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Adoption of social networking sites for educational use

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Abstract

Purpose – The purpose of this paper is to examine the views of university students on social networking sites (SNSs) adoption for educational purposes and investigate the factors that motivate students to use SNSs for academic purposes.

Design/methodology/approach – A survey method of research was adopted and questionnaires were administered to the respondent group. A total of 522 valid responses from the University of Ghana Business School Students were used in the empirical analysis. Regression analysis was used to examine the relationship among the key constructs of the study.

Findings – The results of this study suggest that perceived usefulness, perceived ease of use, the existence of facilitating conditions and the purposes of SNSs are the key factors that motivate students to adopt SNSs for academic purposes. However, the influence of other people in society and the desire to be identified with social groups were found not to be important predictors of SNSs use by students for educational purposes.

Research limitations/implications – The data examined in this study are based on sample responses from only one university, which may limit the extent of generalization of the findings.

Originality/value – This paper provides some useful insights into the key predictors of SNSs adoption for educational use by university students from the perspective of a developing country.

Keywords Social networking sites, Factor analysis, Adoption, Perceived usefulness, University of Ghana Business School

Paper type Research paper

Introduction

Internet use has become an integral part in the lives of the average person for decades. In recent times, however, there has been a dramatic progression in how people use the internet. People are now able to interact, connect and collaborate in ways that were once perceived to be unimaginable (Everson *et al.*, 2013; Mullen and Wedwick, 2017). A major contributor to the growing popularity of internet use is the emergence of social networking sites (SNSs). SNSs have altered the way in which people interact with each other by enabling their users to create web pages that facilitate the building and maintenance of human relationships with others who share common interests (Kwon and Wen, 2010; Lu and Lin, 2014; Zhong *et al.*, 2017). SNSs such as Facebook, Twitter and Instagram have speedily warmed their way into the hearts of many internet users. For instance, in 2017, Facebook recorded 2.13bn active users monthly (Facebook, 2017), whilst Instagram had over 300m active users per month (Statista, 2017) with Instagram recording monthly active users of over 700m (TechCrunch.com, 2017).

The affordances of SNSs permit users to connect more effectively with each other as compared to traditional communication tools, such as telephone calls and letter writing. Prior studies have also found other benefits of SNSs to include: promoting online dating, online friendship and self-disclosure, where users share their thoughts, aspirations,

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feelings and dreams with other users (Rosen *et al.*, 2007; Henderson and Gilding, 2004; Stutzman *et al.*, 2011).

Although SNSs are patronized by people of various ages, the youth, people within the 15 and 35 age bracket (Ministry of Youth and Sports Affairs YAS, 2011), especially university students are generally classified to be the dominant demographic of users (Jung and Sundar, 2016). This in part explains why most existing studies on SNSs have concentrated largely on younger generations (Jung and Sundar, 2016). Aside bridging gaps and bonding with friends, students find SNSs to be useful tools that foster speedy adjustment to school life (Greenhow *et al.*, 2009; Madge *et al.*, 2009; Selwyn, 2009). As Madge *et al.* (2009) explain, SNSs act as a "social glue" that encourage students to adjust rapidly to university life. SNSs have also been found to encourage cooperation among students and teachers by affording students a unique platform to share knowledge, ask questions and request for assistance from their peers and teachers (Ooi and Loh, 2010; Rambe, 2012; Selwyn, 2009; Jonassen, 1995). Some SNSs offer good platforms for business simulation games, from which students pick up certain generic skills such as teamwork, effective decision making, information processing and crisis management, most of which students regard as pertinent skills influencing their learning outcomes (Hernández-Lara and Serradell-López, 2018).

From the perspective of educators, SNSs provide a useful platform for instructors to connect with their students more effortlessly, even outside the classroom (Mazer *et al.*, 2007). As suggested by some studies (Barczyk and Duncan, 2013; Mazer *et al.*, 2007; Lambi, 2016), teachers can utilize SNSs as a forum or a blog with options for easy networking and correspondence with their students. Consequently, several studies have demonstrated the need for universities to integrate these technologies that allow the formulation of individual and social learning spaces to help promote learner-focused "personalized" education systems (Cormier, 2008; Dede, 2006; Siemens, 2005; Weigel, 2002; Siemens and Tittenberger, 2009).

While some attempts have been made by instructors to integrate web-based social networking tools in classroom work (Moran *et al.*, 2011), the view of students concerning SNSs use for academic purposes appear not to be encouraging. Buzzetto-more (2012) for instance document that while students view the utilization of SNSs as a tool to upgrade correspondence, community building and engagement, they do not want to see SNSs supplant course management systems, such as Blackboard. Dahlstrom (2012) also found students to be rather unenthusiastic about SNSs use for academic purposes by their instructors but rather embrace the socialization aspect of SNSs.

