Use of Smart Phones amongst Final Year Students' In School of Industrial and Applied Sciences (SIAS) In Federal Polytechnic Nekede-Owerri, Imo State, Nigeria

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Abstract— *This paper reports the use of smartphones amongst final year students' in School of Industrial and Applied Sciences (SIAS) in Federal Polytechnic Nekede-Owerri, Imo state- Nigeria. The survey method was adopted where questionnaire was administered to final year students of School of Industrial and Applied Sciences (SIAS). The findings revealed high level ownership of smartphones amongst the students with Nokia as the dominating brand. Accessing online information resources was identified as the dominating reason for use of smartphone. Requirement of password to access online resources was the major constraint to effective use of smartphones for information seeking. Recommendations were made in line with the findings of the study.*

Keywords— Smartphones; Use; Students; Nigeria

Introduction

Mobile phones offer a range of applications from telephone conversation and simple text messages (SMS), to multimedia messages services (MMS) and internet access, depending on the capability of individual mobile phones and the services available. Mobile phones no doubt have become a necessity for many people throughout the world. Mobile phone today have gone beyond just receiving and placing phone calls, but are now being maximally employed to other uses like researching amongst others. Most of the mobile phones nowadays are addressed as "*smart phones*", as they offer more advanced computing power and connectivity than a contemporary mobile phone. Smartphones usage amongst students has exploded over the years because they serve as a major medium of communications, and students and school staff rely on this source. They are no longer cutting – edge communication gadgets, but now necessities in people's lives (Lee, Chang, Lin & Cheng, 2013). Smartphones is one of the mobile technologies that offer advanced computing abilities as well as access to internet – based resources. Smart phone has impacted almost all work of human life (Sarwer & Soomro, 2013).

A smartphone, therefore, offers a rich set of mobile computing functions with connectivity; this combination frees the user from desk-based ICT associated with traditional computing in education. Smartphones are ubiquitous and accessible devices that travel with the user, so empowering them to respond to situations, ideas and needs as they emerge (Woodcock, Middleton and Nortcliffe, 2012). However, with emergence of 3G and its evolution to 4G, the mobile device is seen more as a platform rather than just a telephone, creating challenges for its usability and adoption by ordinary users (Sandoval & Santoyo, 2013). Smart phones (SP) have revolutionized the domain of cellular technology since the emergence of Iphone in 2007 (Hasan, Zaidi, Haider, Hason & Amin, 2012). Smart phones are being adopted en – masse throughout the world (Koh, Loh & Hong, 2013).

The growing demand of smart phones and high speed mobile browsing is ready to change the basics of higher education delivery system (Kumar, 2011). According to Buck, Mclnnis & Randolph (2013), the 21st century students are not limited to the knowledge of life, even in the classroom setting, where there are now various forms or technology. All activities which can be performed on normal computers such as Shang information, sending and recovery emails, chatting, opening browsing and shopping can be done using smartphones (Alfawareh & Jusoh, 2014). Smartphone is a mobile phone with a mobile operating system (OS) that is combined with a personal digital assistant (PDA) functions. Smart phone is a mobile phone running a complete operating system, which offer advanced computing abilities and connectivity of phones (Alfawareh & Jusoh, 2014).

Most Modern smart phones have full web browser which allows access to the same internet content available on a PC, they have cameras which can take photos and video. Smart phone could be used at any time by the students, it had 24/7 internet

connectivity and students could access website at their conveniences, More so, it affords multiple models of information transmission namely audio, text, image, and video (Koh, Loh, & Hong, 2013). The capacity of a smartphone to access, manipulate, produce, store or share content almost as soon as it is created, wherever it is created, provides the rationale for why education needs to explore the technology and this versatility promises to change the nature of educational content and communication and therefore the nature of learning itself (Woodcock, Middleton and Nortcliffe, 2012).

Smart phones serve as the easiest and most inexpensive way to connect to the internet (Buck, Mclnnis & Randolph, 2013). Moreover, some smart phones have sophisticated applications such as camera which work as scanner (Alfawarah & Jusoh, 2014). However, by using the smart phones, students can easily share their own understandings without the fear of time and constraints within the allocated classrooms time (Koh, Loh, & Hong, 2013). Watanabe (2012) noted that with the development of data communication infrastructures, users of smart phones and tablet anywhere in the world can access information where there is a mobile phone coverage or Wi Fi access point.

