2007). Much research on social media usage in higher education has emphasized TAM and TPB as prominent models in explaining user behaviour. However, to better understand the role played by social media in higher education, apart from usage, how social media impact students' academic performance is equally important. Thus, the literature lacks models providing an integrated view of the impact of social media on students' intention to use such tools in their learning and the impact on academic performance.

TAM (Davis 1989) and TPB (Ajzen 1991) are models used to explain and predict beliefs and behaviour of individuals. TAM predicts that perceived usefulness (PU) and perceived ease of use (PEOU) determine attitudes towards using and intention to use a specific technology; TPB states that attitude toward behaviour, subjective norms and perceived behavioural control (PBC) shape an individual's behavioural intentions and behaviour. Delone and McLean (1992) proposed the IS success model and updated it (Delone and McLean 2003) to predict the net benefits in the updated version. The IS success model provides the theoretical foundation to predict the system's success through the outcomes (net benefits) determined by the intention to use or indeed use a system and user satisfaction (Isaac et al. 2019). Hence the current study hypothesized a comprehensive model synthesizing the concepts of TAM, TPB and IS success model in a complementary manner to predict students' academic performance (outcome) based on user beliefs and user behaviour.

17.3 Research Model

A comprehensive review of the literature revealed the importance of identifying the impact of students' intention to use social media in their learning, as well as identifying the effect of social media on their academic performance. Although the TAM and TPB alone properly reflect behavioural intention, there was no prior research to demonstrate the impact of students' beliefs on intention to use social media in their learning and how it affects their academic performance. This study therefore seeks to synthesize the important aspects from the TAM, TPB and IS success models to predict students' intention to use social media and its academic performance impact. The conceptual model in Fig. 17.1 reflects the relationships between all the theoretical constructs used in the model. Perceived usefulness (PU) and perceived ease of

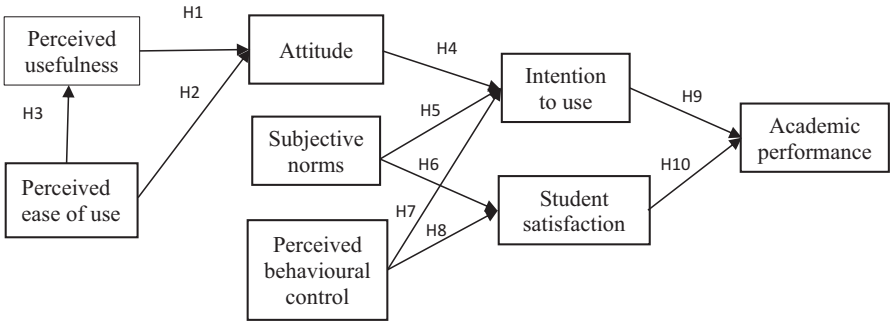

Fig. 17.1 Research model

use (PEOU) were taken from TAM to reflect students' perception about system features. Attitude, subjective norm and perceived behavioural control (PBC) were taken from TPB to reflect the effect of individuals' control beliefs and normative beliefs on their behaviour. Intention to use, student satisfaction and academic performance (net benefit) were three success dimensions from the IS success model to reflect how control beliefs and normative beliefs impact user satisfaction and intention to use, which in turn affect individuals' perception of the impact of social media on their academic performance. Academic performance is "The apparent demonstration of understanding, concepts, skills, ideas and knowledge of a person and proposed that grades clearly depict the performance of a student" (Tuckman 1975, p. 15).

17.4 Hypotheses of the Study

17.4.1 Perceived Usefulness

PU refers to "The degree to which individuals believe that their performance will enhance by using the technology" (Davis 1989, p. 320). Fan et al. (2013) have identified PU as a key motivator of consumers' intention and attitudes towards using blog services. Lu et al. (2009) show that there is a significant positive relationship between PU and attitude towards using instant messaging. Dumpit and Fernandez (2017), in their study on use of social media in higher educational institutes, emphasize that PU influences attitudes and this in turn leads to intention to use social media. Phillips and Shipps (2012) adopted TAM in their study and found a positive relationship between PU and attitude towards use of social media. Based on the justification above, the following hypothesis was formulated:

H1: Perceived usefulness has a positive effect on attitude towards using social media in student learning.