Although a plethora of studies have been conducted in this area, most studies only focused on specific online SNSs, such as use of Facebook (Arteaga Sánchez *et al.*, 2014; Buzzetto-more, 2012; Irwin *et al.*, 2012; Lambi, 2016), WhatsApp (Amry, 2014; Rambe and Bere, 2013), Twitter (Junco *et al.*, 2010; Kassens-Noor, 2012), rather than considering SNSs as a whole. Moreover, majority of these studies have concentrated on use and implications of SNSs in academia, with little attention on drivers of SNSs adoption for academic use by students. The main focus of this paper is to investigate the perception of students regarding the use of SNSs for academic purposes, and the factors that influence SNSs adoption for academic use from a developing country perspective. Ghana provides an appropriate setting for this study being one of the few developing countries that has witnessed immense growth in the acceptance and use of the internet and various information and communication technologies. The 2016 Annual Ghana Social Media Report for instance ranked Ghana as the 47th highest internet user base in the world (CliQAfrica, 2017).

The findings of this study make some pertinent contributions to the world of academia, particularly, higher education. First, they confirm the willingness of students to adopt SNSs for communicating, collaborating and sharing materials relating to academic work. Second, they establish the importance of students' perceptions on the usefulness, ease of use,

purposes of the site and availability of facilitating conditions on their willingness to adopt SNSs for educational use.

The remaining sections of the paper are organized as follows: the next section contains the literature review on SNSs, by the method of data collection and procedure for data analysis. The subsequent section discusses results based on the research framework followed by concluding remarks.

Literature review

The concept of SNSs

SNSs are "web-based services that allow individuals to: construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection and view and traverse their list of connections and those made by others within the system" (Boyd and Ellison, 2008, p. 211). Impliedly, they are virtual spaces (example: Facebook, Twitter, WhatsApp, Pinterest and Instagram) where different individuals with common interests converge to share information.

SNSs are now very popular across the globe and have been described in various ways as "social media," "social software" and "online social networks" among others. Their popularity is particularly evident among the younger population (Fewkes and Mccabe, 2012; Junco, 2011). According to Madge *et al.* (2009), SNSs have been deeply embedded in the very fiber of the lives of majority of the youthful population. Studies (McKerlich *et al.*, 2013; Smith and Caruso, 2010; Lau, 2017) suggest that a large proportion of the youth patronize these sites everyday spending a substantial portion of their time on SNSs. The strong affinity to SNSs by the youth has been attributed in part to the fact that SNSs present ideal platforms for people to freely express themselves. Essentially, by utilizing SNSs, people can set up new associations, as well as maintain close associations with colleagues, friends and family (Yu *et al.*, 2010). Active participation in these sites to set up virtual connections provides people access to a diversified set of information from different sources (Wasko and Faraj, 2005). According to O'Reilly (2007), SNSs architecture affords users the chance to partake in collaborative and collective learning.

Purposes of SNSs usage

SNSs offer a wide array of possibilities to users leaving the operation of these sites mainly to user's preferences (Lambi, 2016). One is able to use SNSs in a manner that is customized to suit one's preferences. Lockyer and Patterson (2008) posit that SNS users can share personal data through their profile, associate with other users of the sites, upload, tag and share multimedia content that they have made and connect with others to an assortment of web-accessible content. Whiting and Williams (2013) identified social interaction, information seeking, passing time, entertainment, boredom relieving, time occupying, relaxation, communicatory utility, expression of opinions, convenience utility, information sharing, surveillance and watching of others to be the key purposes for which people use SNSs.

According to Mazman and Usluel (2010), social relations, work-related issues and daily activities comprise the most popular purposes for SNSs use. As per their discussion, social relations comprise an essential dimension of SNSs and may involve establishing new friendships, maintaining the existing ones and interacting with them. These may ensue among family, neighbors, colleagues, groups and other people who share similar interests. SNSs are useful not only for socialization and informal activities, but for business and academic purposes. The work-related use of SNSs may involve accessing information, utilizing both online and offline functions to assist in performing tasks, sharing assignments, materials, ideas and resources (Mazman and Usluel, 2010). Furthermore, attributable to the growing relevance of SNSs in the current social and working environment, individuals are being driven to use these technologies in their daily activities

as well (Arteaga Sánchez *et al.*, 2014). The daily activities performed by people can thus be a rationale behind their use of SNSs (Mazman and Usluel, 2010). It is normal for users to spend their time on SNSs performing many varying activities such as playing games, joining and interacting in groups, getting acquainted and up-to-date on information from friends, or having fun on a daily basis (Arteaga Sánchez *et al.*, 2014).

From an educational perspective, SNSs have become deeply entrenched in the lifestyle of many university students (Madge *et al.*, 2009). This is not surprising given that the learning environment of universities is considered a social system for people interacting within a common scholastic setting (Hwang *et al.*, 2004).

