

# ONLINE SOCIAL NETWORKING AND ACADEMIC PERFORMANCE AT THE UNIVERSITY OF BOTSWANA

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## Abstract

The growing interest in Internet-based Social Network Sites (SNS) and the increased form of social interactions taking place via globalised digital networks has not spared educational institutions. The adoption of SNS by university students has attracted attention of both scholars and practitioners, triggering interest in studies that explore their impact on academic performance. The study on which this paper is based sought to establish the relationship between online social networking and academic performance of undergraduate students at the University of Botswana (UB). It followed a quantitative research approach and adopted a cross-sectional survey design supported by closed-ended questionnaires. Data were collected from 390 students (N=390) enrolled in the 2013/14 academic year and selected by Simple Random Sampling strategy. The study established that majority of the SNSs users spent more time on these sites than they actually devoted to their studies. This impacted significantly on their academic performance in semester examinations. Furthermore, although students belonged to various online SNS, the results identified Facebook as the most popular networking site among UB students. The study findings would help students appreciate the consequences of extensive SNS usage and thus better manage their online behaviours as well as attitudes towards academic performance. We therefore recommend that the university, without infringing on the freedom of individuals, put in place a policy relating to the use of internet and access to online social networking sites considering that most students now access SNS directly from their smart phones.

**Keywords:** Academic performance, Grade Point Average, Internet, Online Social Network sites

## 1.0 Introduction and background

Social media has become one of the most important communication means in recent times. The growing interest in Internet-based Social Network Sites (SNS) and the resultant social interactions taking place via these platforms have not spared educational institutions. The adoption of social networking sites (SNS) by university students, such as Facebook, WhatsApp, Twitter and LinkedIn, is unprecedented and raises questions about their impact on academic performance. New

media technologies have great implications for the content as well as the social relations through which communication is organized.

Social networking sites have recently become very popular with a number of users from a wide geographical area joining groups and becoming regular clients (Boyd & Ellison, 2007). Scholarly studies have explored the extent to which SNSs have the potential of creating virtual communities which allow people to connect and interact with each other on a particular subject or to just 'hang out' together online (Murray & Waller, 2007). Moreover, these sites can facilitate interaction, communication and collaboration, and as a result have been prominently featured in discussions on the use of technology to support and amplify educational endeavours. Underlining this assessment, Madge et al. (2009) argue that SNSs exist so as to provide communication among people regardless of the distance, making it possible to easily share information, files, pictures and videos, create blogs and send messages and conduct real-time conversations. Hence, the sites enable users to present themselves, connect to a social network, develop and maintain relationships with others (Ellison et al., 2007). These systems are referred to as social simply because they allow communication with buddies and co-workers so easily and effectively (Al-Rahmi & Othman, 2013). The driving factors for adoption of social media are the progressively ubiquitous access, convenience, functionality, and flexibility of social technologies (Schroeder et al., 2010). An additional benefit of social technologies provided on the Internet is that they are frequently free or require marginal investment, eliminating a potential barrier to adoption as well as connecting people to one another.

The meaning of SNS varies across areas and among individuals. An SNS is a communication tool or a kind of platform designed as a way for friends, family or strangers to have discussions and interaction or be in contact with each other. As pointed out by Boyd and Ellison (2007), an online social network site (SNS) is a web-based service that allows 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. The youth have especially embraced these sites as a means of interaction, socializing and for purely entertainment purposes. A study conducted by Helou et al. (2012) revealed that both high school and college students use Facebook and MySpace not only to stay in touch with existing friends and make new ones but also to exchange information about classes, concerts, parties or whatever else that interests them. Today's SNSs feature online interactive games, instant messaging, event planning, group formation, fan base development and online streaming content, to name just a few.