17.4.2 Perceived Ease of Use

Davis (1989, p. 320) defined PEOU as "The degree to which an individual feels that using a particular technology will be free of effort". PEOU has a positive effect on intention to use systems as well as PU. The less the effort in using a system, the better the performance (Venkatesh and Davis 2000). In the social media context, PEOU can be described as the degree to which a student believes that social media e-learning systems (ELS) will be easy to use and free of effort in that use. Lee (2006) emphasizes that PEOU positively affects attitudes towards using ELS. Gu et al. (2009) have identified PEOU as the main determinant of PU and that it has a direct and indirect effect on intention to use in mobile banking. Hence, the following hypotheses were formulated:

H2: Perceived ease of use has a positive effect on attitude towards using social media in student learning.
H3: Perceived ease of use has a positive effect on perceived usefulness of social media in student learning.

17.4.3 Attitude

In both TAM and TPB, attitude is the antecedent of intention to use (Davis 1989; Ajzen 1991). It can be defined as "An individual's positive or negative feelings about performing the target behavior" (Ajzen 1991, p. 188). Pavlou and Fygenson (2006) found that attitude has a positive effect on intention to purchase products online. Park (2009) showed a significant positive effect of attitude on intention to use e-learning systems. According to Alqasa et al. (2014), there is a positive relationship between students' attitude and behavioural intention to use banking systems. Hussain (2016) emphasizes that attitude towards e-learning positively impacts on students' intention to use it. Irianto (2015) shows that consumers' attitudes positively affect their intentions when they are purchasing organic foods in the market. Alharbi and Drew (2014) have found a positive relationship between attitude towards the usage of learning management systems (LMS) and the behavioural intention to use LMS among academics. Another study has found that attitude positively influences the intention to use bike-sharing systems in today's sharing economy (Yu et al. 2018). Based on this discussion, the following hypothesis was formulated:

H4: Attitude has a positive effect on intention to use social media in student learning.

17.4.4 Subjective Norms

Subjective norms refer to "The degree to which a person perceives that others believe he/she should use the technology" (Taylor and Todd 1995, p. 150). In the TRA model, Fishbein and Ajzen (1975) tested social influence on behavioural

intention and reported that a person thinks that he should or should not perform a behaviour according to a social referent. These referents may be parents, teachers, friends, classmates, etc. (Taylor and Todd 1995). For example, if a teacher believes students should use ELS, students may be strongly motivated to comply with the teacher's expectations, and they tend to use ELS more and more (Lee 2006). Alnaser et al. (2017) show a significant relationship between subjective norm and satisfaction. Hence the following hypotheses were formulated:

H5: Subjective norms have a positive effect on intention to use social media in student learning.
H6: Subjective norms have a positive effect on student satisfaction of social media use in their learning.

17.4.5 Perceived Behavioural Control

Ajzen (1991, p. 183) defined behavioural control as "People's perception of ease or difficulty in performing the behavior of interest", which simply means the degree to which an individual believes that there is a control factor which supports or hinders the performance of his/her behaviour. According to TPB (Ajzen 1991), perceived behavioural control (PBC) affects intention, which ultimately determines the behaviour. Chen (2013) emphasizes that PBC directly influences intention to use Web 2.0. Guo et al. (2009) have reported a significant effect of PBC on user satisfaction. In this study PBC is referred to as students' belief that using social media is under their control. Accordingly, the following hypotheses were formulated:

H7: Perceived behavioural control has a positive effect on intention to use social media in student learning.
H8: Perceived behavioural control has a positive effect on student satisfaction of social media in their learning.