Educational use of SNSs

The potential for SNSs use in the education sector has long been anticipated. According to McLoughlin and Lee (2008), SNSs can be used by people for networking and social support, cooperative discovery and sharing of information, content formulation and knowledge aggregation and refinement. All SNSs assume the basic role of enhancing communication. Platforms like Facebook might be utilized to advance online associations between faculty and students within the academic environment (Mazer *et al.*, 2007). As Jonassen (1995) points out, SNSs encourage cooperation among students and teachers and expose them to copious amounts of useful information. Most SNSs for instance allow for the formation and joining of groups for sharing of information among members (Jonassen, 1995; Jonassen *et al.*, 2003).

Such groups also afford members the opportunity to ask questions which may bring out the deficiencies in knowledge of others and also draw the group's attention to relevant topics they may have otherwise overlooked (Lambi, 2016). Thus, despite its relevance in building and maintaining relationships (Hew, 2011), SNSs can enhance the learning procedure by advancing correspondence, connection, cooperation and resource sharing thereby promoting group learning teamwork among students (Arteaga Sánchez *et al.*, 2014; Ajjan and Hartshorne, 2008; Lockyer and Patterson, 2008). Empirically, Al-rahmi *et al.* (2014) have found SNSs to contribute to collaborative learning in a very significant manner. This is so as studies have found that students invest a lot of time and energy on SNSs platforms to establish connections with others with whom they share similar interests with their educational communities (Al-rahmi *et al.*, 2014; Maloney, 2007).

Additionally, SNSs can be used by both students and professors to share different types of educational materials, such as, articles, case studies, assignment, etc., as an adjunct to the traditional learning model. The educational use of SNSs for resource and material sharing involves activities such as "exchanging multimedia resources, videos, audio materials, animated videos, resources and documents" (Mazman and Usluel, 2010, p. 448).

Apart from promoting ease of correspondence among students, SNSs have also been found to be particularly useful in helping students adjust to the social context of learning in a specific university environment (Mason, 2006). As pointed out by some studies (Wang and Wu, 2008; Yu *et al.*, 2010), SNSs help students to assimilate the culture of their institution which helps them to settle fast into their new academic environment. The argument is that a large proportion of students are considered to be "digital natives[1]" and are therefore very conversant with technology long before they register for university level courses (Barczyk and Duncan, 2013; Sobaih and Moustafa, 2016). SNSs therefore provide a useful channel to help integrate them in their new environment.

Despite the potential of SNSs to promote learning processes, some studies (Cloete *et al.*, 2009; Ajjan and Hartshorne, 2008; Roblyer *et al.*, 2010) have found that some lecturers are unwilling to integrate them into their teaching strategies mainly due to the negative effects of these technologies. Kim and Yoo (2016) for instance argue that SNSs can be distractive, addictive and could impact negatively on students' social relations, emotional well-being

and work completion which can affect their performance negatively. Notwithstanding this, the popularity, usability and flexibility of SNSs have resulted in their attractiveness as educational tools to be applied in higher education (Brown, 2010; Schroeder *et al.*, 2010). In summary, Mazman and Usluel (2010) conclude SNSs are relevant to the education sector as they enhance communication between teachers and their students, assignments from teachers, assist class discussions, help students to track announcements concerning courses and classes and assist in sharing information and resources.

Determinants of SNSs use for academic purposes

Over the past decades much research has concentrated on SNSs, their adoption, use and the implications of their use on different sectors of the society (Arteaga Sánchez *et al.*, 2014; Buzzetto-more, 2012; Lambi, 2016; Munkaila and Iddrisu, 2015). Due to the variations in perceptions, behaviors and preferences of people, different factors may account for the adoption of SNSs. Munkaila and Iddrisu (2015) attribute the adoption of SNSs by some students to their desire to be current and not feel left out. Also, the opportunities offered by SNSs for easy communication and relationship building are other reasons for SNS adoption.

Mazman and Usluel (2010), however, provide a very comprehensive framework that explains a broad range of factors influencing SNSs adoption for academic purposes. In their model, two constructs "adoption" and "purpose" are considered to be the main predictors of SNSs use for academic purposes. Mazman and Usluel (2010) identified five factors: usefulness, ease of use, social influence, facilitating conditions and social identity to be the dominant factors that influence adoption of SNSs for educational purposes.

Perceived usefulness

Perceived usefulness refers to, "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). Hence, in terms of SNSs application, usefulness refers to the extent to which "an individual believes that the use of SNSs would enhance his/her communication, collaboration and information exchange" (Arteaga Sánchez *et al.*, 2014, p. 140). From the tenets of Technology Adoption Model (TAM), the intention to adopt and use a particular innovation or technology by an individual is believed to be influenced by the benefits to be derived thereof. Users are more likely to adopt a new technology when they perceive that it be useful. Given that SNSs are generally considered useful in promoting interactivity, collaboration, information sharing, learning among others (Mazman and Usluel, 2010; Yu *et al.*, 2010; Wasko and Faraj, 2005), this study predicts that usefulness will influence SNSs adoption for educational purposes:

H1. Perceived usefulness has a positive influence on the adoption of SNSs for educational use.