Literature suggests that using online social networks as educational platforms may support learners in forming social connections with others while they collaborate to share ideas, create products, construct identities and receive timely feedback (Greenhow, 2011). The use of these technologies also facilitates collaborative learning, such as wikis, web quests or discussion forums. Al-Rahmi and Othman (2013) observe that there has been various overview and opinions which recognize four major advantages of social media use in higher education. These include enhancing relationship, improving learning motivation, offering personalized course materials and developing collaborative abilities. This means that social networking activities have the possibility of enhancing student contact and is used to improve their participation in class, particularly where introverted students are involved. In the 21st century, communication is faster, better and efficient and the credit goes largely to technology. For example, students are now spending more time in such informal settings than in formal academic interactions.

Globally, social networking sites (SNSs) have been in existence since 1997 (Boyd & Ellison, 2007). What started out as a way of showing individuals their connections with others on a single website has evolved into a group of websites that stream dynamic content and allow vast networks of individuals to communicate amongst one another in public or semi-public settings (Ruud, 2013). The development of SNSs has rapidly accelerated in the past few years. SNSs now exist for individuals with myriad interests, from general social networking such as Facebook to more specific population-centred SNSs like Asian Avenue and Black Planet (Boyd & Ellison, 2007). Although it has been around for close to half a century, the Internet particularly rose to prominence in the late 1980s and early 1990s and it is therefore a phenomenon in its infancy. Regardless, it has proven to be a dominant force in today's society and has received significant attention from researchers and practitioners (Park et al., 2009; Ruud, 2013). For example, Facebook has become popular worldwide, with about 189 million mobile active users generating 30% of its revenue from mobile phones and the figure expected to increase to 10 billion by 2020 (Bullas, 2014).

The information and communication revolution sweeping the world has brought new meaning to the concept of telecommunications in Botswana. Mobile telephony in Botswana dates back to 1998, when both Mascom Wireless and Vista Cellular, now Orange Botswana, were introduced. These two network operators were the first to go mobile in a telecommunications industry that was for some years dominated by a fixed landline telephone service under the monopoly of the BTC (BTA, 2010). By the first quarter of 2005, the mobile technology had grown remarkably, spreading to all aspects of life including educational institutions. Compared with the rest of Africa, the percentage of the population who use mobile phones in Botswana is only surpassed by that in Nigeria, South Africa and Ghana (International Telecommunication Union (ITU), 2011). As indicated from the BTA study, an increase in the mobile phone subscription rate rose from 33% in 2005 to 131% in 2010, reaching a total of about 2,363,411 subscribers among a population of fewer than two million. A recent report by Nielsen Company ranked Botswana as one of the top three countries in Africa in terms of the internet accessibility (Nielsen, 2016). Among the SNSs, Facebook is the most popular site in Botswana. With the escalation of internet accessibility, hundreds of thousands of people in Botswana have created Facebook accounts. As of November 2015, Botswana had 620,000 registered Facebook users (Faimau & Behrens, 2016). The report released by Nielsen claimed that Botswana has the highest rates of Facebook use in Africa. With a high rate of Facebook use, the report concluded that Botswana has become a highly socially active society (Nielsen, 2016).

In Botswana, the youth, particularly university students, have embraced the latest smart phones with a broader range of uses such as to perform money transfers for business transactions, make telephone calls, send text messages, photography, play games and popular Internet surfing for research purposes. In its strategic plan, the University of Botswana (UB) adopted the use of ICT in the delivery of its academic programmes, especially at undergraduate levels. Oladiran and Uziak (2009) noted that the rationale was to fast track two priority areas; expanding access and participation, and enriching quality academic programmes through infusion of ICT in teaching and learning. UB has enhanced class rooms, smart classrooms and video conferencing facility, WEBCT / Blackboard E-learning platform, proprietary software as opposed to free and open software, and free WIFI access for all students. The availability of internet and the new technology in the university also allow access to various SNS platforms. Although the main intention of infusing ICT is first and foremost to improve the quality of teaching and learning, it is necessary to further explore how the availability of internet and technology has translated into improved quality learning and consequently improved academic performance. The present study was designed to fill this knowledge gap. This study was also motivated by the fact that most recent studies (Junco, 2015, 2012; Huang, et al. 2009) on this