There is no doubt that the advent of technologies has led to the proliferation of various phones amongst the youths in Nigeria but what has not been establish is the extent to which the youths precisely the students are utilizing the various phones especially the smartphones in educationally related activities. This study therefore becomes necessary in order to x-ray the use of use of smartphones amongst final year students' in School of Industrial and Applied Sciences (SIAS) in Federal Polytechnic Nekede-Owerri, Imo state- Nigeria.

Objectives of the study

The study was guided by the following specific objectives:

i. To find out if the students own a smartphones
ii. To identify the brand of smart phones mostly owned by the students
iii. To determine the frequency at which students do make use of their smart phone
iv. To ascertain the reasons for which the students make use of smart phones
v. To identify the constraints to effective use of smart phones for information seeking amongst the students

Research Questions

The following research questions were formulated in line with the objectives of the study:

i. Do the students owned smart phones?
ii. Which brand of smart phones is more dominant amongst the students?
iii. At what frequency do the students make use of their smart phones?
iv. What are the reasons that account for students use of smartphones?
v. What are the constraints to effective use of smart phones for information seeking?

Literature Review

Though there were no existing researches with Nigerian background on the subject matter within the area of coverage, the few available ones accessible via the internet by the researchers were reviewed.

Arpit & Anand (2013) in their study into the usage pattern of smart phones owners among students and service class using data collected from 530 respondents across major cities in India revealed that there was no particular dominating brand in use even though Samsung brand seems to be popular with 33% of those who reported owing a smart phones using one .

Alfawareh & Jusoh (2014) in their study on smart phones usage among university using 324 students from various academic levels and programmes revealed that 91.69% of students have used smart phones to login to their academic portal and downloading class materials and that nearly every students owned a smart phones.

Lee, Chang, Lin & Cheng (2013) citing Thomee, Harenstam & Haberge (2011) noted that people use smartphone for entertainment or to relive stress, and such use to them can yield immediate gratification, but it can also be accompanied by a diminished sense of volitional control and induce persistent activity.

Woodcock, Middleton and Nortcliffe (2012) in their study conclude that students own smartphones and, as with other aspects of their lives, they will turn to them as a matter of course to enhance their experience of learning and their study shows that once students begin using their smartphones for learning they begin to appreciate the benefits and the further possibilities that exist within their current frame of reference. Amongst smartphone users, this is already evident in the ways they seek to manage their lives as learners using apps to check Blackboard and timetables.

Hingoranu, Woodland & Askari-Danesh (2012) exploring how smartphones supports students lives revealed that use of smartphone in the classroom is a cause of major concerns for many instructors, especially those who see smartphones as a distraction. Many students continue to access BlackBoard on their smartphones and receive updates from universities on their smartphones. There have, however, been very few success stories of integrating use of smartphones in university courses. Moreover, Nam in a different study on evaluation of university students utilization of smartphones revealed that students of a university in Korea indicated that the most important usage of smartphone is 'REAL-TIME COMMUNICATION' rather than 'TELEPHONE' or 'INTERNET SEARCH' while 'STUDY' usage gets the least

response in usual usage and the most important usage of smartphone.

Research Methodology

Descriptive survey research design was adopted for this study. The School of Industrial and Applied Sciences (SIAS) in a named Federal institutions in Imo State, Nigeria was chosen for the study. A sample of 200 final year students of Higher National Diploma (HND) was purposively selected from the business areas. Availability sampling was further used to administer the research instrument on the final year students of the chosen school over a period of five working days for the five departments in the School of Industrial and Applied Sciences (SIAS) namely: Food Technology, Micro-Biology, Physics/Electronic, Bio-Chemistry and Library Science. Copies of the questionnaire were completed and returned on the spot with the help of the various course representatives and there was a close supervision of the administration of the questionnaire which ensured 92 % returned rate. The retrieved copies of the instrument were collected and analysed using frequency tables and percentages.

Data Analysis and Interpretation

A total of 200 questionnaires were distributed to respondents while 184 were retrieved showing a 92% return rate.