Perceived ease of use

From the perspective of TAM, ease of use refers to the "degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320). Thompson *et al.* (1991), considering it as complexity, also defined it as, "the degree to which a system is perceived as relatively difficult to understand and use." According to Mazman and Usluel (2010), the combination of an individual's technical competence and his/her skill in the unique features of SNSs is an essential factor that influences adoption; Higher the mastery of the skills, higher the perceived ease of use. An individual who is able to utilize and manage the features and content of an SNS easily and with minimum effort will be drawn more to its adoption (Mazman and Usluel, 2010). This study thus hypothesizes that ease of use of SNSs influences its adoption for academic use:

H2. Perceived ease of use has a positive influence on the adoption of SNSs for educational use.

Social influence

Social influence can be defined as "the degree to which an individual perceives that important others believe she or he should use the new system" (Venkatesh *et al.*, 2003). It may also be explained in terms of one's perception of how others will assess a specific individual's behavior commonly referred to as " subjective norm" (Fishbein and Ajzen, 1975; Venkatesh *et al.*, 2003). The concept of subjective norm cannot be ignored in the discussion of social influence, as it places a pivotal role (Vannoy and Palvia, 2010). It is defined as an individual's perception of whether or not the people he or she considers most important think a particular behavior should be performed (Fishbein and Ajzen, 1975). Ideally, a person will perform a particular action if he/she perceives that the people he/she considers important think positively about that activity. Owing to the nature of SNSs as social utilities (Mazman and Usluel, 2010), people join SNSs to connect with friends and family, some request to join groups while others join on invitation. Thus, the extent to which an individual perceives the relevance of his/her significant other's consent pertaining to the adoption of SNSs cannot be ignored. This paper examines the impact of social influence on students' adoption of SNSs for educational purposes:

H3. Social influence has a positive influence on the adoption of SNSs for educational use.

Facilitating conditions

"Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh *et al.*, 2003). They may be in the form of the assistance an individual gets from others or from the help menu or support services, in performing various functions and managing content (Mazman and Usluel, 2010). As reported by Arteaga Sánchez *et al.* (2014), the presence of suitable supportive technical and environmental infrastructure could prompt people to accept a SNS. Hence, this study argues that facilitating conditions will influence the adoption of influence on SNSs for educational use:

H4. Facilitating conditions have a positive influence on the adoption of SNSs for educational use.

Social identity

The Social Identity Theory assumes that, to attain positive self-esteem and self-enhancement, people exhibit all sorts of "group" behavior, such as solidarity to the group and discrimination against out-groups as a part of the process of social identification (Abrams and Hogg, 1988). Likened to community identification, it is considered as one of the most influential constructs that affect an individual's drive to participate in virtual communities (Mazman and Usluel, 2010). These virtual communities describe groups of people who share similar goals, interests and ideas over the internet (Kim and Ko, 2012). According to Song and Kim (2006), social identity actively exerts influence on an individual's behavioral intention to use a particular technology or service from virtual communities. Most SNSs, for instance, Facebook and WhatsApp, have platforms that allow for "common-interest user groups" that enable members to exchange resources and learn from themselves. This study therefore hypothesizes social identity will positively influence the adoption of SNSs for academic use:

H5. Social identity has a positive influence on the adoption of SNSs for educational use.

Methodology

Research design and data collection

The survey-based approach of research was adopted for the study with questionnaires being the principal means of data collection. The questionnaire used consisted of two different parts.

Part 1 contained information on the demographic characteristics of the respondents including the gender, age and level of study of respondents. Part 2 of the questionnaire assessed respondents' view on the SNSs adoption for education use and the factors that influence the adoption intent. The specific questions used were adapted from the instrument employed by Mazman and Usluel (2010). Based on this study, six key factors: perceived usefulness, perceived ease of use, facilitating conditions of SNSs, social influence, social identity and purposes, were considered to be important determinants of willingness to adopt SNSs for educational purposes. A total of 47 indicators were used to measure these constructs and respondents were asked to rate their level of agreement or otherwise on 11-point Likert scale, with 1 being strongly disagree and 11 being strongly agree.