phenomenon tended to focus on Asian and Western countries. There has been just a few studies in the context of Africa focusing on the perceptions of SNSs (Adam, Zor & Oye, 2012), the adoption and use of E-learning facilities (Mapoka & Eytayo, 2005) and their implications on student performance (Tella, 2007). Among these studies, there has been very little consensus on the impact of SNS on academic performance. We therefore considered the contribution of this paper a timely intervention given the growing interest in the subject. Overall, the study sought to determine if there was any relationship between online social networking and the academic performance of University of Botswana undergraduate students. The specific objectives of the study were to; identify the forms of online social networking sites and their purposes, and determine the extent to which they influenced academic performance.

## **2.0 Theoretical Framework**

This work was informed by integrating ideas from the Uses and Gratifications Theory (Katz et al., 1973; LaRose & Eastin, 2004) and the Network Society Theory (Castells, 1996, 2006). According to the Uses and Gratification (U&G) Theory students use online social networking sites to satisfy specific gratifications. For example, a study by Park et al. (2009) found that university students used Facebook to satisfy socializing, entertainment, information and self-status seeking needs. Gratifications are either sought or obtained. According to this theory members of the network are not passive but active players in interpreting and integrating media into their own lives. Media competes against other information sources for viewers' gratification hence the students choosing social networks instead of other sources. Uses and gratifications (U&G) is a media use paradigm from mass communications research that focuses on individual use and choice of media (Katz et al., 1973). The main purpose of this paradigm is to explain the reasons that people choose a specific medium over alternative communication media and to elucidate the psychological needs that motivate people to use a particular medium. This paradigm assumes that users are goal-directed in their behaviour and are aware of their needs. The U&G theory suggests that an individual's underlying needs drives his/her communication behaviour. Within the lens of this theory, it has been suggested that users are seen as goal-oriented, with rationales for their use (and non-use) of various media. Students' reactions to these new 'technological architectures' have been agential and inter-subjective (Brandtzaeg & Heim, 2008).

In the Network Society Theory or Social Network Analysis, Castells (1996; 2006) intimated on the heightened relevance of the media sphere in today's global network society. According to Castells internet and mobile phones were important nodes of networking in network society. Social Network Analysis (SNA) is frequently applied in a knowledge management perspective with the purpose of helping organizations to better take advantage of the knowledge and capabilities distributed across its members (Castells, 1996, 2006).

Knowledge is created, produced and exchanged to a large extent through informal interactions. In this study students use online social networking sites for their informal interactions. Informal networks are based on spontaneous contacts, by self-initiative and self-motivation and evolve according to mutual trust, reciprocity and friendship growth (Wang et al., 2010). Thus the use of SNS is associated with greater social capital, that is, accumulated resources and benefits actors receive from social relationships. Some social network site groups are formed on the basis of a very selective criterion such as previous membership to a different site, familiarity with audiences, gender and to some extent socio-economic status.

### 3.0 Methodology

The study followed the quantitative research approach and used a survey design. The study sought to establish if there was a relationship between students’ use of SNS and their academic performance at the University of Botswana. This approach was used because one of its greatest strength is the ability to produce quantifiable, reliable data that are usually generalizable to some larger population. The choice of the University of Botswana was both convenient and purposive given its strategic position as the oldest and one of highest institutions of learning in the country. It also has the largest number of students when compared to other tertiary institutions in Botswana, which gave us a sample reasonably large for ease generalization. A total of 390 undergraduate students (222 females and 168 males) were selected from a population of 16 340 enrolled in the 2013/14 academic year using Yamane’s Simple Random Sampling formula (Yamane, 1967):

$$n = \frac{N}{1+N(e)^2}; n = \frac{16340}{1+16340(0.05)^2}; n = 390.4$$

Closed-ended questionnaires were administered between August 2014 and September 2014. This technique is generally acknowledged as the most popular technique for surveying the opinions and perceptions of individuals. A pilot study to test the instrument was conducted with 30 students on-campus at one of the student residences. To analyse the data descriptive statistics comprising mainly percentages, frequency, and chi-square test were used.