17.4.6 Intention to Use

Intention is defined as the "Individual's intention to perform or not to perform a behavior" (Fishbein and Ajzen 1975). According to both TAM and TPB, intention to use systems leads to performing a behaviour or actual use. Some studies demonstrate the relationship between intention to use social media and actual usage (Salloum et al. 2018; Dumpit and Fernandez 2017). Intention to use also predicts the net benefits of using information systems, as included in the IS success model (Delone and McLean 2003). In this study, intention to use refers to students' intention to use social media in their learning. Hence the following hypothesis was formulated:

H9: Intention to use social media has a positive effect on students' academic performance.

17.4.7 Student Satisfaction

User satisfaction is a key indicator of deciding continued use (Eom 2014; Pereira et al. 2015). User satisfaction is defined as "whether the user feels the system is useful and plans to be a repeat visitor" (Xinli 2013, p. 59). Eom (2012) also finds that there is a positive relationship between user satisfaction and system use. Satisfaction is a predecessor of net benefits of a behaviour, found in the IS success model (Delone and McLean 2003). Al-Rahmi and Zeki (2016) report a positive relationship between satisfaction and learner performance in social media. Hence the following hypothesis was formulated:

H10: Student satisfaction has a positive effect on students' academic performance.

17.5 Methodology

The current study addressed the question "What is the impact of social media on students' academic performance?" To answer it, a quantitative research design was used. Data were gathered from undergraduate students of a leading university in Sri Lanka to obtain information about their experience of the impact of social media on their academic performance. A convenient but reasonably representative sample was used for data collection through an online questionnaire survey. The questionnaire was developed with already validated items from prior research. A seven-point Likert scale, anchored from "Strongly agree" to "Strongly disagree", was used to measure all the constructs in the research model. The questionnaire consisted of 34 questions in relation to model constructs and informants' demographic information; 312 usable responses were taken for the analysis after removing incomplete responses. SPSS (Version 23) and SmartPLS (Version 3.0) were used to analyse the data.

17.6 Results

SmartPLS (Version 3.0) was used to test the research model. Partial least squares (PLS) is a second-generation multivariate statistical technique that can evaluate both the measurement model and the structural model at the same time, in a single operation. PLS is a more appropriate technique to use with predictive-oriented and exploratory type of models (Hair et al. 2011; Richter et al. 2016). Thus PLS was chosen as the primary data analysis technique. Using the two-step analysis procedure (Hair et al. 2011), the measurement model was first evaluated, followed by the structural model analysis.

17.6.1 Measurement Model Analysis

In the measurement model analysis, indicator reliability, internal consistency reliability and construct validity were tested. According to Chin (1998), to establish indicator reliability, factor loadings should be greater than 0.7. In this study, all factor loadings were greater than 0.7 except for two items (see Table 17.1): PU4 and

Table 17.1 Factor loadings

Measures	AP	Att	BI	PBC	PEOU	PU	Sat	SN
AP1	0.872							
AP2	0.880							
AP3	0.891							
AP4	0.873							
AP5	0.875							
ATT1		0.891						
ATT2		0.929						
ATT3		0.906						
ATT4		0.849						
IU1			0.919					
IU2			0.909					
IU3			0.883					
IU4			0.910					
IU5			0.896					
PBC1				0.743				
PBC2				0.763				
PBC3				0.870				
PBC4				0.857				
PEOU1					0.815			
PEOU2					0.802			
PEOU3					0.798			
PEOU4					0.770			
PU1						0.784		
PU2						0.847		
PU3						0.819		
PU4						0.650		
PU5						0.674		
SAT1							0.856	
SAT2							0.903	
SAT3							0.863	
SN1								0.828
SN2								0.885
SN3								0.910
SN4								0.906

Note: *AP* academic performance, *ATT* attitude, *IU* intention to use, *PBC* perceived behavioural control, *PU* perceived usefulness, *PEOU* perceived ease of use, *SAT* student satisfaction, *SN* subjective norm

PU5 had factor loadings below the threshold value. However, as the factor loadings were very close to 0.7, (PU4 = 0.650; PU5 = 0.674), the two items were retained.