Study participants

All respondents were students of the University of Ghana Business School (UGBS). UGBS offers diverse business courses, including Marketing and Entrepreneurship, Accounting, Banking and Finance, Human Resource Management, Public Administration and Health Services Management in both undergraduate and post-graduate levels. UGBS was selected for this study because it stands as Ghana's oldest, largest and principal business school and offers holistic business education to students who seek to be world class business leaders. It also serves as a mentoring institution for several universities affiliated to it. UGBS like many other Ghanaian universities has not officially opened up to adopting SNSs in the classroom as a means of reaching out to students, making it a suitable location for sample selection. To assess the differing perceptions and allow for comparisons, respondents were sampled from the various business disciplines and across the different levels of study, ranging from undergraduate to post-graduate levels by simple random sampling. A total of 600 questionnaires were administered to respondents during the first semester of 2017/2018 academic year. Out of the 600 questionnaires, 530 were returned, of which 522 questionnaires were included in the analysis, as the remaining 8 questionnaires were incompletely filled by respondents.

Profile of respondents

Table I presents the descriptive statistics of the respondents. The sample population was slightly male-dominated in proportion, representing 53.1 percent of the population, and generally youthful. Majority of the respondents were between the ages of 17 and 21 (63.8 percent), followed distantly by those between 22 and 26 (22.4 percent). Majority of the respondents were third and final year students representing 28.7 and 25.9 percent, respectively, of the valid responses. These statistics demonstrate that the sample is a fair representation of the population of interest. Additionally, 98.7 percent of respondents were found to be active users of at least one SNS, including Facebook, WhatsApp, Twitter, Instagram, Snapchat and Imo.

Data analysis procedures

Descriptive statistics were initially conducted on the constructs of the study to examine the respondents view on the indicators of the constructs. An exploratory factor analysis (EFA) was then conducted on the constructs before employing a linear regression to test the hypotheses for the study.

Descriptive statistics on study constructs

Table II reports the mean scores and standard deviations of the respondents' views on the factors that influence SNSs adoption, purposes and educational use of SNSs. The average values for the indicators under each construct measures the degree of importance

Item	Frequency	%
Gender		
Male	277	53.1
Female	245	46.9
Age		
Less than 17	1	0.2
17–21	333	63.8
22–26	117	22.4
27–31	42	8.0
32–36	18	3.4
37 and above	11	2.1
Educational level		
First year	21	4.0
Second Year	128	24.5
level 300	150	28.7
level 400	135	25.9
Masters	88	16.9
Use of SNSs		
Users	514	98.7
Non-Users	7	1.3

Table I. Profile of respondents

respondents attach to that indicator. With respect to the determinants of SNSs adoption, all factors were ranked above the average point (5.5), meaning, respondents consider perceived usefulness, perceived ease of use, social influence, facilitating conditions and social identity as very important determinants of their adoption of SNSs. However, among them, social identity stood out with the highest rating (mean = 9.153) and social influence was ranked lowest (mean = 6.844). Also, under the construct purposes of SNSs, respondents regarded the use of SNSs for their daily activities as the most important use of SNSs (mean = 9.060) and social relations as the least (mean = 8.908). Finally, with respect to the educational use of SNSs, collaboration was considered the most predominant educational use of SNSs (mean = 9.107), whereas communication was rated lowest.

Linear regression model. According to Mazman and Usluel (2010), the main factors that influence the adoption of SNSs for education use are perceived usefulness, perceived ease of use, social influence, facilitating conditions and social identity and the purposes of SNSs. Making use of these constructs as the independent variables, the following linear regression model is specified for the study:

$$\begin{aligned}\text{Educational use}_i = {} & \beta_1 \text{ usefulness}_i + \beta_2 \text{ ease of use}_i + \beta_3 \text{ social influence}_i \\ & + \beta_4 \text{ facilitating conditions}_i + \beta_5 \text{ social identity}_i \\ & + \beta_6 \text{ purposes of SNSs}_i + \varepsilon.\end{aligned}$$

The mindful of the fact that each of construct in the estimated model was measured with different indicators, a composite score was computed for each construct before proceeding with the regression analysis. To achieve this, the constructs were subjected to an EFA to ascertain the factor loadings of the various indicators for their respective construct. The principal components of extraction criterion using the varimax rotation method were employed for EFA. The results of an EFA are displayed in the Appendix. The Kaiser-Meyer-Olkin values for each construct exceeded the 0.7 threshold, indicating sampling adequacy (Kaiser, 1970, 1974). Also, the Bartlett's test of sphericity which confirms that the indicators of each construct are