### 4.0 Results and discussion

#### 4.1 Social networking sites and their Usage

In order to measure to establish the different online SNSs used by students and with whom they interacted, results as shown in Table 1, showed that more than 94 % of UB students belonged to various online SNSs. The findings largely reinforce existing literature on the use of SNSs among students. For example, Wiley and Sisson (2006) observed that more than 90% of college students use online social networks.

**Table 1: SNSs membership**

	SNSs	N	%
	Facebook	306	78.5
	Twitter	19	4.9
	LinkedIn	14	3.6
	Other	28	7.2
	None	1	.3
	Total	368	94.4
	No response	22	5.6
<b>Total</b>		390	100.0

Facebook was the most popular SNS with 78.5% of participants confirming its use. This finding confirms contributions by Stephen (2007) who identified Facebook as the most popular online site among college students. This is also in support of observations by Williams and Merten (2008) that university students were often found to be obsessed with Facebook profile. Thus the Facebook was the strongest network site where most social capital was accumulated. This resonates with the U&G Theory and also in support of observations by LaRose and Eastin (2004) that the Facebook

provided an opportunity for users to seek and obtain gratifications. However, it is important to state that the main logical inference drawn from this observation is that majority of the students belonged to Facebook, it does not necessarily imply that Facebook users spend more hours or time than others or vice versa since there was no fact to support such claim.

Our study also confirms contributions by Haneefa and Sumitha (2011) that students use these sites for various purposes, such as communication, publishing, messaging and group discussion. Most students used SNSs as part of cyber-sociality while the use of SNS for knowledge purposes was the least on the list (see Table 2). Responses to the question relating to their network audience, were measured using a likert scale, of 1(never) to 5 (always). A majority (56.4%) of the participants indicated that they never communicated with their lecturers on SNSs. Thus consistent with the Gratification Theory, the finding reinforces the argument that students used SNSs to gratify their social needs as most students do not perceive knowledge-seeking as a primary need. In this case, communication, entertainment and passing time, all weigh higher in the students’ opinions than seeking knowledge. Users who participate in SNS in order to gratify socializing needs typically desire to meet new people, sustain offline relationships and create a sense of community (Ellison et al., 2007; Park et al., 2009). This however was not found to be the case with our study as very few students used social networking sites to discuss their academics issues and also to interact with their instructors, teachers and professors. This opinion does not necessarily reflect that interacting with lecturers automatically implies that students would be seeking knowledge as some students might have different motivations for such interactions given the social media’s capability to collapse contexts. A context collapse refers to “the flattening out of multiple distinct audiences in one’s social network, such that people from different contexts become part of a singular group of message recipients. Because of context collapse, users can quickly diffuse information across their entire network and facilitate interaction across diverse groups of individuals who would otherwise be unlikely to communicate (Vitak, 2012, p. 451).

**Table 2: Purposes of SNSs**

VALUES	How often do you use social networking sites for Entertainment		How often do you use social networking sites for Knowledge		How often do you use social networking sites for Passing time		How often do you use social networking sites for Communication	
	N	Percent	N	Percent	N	Percent	N	Percent
Never	29	7.4	23	5.9	25	6.4	13	3.3
Rarely	41	10.5	59	15.1	46	11.8	19	4.9
Sometimes	87	22.3	110	28.2	95	24.4	70	17.9
Very often	108	22.7	113	29.0	109	27.9	101	25.9
Always	122	31.3	81	20.8	112	28.7	187	47.9
Total	387	99.2	386	99.0	387	99.2	390	100.0
No response	3	0.8	4	1.0	3	0.8	-	-
<b>Total</b>	<b>390</b>	<b>100.0</b>	<b>386</b>	<b>100.0</b>	<b>388</b>	<b>100.0</b>	<b>390</b>	<b>100.0</b>