Internal consistency reliability refers to "The degree to which the items on a test jointly measure the same construct" (Henson 2001, p. 177). To assess the internal consistency reliability, Cronbach's alpha and composite reliability were used (Hair et al. 2009). The threshold value considered for Cronbach's alpha was 0.7 (Hair et al. 2009). As shown in Table 17.2, all the Cronbach's alpha values and composite reliability values fulfilled the requirements for establishing internal consistency reliability. Construct validity is defined as the extent to which a set of measures precisely represent the concept of interest (Hair et al. 2009). Construct validity was established using convergent validity and discriminant validity. Hair et al. (2017, p. 137) defined convergent validity as "The extent to which a measure correlates positively with alternative measures of the same construct" and discriminant validity as "The extent to which a construct is truly distinct from other constructs by empirical standards". This implies that a construct is unique, and it describes the phenomenon which is not represented by other constructs (Hair et al. 2017). To measure convergent validity, factor loadings and the AVE values of the constructs were used (Bagozzi et al. 1991; Hair et al. 2011). As Table 17.2 shows, AVE values of all constructs of the model were above the threshold value, 0.5 (Hair et al. 2011). Thus convergent validity was established.

Following Hair et al. (2017, p. 138), discriminant validity was established using the square root of AVE values of each construct (Fornell and Larcker 1981). Accordingly, AVE should be greater than the construct's highest squared correlation with any other latent construct. As the square root of AVE values given in the diagonal (see Table 17.3) is greater than the correlation values, discriminant validity was established.

17.6.2 Structural Model Analysis

Structural model testing verifies the model's prediction of the variance towards dependent variables (Hair et al. 2017). The most commonly used measure to evaluate the model fit is the coefficient of determination (R^2 value). This measures the predictive power of the model, and it is calculated as the squared correlation between

Table 17.2 Internal consistency reliability and convergent validity of measures

Constructs	Cronbach's alpha	Composite reliability	AVE
Academic performance	0.926	0.944	0.771
Attitude	0.916	0.941	0.800
Intention to use	0.944	0.957	0.816
Perceived behavioural control	0.825	0.884	0.657
Perceived ease of use	0.809	0.874	0.635
Perceived usefulness	0.812	0.870	0.576
Student satisfaction	0.846	0.907	0.764
Subjective norm	0.905	0.934	0.779

Table 17.3 Discriminant validity

Constructs	AP	Att	IU	PBC	PEOU	PU	Sat	SN
AP	**0.878**							
ATT	0.708	**0.895**						
IU	0.795	0.708	**0.904**					
PBC	0.636	0.562	0.682	**0.81**				
PEOU	0.586	0.581	0.554	0.650	**0.797**			
PU	0.675	0.733	0.657	0.600	0.653	**0.759**		
SAT	0.725	0.622	0.732	0.746	0.597	0.636	**0.874**	
SN	0.652	0.699	0.630	0.537	0.386	0.620	0.662	**0.883**

Note: *AP* academic performance, *ATT* attitude, *IU* intention to use, *PBC* perceived behavioural control, *PU* perceived usefulness, *PEOU* perceived ease of use, *SAT* student satisfaction, *SN* subjective norm

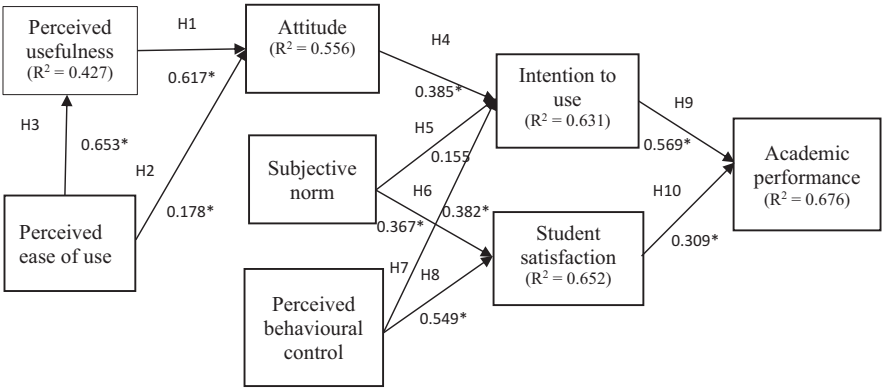

Fig. 17.2 Structural model results. (Note: "*" denotes the significant paths ($p < 0.05$))