Constructs	Mean	SD
Perceived usefulness	*8.326*	
Allows me to communicate with more people in a short time period	9.20	2.599
Allows me to share more in a short time period	9.18	2.549
Makes it easier to establish and maintain personal relationships	8.27	2.778
Allows me to have more control over my relationships	7.22	2.896
In general, the use of SNSs improves my personal relationships	7.76	2.783
Perceived ease of use	*8.848*	
Became a SNSs member with ease	8.67	2.690
My interaction with SNSs are clear and understandable	8.76	2.401
I do not have any problems learning about SNSs on my own	8.78	2.638
I find it easy to use SNSs features	8.95	2.447
In general, I find it easy to use SNSs	9.08	2.507
Social influence	*6.844*	
Use SNSs because my friends recommended that I do	5.72	3.186
Pay more attention to the SNSs features used by my friends/contacts	6.86	3.046
Use SNSs to communicate and share information with people around me	8.61	2.663
Use SNSs because many people I know expect me to do so	6.45	3.269
Use SNSs mostly to fit in since many people I know use it	6.58	3.271
Facilitating conditions	*7.983*	
I find necessary resources to use SNSs with ease	7.91	2.811
Anyone can help me use SNSs	7.24	3.018
SNSs offer technical support when needed	7.65	2.825
I can get technical support by e-mail if I have problems using SNSs	7.68	2.836
I can connect to SNSs wherever there is internet connectivity	8.80	2.668
The SNSs I use are similar to one another	8.17	2.661
In general, SNSs offer appropriate support	8.43	2.483
Social Identity	*9.153*	
Using SNSs, I can create groups to share information with others that have the same interests	9.08	2.505
Using SNSs, I can join groups that I am interested in	9.19	2.374
SNSs allow the creation of groups of people who share the same interests and needs	9.21	2.470
I use SNSs to work as a team with the other members of the groups I joined	9.13	2.513
Purposes of SNSs	*8.908*	
I use SNSs to locate friends I have not been in touch with for a while	8.82	2.619
I use SNSs to find new friendships	8.29	2.946
I use SNSs to communicate with my friends	9.20	2.389
I use SNSs to share information and resources with my friends	9.37	2.301
I use SNSs to join groups to communicate about common interests	8.84	2.575
I use SNSs to be updated on the events of my previous school and former classmates	8.93	2.597
I use/would use SNSs to communicate with my classmates/workmates about assignments and group projects	9.16	2.472
I use/would use SNSs as a resource to increase my performance in my courses	8.78	2.547
I use SNSs to get up-to-date information and news about my contacts	8.97	2.520
I use SNSs to find out what is new and innovative	9.15	2.442
Educational use of SNSs		
The use of SNSs improves communication between classmates/colleagues	9.11	2.369
The use of SNSs improves communication between the teacher and students	8.41	2.692
The use of SNSs improves classroom discussions	8.17	2.757
The use of SNSs improves the delivery of course content and resources	8.76	2.581
The use of SNSs improves the communication of announcements about courses, classes or school	9.18	2.364
SNSs provide resources to support students when doing their homework	8.69	2.589
The use of SNSs encourages the creation of academic groups (communities) of people with the same interests and needs	9.12	2.443
SNSs are an appropriate platform to exchange course related information	9.18	2.340
The use of SNSs improves student group work	9.02	2.398
SNSs provide the resources to share a wide variety of resources and learning materials	9.02	2.365
SNSs provide rich multimedia resources and media support to improve the educational experience	9.03	2.397

Table II.
Descriptive statistics on constructs

correlated yielded very significant and satisfactory results. This confirmed that the data set was fit to conduct EFA. Using the factor loadings as weight, a composite score was computed by multiplying each indicator score by their respective factor loadings. This approach according to Hair *et al.* (2006) enhances the efficiency of the proposed model and reduces the random error, whilst ensuring that the relative contribution of each indicator is accounted for in the model. Using the composite scores for each construct the regression model was estimated and results are summarized in Table IV.

Construct reliability

Internal consistency is the measure of the extent to which a set of indicators measure a construct by assessing the correlations between that construct and the indicators. The internal consistency was measured using the Cronbach's α (CA) coefficient which according to Nunally (1978) a value of 0.7 and above is required for reliability to be assured. As detailed in Table III, the CA values for all the constructs are above the required threshold, confirming internal consistency.

Discussion

Prior to the results analysis, the coefficient of determination (R^2) was computed to determine the goodness of fit of the regression model. The R^2 value was 0.751, implying that the regression model employed explains 75 percent of the variation in the exogenous variable, which according to Chin (1998) is substantial.

As shown in Table IV, four out of the six constructs predicted to be important determinants of the adoption of SNSs for education use yielded significant results. In line with the prediction of this study, the results show a positive and highly significant relationship between "Perceived usefulness" and SNSs adoption for educational use ($p = 0.000$, $\beta = 0.115$). This result suggests that students who perceive SNSs as useful have greater motivation to adopt it for educational purposes. This confirms empirical studies on technology adoption in general that suggests the usefulness of a technology plays a major role in its adoption (Ali *et al.*, 2017; Arteaga Sánchez *et al.*, 2014; Davis, 1989; Mazman and Usluel, 2010). In terms of SNSs adoption for academic purposes, findings by existing studies (Arteaga Sánchez *et al.*, 2014; Mazman and Usluel, 2010) support the assertion that the

Construct	Cronbach's α
Perceived usefulness	0.849
Perceive ease of use	0.927
Social influence	0.783
Facilitating conditions	0.864
Social identity	0.957
Purposes of SNSs	0.950
Educational use	0.957

Table III. Cronbach's α

Construct	Standardized coefficients	*p*-value
Perceived usefulness	0.115	0.000
Perceive ease of Use	0.102	0.004
Social influence	0.004	0.879
Facilitating conditions	0.105	0.002
Social identity	0.006	0.888
Purposes of SNSs	0.633	0.000

Table IV. Regression output

perceived usefulness of SNSs is an important determinant of its adoption of educational use. Thus, the more students recognize SNSs as relevant for academic use, the more likely it is for them to adopt it.