We also sought to determine the gender dimension of participation in SNS. It was found out that that on average, female students spent more time on the networking sites than their male counterparts (Cf. Table 3). However this finding cannot be claimed as conclusive since more female students took part in the study. In addition, the number of participants from both genders who spent more than six hours on SNS was relatively the same (approximately 12% for both males and females). While research (Onuoha & Saheed, 2011) has shown no significant difference between male and female students on internet use patterns, others (Fujimori et al., 2015; Wang et al., 2010) show that in relation to SNSs addiction, females were more ambivalent to SNSs as interaction tools. Those with a high ambivalent style may become preoccupied with peer group membership. There was also no significant difference regarding maintaining privacy in Social Network Sites. Both sexes tended to derive the same gratification from the accumulated social capital (Ziegele & Quiring, 2011). Although this study did not confirm any gender-differences regarding SNSs interaction particularly for academic purposes, for those seeking sociability and friendship, it is in support of the observation made by Thelwall (2011) that both men and women are more likely to befriend the opposite sex if they have an attractive photo posted on Facebook.

**Table 3: Gender dimension of SNSs users**

		Gender		Total
		Male	Female	
How much time do you spend on online social networking sites a day?	Less than an hour	36	44	80
	Between 1 and 3 hours	71	88	159
	Between 4 and 6 hours	39	59	98
	More than 6 hours	21	27	48
<b>Total</b>		167	218	385

#### ***4.2 The relationship between SNSs and UB students' academic performance***

To determine the impact of SNS on students' academic performance, students were asked to indicate the amount of time they spent on SNSs on a daily basis. They were further asked to state the extent to which the use of SNSs has affected their academic activities. Results showed that majority of the respondents (57.7%) were of the opinion that SNSs did not affect their academic activities. Interestingly, majority of the respondents (69.5%) also confirmed that participation in the SNS has not improved their academic performance. Overall, students did not believe that their GPA grades could be attributed to their SNSs behaviours. Having found that majority of the students spent more time on SNSs than academic engagement, we decided to cross tabulate the amount of time students spent on SNSs daily with their GPAs (see Table 4) and students who had retaken classes to ascertain whether there is any significant relationship between SNSs and UB student academic performance.

**Table 4: Time spent on SNSs daily against Students GPA**

		Time				Total
		Less than an hour	Between 1 and 3 hours	Between 4 and 6 hours	More than 6 hours	
GPA	5.0 - 4.5	1	0	0	0	1
	4.4 - 3.6	41	70	34	23	168
	3.5 - 2.0	25	77	55	22	179
	1.9 - 0	13	10	7	2	32
Total		80	157	96	47	380

A cursory look at the results in Table 4 reveals that the lesser the amount of time spent on SNSs the better and higher the GPA for students. In addition, the Pearson Chi Square test shows that there is a significant relationship between the amount of time students spend on SNSs daily and their GPA, i.e.  $X^2=0.01 < 0.05$ . This implies that the amount of time students spend on social networks daily can have adverse effects on their academics except when used for academic purposes. These findings reinforce those of previous studies elsewhere that high use of these technologies by students can result in negative academic effects (Mozee, 2013). In a similar way, Kuppaswamy and Narayan (2010) contend that social network websites grab attention of the students and then diverts it towards non-educational and inappropriate actions including non-productive chatting. Feeling connected is a thrilling experience for most students. As Helou, et al. (2012) note, most of the younger students use online social networking sites mainly for socializing activities rather than for academic purposes.

A significant relationship was found between the amount of time spent on SNSs and GPAs. No such relationship was found between the amount of time spent on SNSs and students who have retaken classes. The implication of this result is that the amount of time spent on SNSs daily does not ultimately lead to student failure in examinations that could warrant retaking examinations, though it might influence a drop in GPA. This is consistent with literature although from a different context (e.g. Treem & Paul, 2013) which indicated a significant drop in grades among student users of social networking sites. These authors further noted that students who use social media for extended periods of time or multitask have an increased risk of not being able to achieve the educational outcomes of their courses. This confirms the phenomenon of “too much face and not enough books” (Junco, 2012, p. 187).