a specific endogenous construct's actual and predicted values (Henseler et al. 2014). After testing reliability and validity, SEM focuses on coefficients of determination (R^2 values) and significance of path coefficients (Hair et al. 2017). As a rule of thumb, R^2 values of 0.75, 0.50 or 0.25 could be described as substantial, moderate or weak, respectively, for endogenous latent variables (Hair et al. 2011). Based on the structural model analysis, the model explained 67.6% of variance in students' academic performance, 55.6% of variance in attitudes, 63.1% of variance in intention to use, 42.7% of variance in perceived usefulness and 65.2% variance in student satisfaction (Fig. 17.2).

The bootstrapping process in SmartPLS 3.0 was used to test the hypotheses. Hair et al. (2017) have emphasized that 5% of significance level is more favourable, which indicates that the p value must be smaller than 0.05 (95% level of confidence). Accordingly, of the ten hypotheses, nine were supported (Table 17.4).

Table 17.4 Hypothesis testing results

Hypotheses	Path coefficients	p values	Supported/not supported
Attitude – intention to use	0.385	0.001	Supported
Intention to use – academic performance	0.569	0.000	Supported
Perceived behavioural control – intention to use	0.382	0.000	Supported
Perceived behavioural control – student satisfaction	0.549	0.000	Supported
Perceived ease of use – attitude	0.178	0.003	Supported
Perceived ease of use – perceived usefulness	0.653	0.000	Supported
Perceived usefulness – attitude	0.617	0.000	Supported
Student satisfaction – academic performance	0.309	0.001	Supported
Subjective norm – intention to use	0.155	0.109	Not supported
Subjective norm – student satisfaction	0.367	0.000	Supported

17.7 Discussion

The purpose of this study was to identify the impact of social media on students' academic performance. The results reveal that there is a significant positive effect of perceived usefulness on perceived ease of use ($\beta = 0.653$, $p = 0.000$). The finding was consistent with prior research. In TAM, Davis (1989) proposed that, if an individual feels that using a technology is free of effort, he or she will understand the usefulness of that particular technology. Lee (2006) found that, when students perceive ELS as easy to use, they consider ELS useful for their learning. Gu et al. (2009) found that perceived ease of using mobile banking applications was a key determinant of predicting the usefulness of them. It therefore implied that, if students believe that using social media in their e-learning is easy, they will consider it useful for better performing in academic activities. According to the findings, perceived usefulness had a significant positive effect on attitude ($\beta = 0.617$, $p = 0.000$), and perceived ease of use also had a significant positive effect on attitude ($\beta = 0.178$, $p = 0.003$). These findings were consistent with previous study findings.

Phillips and Shipps (2012) found that perceptions of ease of use and usefulness led to positive attitudes in using social networking websites. Lu et al. (2008) showed this in a study examining user acceptance of instant messaging. Attitude also had a significant positive effect on intention to use ($\beta = 0.385$, $p = 0.001$). This finding is consistent with the findings of other studies (Ajzen 1991; Pavlou and Fygenson 2006). In TPB, Ajzen (1991) proposed that the individual's positive or negative feelings about performing the target behaviour positively affected their intention towards the behaviour. Pavlou and Fygenson (2006) found that, when customers are buying products online, their attitudes towards the website had a positive effect on intention to purchase products.

According to the study findings, subjective norm did not have a significant effect on intention to use ($\beta = 0.155$, $p = 0.109$). However, Lee (2006) found that there was a significant positive effect of subjective norm on intention to use ELS. The insignificance of this hypothesis may be because this study used a sample of undergraduates who were using social media voluntarily. If it was mandatory, this could have provided a supportive outcome for the hypothesized relationship. However, the finding was consistent with some prior studies. Venkatesh et al. (2003) suggested that subjective norm only mattered in a case where use of technology was compulsory. Here, perceived behavioural control had a significant positive effect on intention to use ($\beta = 0.382$, $p = 0.000$), as suggested in TPB. Ajzen (1991) emphasized that, if individuals believed that there was a control factor which supported or hindered their performance of behaviour, this would determine their intention to perform the behaviour. This indicates that, if students believe social media use is under their control, they will tend to use social media more.