Perceived ease of use was also found to be positively related to educational use of SNSs at 5 percent significance level. By implication individuals who perceive the features of SNSs to be user friendly are more likely to adopt it for educational purposes. The probability for students to adopt SNSs for educational purposes is therefore likely to be high if they perceive its features to be relatively easy to use. Empirical literature on the adoption and use of a technology assert that a person who perceives that the use of a technology is free from effort is likely to adopt it (Davis, 1989; Liu *et al.*, 2010; Tarhini *et al.*, 2015). Thus, for SNSs to be adopted for academic purposes, it is critical that its features and content are perceived to be user friendly and easy to use. This confirms the assertions of previous authors (Arteaga Sánchez *et al.*, 2014; Davis, 1989; Mazman and Usluel, 2010).

Further, the results from the regression analysis of this study also shows a positive and significant relationship between the construct "facilitating conditions" and the adoption of SNSs for educational use ($p < 0.05$, $\beta = 0.105$). This study supports the argument that the adoption and use of a technology partly depends on the support systems available even when the individual does not possess the technical ability to manage its contents (Venkatesh *et al.*, 2003). Concurring with existing literature (Arteaga Sánchez *et al.*, 2014; Mazman and Usluel, 2010), findings of this study indicate that an individual is likely to adopt a SNS for educational purposes if he/she perceives that there is the availability of technical and organizational infrastructure support system.

The purposes of SNSs were found to be positively and significantly related to the adoption of SNS for educational use ($p = 0.000$, $\beta = 0.115$). This presupposes that individuals who consider an SNS as useful for establishing and maintaining social relations, performing various daily activities and work tasks are more susceptible to using the site for academic purposes (Mazman and Usluel, 2010; Arteaga Sánchez *et al.*, 2014). Thus, students who find SNSs as useful for their academic and other purposes are likely to adopt it.

On the other hand, social influence and social identity were observed to have no significant influence on students' adoption of SNSs for academic purposes ($p > 0.05$). The results from this study suggest that students' adoption of SNSs for educational purposes is not influenced by other people they perceive to be important or their desire to belong to a particular sect, thus these findings do not support existing literature (Arteaga Sánchez *et al.*, 2014; Mazman and Usluel, 2010; Tarhini *et al.*, 2015; Ali *et al.*, 2017) that suggest that social influence and social identity are significant determinants of SNS adoption.

Conclusion

SNSs are currently utilized by many heterogeneous individuals of diverse ages, social status, gender, educational levels and dialects who involve themselves and incorporate these sites into their everyday lives. These SNSs allow users to create personal profiles, compile a list of their friends, post comments to their friends, take and share pictures and share ideas, thoughts, documents and receive feedback from groups of interest they join. Given the numerous benefits that SNSs offer to users, this study sought to examine the perceptions of university students toward SNSs adoption for educational purposes from a developing country perspective.

The findings provide some useful insights into the key predictors of SNSs adoption for educational use by students. The results thus have important implications for university instructors, administrators and policy makers interested in integrating web-based social networking tools in classroom work. SNSs could become more instrumental in the delivery of higher education in developing countries as it is in some developed regions, such as Australia and USA. Instructors could capitalize on students' adoption of SNSs by creating groups and pages on SNSs where discussions could be held and concerns addressed, in a

friendlier setting. Also, students could be engaged in group assignments and projects that require the input of people from different campuses, schools and countries, thus introducing more excitement, innovation and interactivity. Furthermore, conferences and seminars could be organized leveraging live chats and livestream to involve more students in programs that will not only be intellectually stimulating but help develop generic skills in students. Incorporating all these will increase the perceived usefulness of the sites, thus increase the rate at which already subscribed students use the sites for educational purposes. Kaplan and Haenlein (2010), however, recommend that any institution that seeks to benefit from SNSs should stay active, interesting, humble and not overly professional to keep their platforms fresh, interactive and exciting.

To the international community, findings of this study also suggest that based on context, differences may exist among the factors that influence individuals to adopt a technology. For instance, while prior studies associate social influence and social identity with SNSs adoption in other jurisdictions, findings of this study suggest these factors are not significantly associated with SNSs adoption for education use in a developing country perspective. These could be attributed to cultural differences, which influence students' behavior, expectations, norms and learning styles (Hofstede, 2001; Arteaga Sánchez *et al.*, 2014).