The study also found out that social networks can also positively influence one’s academic performance. In spite of some respondents’ misgivings, online social networks have proven to have some positive influences on college students’ academics. This is supported by Churchill (2009) and Madge et al. (2009) who added that social networking websites serve educational goals and objectives by connecting students for academic work and learning purposes. Connecting with class mates on online social networks was a way of having access to update information that can be channeled towards improving academic performance. Students who use online SNS to seek course related knowledge attain high academic achievements (Haneefa & Sumitha, 2011). The finding was also supported by Ophus and Abbitt (2009), who reported that students were largely supportive of using a social networking system in their higher education courses. Although the use of online social networks may not necessarily lead to higher academic performance, they can facilitate positive engagement in academic activities. Consistent with Castells’ Network Theory, our findings are in



support of previous studies (Ellison et al. 2007), that show that greater use of SNS was associated with greater amounts of bridging and bonding social capital which is crucial for productive information sharing. Through such network chains, users were more likely to share information, satisfying both social gratifications and academic purposes. Similarly, our observations resonate with previous U&G theory-based study findings by Leung (2001), who found that students chatted mainly for affection and sociability and less commonly for academic purposes. According to the Social Network Theory by Castells (1996), students as 'networked actors and audience' maintain close ties with fellow students and other users to create and exchange information and ideas with other actors and audience on the network. Students tended to interact more with fellow students as actors tended to cluster, forming groups according to their respective institutions, projects in which they are involved, sharing of physical spaces or common interests. Network researchers believed that individuals with fewer constraints and more opportunities are those that are in favorable positions in the social networks (Hanneman & Riddle, 2005). In addition, interaction is much more common with group members than inter groups. Although knowledge could be created and exchanged through informal interactions, most students use SNSs to grow friendship. This is in tandem with the primary concern of network research that focuses on the consequences of network on users.

## **5.0 Conclusion and recommendations**

The main purpose of this paper was to demonstrate the extent to which online social networking and academic performance of the University of Botswana students. One of the major conclusions is that although students belonged to various SNS, Facebook was found to be the most popular site in the university. It was also found that majority of SNSs users communicated more with their acquaintances; friends and relatives on social rather than with academics/lecturers. As a consequence, majority of the SNSs users rather sought to satisfy their socialising, entertainment and self-status seeking needs than knowledge seeking that would translate into improved academic performance. While the students did not directly link their academic performance to SNS participation, they argued that social media still played a significant role. Although social network sites can have both positive and negative outcomes, overall they negatively affected one's academic performance particularly when excessively used because this often competed with scheduled academic activities and responsibilities. It is evident that SNS, when used for academic purposes, were more likely to contribute positively to academic performance than when used solely for fun. There was also no gender difference regarding interaction patterns. SNSs users that interacted with lecturers, supervisors and fellow students on academic issues tend to derive positive benefits from them while users that use them to interact with friends solely on social issues might get distracted from their academic activities. Thus, the students' network audience and the purpose for such communication determine the nature and direction of relationship between SNSs and academic performance.

We recommend the adoption of SNS by course instructors as platforms for academic interactions such as tutorial discussions and solutions to quizzes. This would reduce excessive use of SNS solely for social gratifications and accumulation of social capital at the expense of productive academic engagement with both classmates and course instructors. It is important to recognise that constraints and opportunities are crucial in examining the consequences of network users. In this regard, students with fewer constraints and more opportunities could be described as those that encounter lesser distractions caused by the use of SNS while at the same time maximizing the benefits that accrue from its use. Apart from restrictions and controls to social media access, university authorities may need to conduct awareness seminars on the benefits and costs of social media

particularly for university starters. Further research with the use of mixed methods dominated by qualitative approaches such as case studies, may provide more valid data particularly when dealing with aspects relating to opinions and perceptions. There is also need to expand the sample size to include an assessment of course instructors' own opinions and experiences. Similarly, a comparative analysis with a larger sample of students comprising both graduate and undergraduate students may be conducted to establish any variations in the results.

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