Student satisfaction had a significant positive effect on intention to use ($\beta = 0.549$, $p = 0.000$). Guo et al. (2009) also found that customer's perceived behavioural control had a positive impact on customer satisfaction about the organization. According to the findings of the study here, subjective norm had a significant positive effect on student satisfaction ($\beta = 0.367$, $p = 0.000$), showing that, if a social referent believed that students should use social media, students were highly satisfied with using social media in their learning. This was consistent with findings of Lee (2006) and Alnaser et al. (2017). Alnaser et al. (2017) emphasize that subjective norm positively affects satisfaction of customers in banks.

Intention to use had a significant positive effect on students' academic performance ($\beta = 0.569$, $p = 0.000$). As suggested by DeLone and McLean (2003) in the IS success theory, intention towards a behaviour has a significant positive relationship with net benefits which can be gained by performing the behaviour. Student satisfaction also had a significant positive effect on students' academic performance ($\beta = 0.309$, $p = 0.001$). This finding was supported by Eom (2012), who found a positive relationship between user satisfaction and use of systems. Al-Rahmi and Zeki (2016) also found an effect of student satisfaction of using social media on their academic performance.

17.8 Conclusion

Social media is becoming the most important tool for communication among students, especially in higher educational institutes. The current study focused on formulating an integrated model to investigate the effect of social media on students' academic performance, based on the concepts of the technology acceptance model, the theory of planned behaviour and the IS success model. Model fitness was empirically tested using survey data. The measurement model analysis showed that the model constructs have adequate reliability and validity; structural model analysis verified the model as having a good model fit with empirical data. The integrated model combining TAM, TPB and the IS success model provided better explanatory

power. According to the study findings, the model predicted a substantial variance in students' academic performance (R^2 = 0.676, or 67.6%). Thus, practitioners should concentrate on incorporating social media effectively in their courses to enhance student learning.

Although this study provided many meaningful findings, it does have some limitations. The sample was from a single university with a comparatively small sample size. Therefore future research is recommended to use a more comprehensive student sample from different higher education contexts. To generalize this model, further studies are needed to examine its appropriateness. Future studies could include additional constructs that would be meaningful for examining the impact of social media on students' academic performance in higher education. However, since social media are widely used by students, the findings of this study will be very useful for administrators, content developers/lecturers and students in higher education institutes.

17.9 Practical Implications

The findings of this study provide useful implications for stakeholders in higher education. This study filled the theoretical gap in the literature to an extent by developing a comprehensive model in assessing the impact of social media on students' academic performance. Students are using social media for academic and non-academic purposes. However, in this millennial era restricting the use of social media is not advisable. Students should be educated on how to use social media productively for academic purposes rather than just persuaded towards mere socializing. The findings here revealed that integrating social media in teaching and learning can assist in enhancing students' academic performance.

Chapter Takeaways

1. Social media is an electronically mediated platform, which facilitates sharing and creation of information, ideas and interests.
2. Students in higher educational institutes are widely using social media for academic and non-academic purposes.
3. A model integrating TAM, TPB and IS success established a strong reliability and validity of model constructs.
4. The integrated model had high predictive power in students' intention to use social media and the impact on academic performance.
5. Incorporating social media in teaching and learning can assist in enhancing academic performance.

Reflection Questions

1. What are the positive and negative impacts of using social media in student learning?
2. Suggest ways that social media can be used to enhance academic performance of students in higher educational institutes.
3. Identify other theoretical models used to examine the impact of social media on students' academic performance.
4. Explain how social media could be used effectively in teaching and learning.
5. Investigate other technology-mediated factors that could affect students' academic performance.

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