Limitations

Notwithstanding the valuable contributions of the study, some caution should be taken in the interpretation of the findings as data were attained from students in one public university. This restricts the extent of generalization of the results but gives room for future studies in the area. In this regard, future studies could target respondents from both private and public universities. Also, a more comprehensive study could be conducted to explore perceptions of not only students, but compare lecturer views across multiple disciplines.

Note

1. Digital natives are people who have interacted on digital technologies from an early age, generally welcome the value of technology, rush to receive new technologies, search out avenues for actualizing technological change and enjoy using SNSs (Buzzetto-more, 2012).

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Further reading

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Appendix

Construct	KMO	Bartlett's test of sphericity χ^2	df	*p*-value
Adoption of SNS	0.943	10,999.094	325	0.000
Purposes of SNSs	0.945	4,823.590	45	0.000
Educational use of SNSs	0.947	5,516.819	55	0.000

Table AI. Statistics on EFA

Adoption of SNSs	Factor loadings SID	PEU	SI	FC	PU
Social identity					
SNSs allow the creation of groups of people who share the same interests and needs	0.867				
Using SNSs, I can join groups that I am interested in	0.864				
Using SNSs, I can create groups to share information with others that have the same interests	0.845				
I use SNSs to work as a team with the other members of the groups I joined	0.807				
Perceived ease of use					
I do not have any problems learning about SNSs on my own		0.817			
In general, I find it easy to use SNSs		0.811			
I find it easy to use SNSs features		0.781			
I became a SNS member with ease		0.709			
My interaction with SNSs are clear and understandable		0.678			
Social Influence					
I use SNSs because many people I know expect me to do so			0.804		
I use SNSs because my friends recommended that I do			0.786		
I use SNSs mostly to fit in since many people I know use it			0.744		
I pay more attention to the SNSs features used by my friends/contacts			0.721		
I use SNSs to communicate and share information with people around me			0.655		
Facilitating conditions					
I can get technical support by e-mail if I have problems using SNSs				0.779	
SNSs offer technical support when needed				0.759	
Anyone can help me use SNSs				0.699	
In general, SNSs offer appropriate support				0.685	
I can connect to SNSs wherever there is internet connectivity				0.638	
The SNSs I use are similar to one another				0.505	
I find necessary resources to use SNSs with ease					
Perceived usefulness					
SNSs allow me to have more control over my relationships					0.838
In general, the use of SNSs improve my personal relationships					0.768
SNSs make it easier to establish and maintain personal relationships					0.685
SNSs allow me to share more in a short time period					0.641
SNSs allow me to communicate with more people in a short time period					0.590
Eigenvalues	*12.183*	*2.738*	*1.486*	*1.209*	*1.101*
Percentage of variance explained	*46.859*	*10.529*	*5.715*	*4.652*	*4.233*

Notes: SID, social identity; PEU, perceived ease of use; SI, social influence; FC, facilitating conditions; PU, perceived usefulness

Table AII.
Factor loadings for the adoption of SNSs construct

Purposes of SNSs	Factor loadings
I use SNSs to share information and resources with my friends	0.916
I use/would use SNSs to communicate with my classmates/workmates about assignments and group projects	0.895
I use SNSs to communicate with my friends	0.876
I use SNSs to join groups to communicate about common interests	0.865
I use SNSs to be updated on the events of my previous school and former classmates	0.861
I use SNSs to find out what is new and innovative	0.856
I use SNSs to get up-to-date information and news about my contacts	0.842
I use SNSs to locate friends I have not been in touch with for a while	0.806
I use/would use SNSs as a resource to increase my performance in my courses	0.774
I use SNSs to share information and resources with my friends	0.671
Eigenvalues	*7.039*
Percentage of variance explained	*70.390*

Table AIII.
Factor loadings for the purposes of SNSs construct

Educational use of SNSs	Factor loadings
SNSs are an appropriate platform to exchange course related information	0.910
The use of SNSs improves student group work	0.882
The use of SNSs encourage the creation of academic groups (communities) of people with the same interests and needs	0.881
SNSs provide the resources to share a wide variety of resources and learning materials	0.873
The use of SNSs improves the communication of announcements about courses, classes or school	0.870
The use of SNSs improves communication between classmates/colleagues	0.832
The use of SNSs improves the delivery of course content and resources	0.828
SNSs provide rich multimedia resources and media support to improve the educational experience	0.828
SNSs provide resources to support students when doing their homework	0.797
The use of SNSs improves communication between the teacher and students	0.779
The use of SNSs improves classroom discussions	0.747
Eigenvalues	*7.766*
Percentage of variance explained	*70.599*

Table AIV.
Factor loadings for the educational use of SNSs construct

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