Table 1: Number making use of smart phone

Respondent	Frequency	Percentage
Yes	153	83
No	19	10
Blank	12	7
	184	100

From table above, 153(83%) of the respondents make use of smart phones, 19(10%) respondents do not make use of smart phones while 12 did not tick any of the options. This implies that majority of the respondents make use of smart phone. This study corroborates the findings of Alfawareh & Jusoh (2014) that 91.69% of the students owned a smartphone.

Table 2: Brands of smart phone owned by students

Brands	Frequency	Percentage
iPhones	10	5
Samsung	19	10
Android	16	7
HTC	5	3
RIM / Blackberry	27	15
Techno	44	24
Nokia	59	32
Ericsson	1	1
Others	3	2
	184	100%

Analysis from table 2 shows that students use a variety of smart phones. Nokia is the most popular with 59(32%) of those who reported owning a smart phone. Other types of smart phones owned are Techno 44(24%), RIM Blackberry 27(15%), Samsung 19(10%) and Ericsson rated last with 1(1%) response rate. The growing numbers of Nokia smart phone users have placed it ahead of all other smart phones. This findings is contrary to the findings of Arpit and Anand (2013) where it was revealed that there was no dominating brand across the major cities in India even though Samsung brand seems to be more popular.

Table 3: Frequency of smart phone usage

Responses	Frequency	Percentage
On daily basis	146	80
Once a week	3	2
Several times a week	14	7
Few times a month	2	1
When the need arises	19	10
Total	184	100%

On the frequency of use of smart phones, analysis from table above indicates that 146(80%) of the respondents use smart phones on daily basis. 19(10%) use it when the need arises, 14(7%) several times a week, 3(2%) once a week, 2(10%) use it few times a month. This implies that students make use of smart phones regular and it seems to be a part of their daily activities.

Table 4: Reasons for using smartphone

Reasons	Frequency	Percentage
To take note / record lectures	8	4
To access online information resources	152	83
To communicate with classmates / relatives	58	32
To send / receive e-mails	42	23
To listen to music / podcast	41	22
To watch movies / TV	10	5
To create and share documents	21	11
To organize school work	17	9
To learn about school activities	14	7
To video class presentations or experiments	14	7
Others	–	–

N.B. Multiple answers were given

Multiple answers were given on the reason for using smart phones with access to online information resources ranking highest 152(83%) response rate. This is followed by communication with classmates / relatives 58(32%), sending and receiving e-mails 42(23%). While to take note/ record lectures ranked last with 8(4%) response rate. This finding is contrary to the assertion of Lee, Cheng, Lin & Cheng who citing Thomee, Harenstan & Haberge (2011) noted that people use smartphone for entertainment or to relive stress. In order to achieve their aim of studying, students need information resources to supplement classroom learning, this has been made a little easier with the availability of these resources online, no wonder these students use their smart phones to access these online information resources.

Table 5: Constraints to effective use of smart phones for information seeking.

Constraints	Frequency	%
Most online resources require password and online payment	82	45
Non compatibility of software to download information resources	24	13
Incompleteness of information materials	15	8
Oversupply of unnecessary information (junk information)	16	9
Lack of time to access the information resources	18	10
Incessant power supply to charge battery	67	36
Inadequate knowledge of keywords or search terms	21	11
Low storage memory	20	11
Slow internet connectivity	42	23
Inability of smart phones to display full screen	20	11
Constant attach of smart phones by viruses	19	10

Analysis from table 5 shows that the major constraint to effective use of smart phones for information seeking is password requirement and online payment for online resources which got 82 (45%) response rate. This is followed by incessant power supply to charge battery 67(36%), slow internet connection 42(23%). and others. This implies that use of smart phones for information seeking is fraught with constraints and cannot be regarded as a perfect alternative to computers.

Conclusion and Recommendations

Information and communication Technology (ICT) have been seen and acknowledge as a necessity in study, teaching, learning and research in institutions of higher learning. The advent of smart phones has made it easier for students to stay in their confines to send and receive information. This study on use of smart phones amongst final year students in School of Industrial and Applied Science (SIAS) in Federal Polytechnic Nekede, Owerri Imo State, discovered that most the final year students own smart phones which they use on daily basis mainly to access online information resources. The major constraint identified was password requirement and online payment for these resources.

Having seen the importance of smartphones to students especially at this level, the researcher makes the following recommendation:

- The institution can provide an internet cloud which they can access free within the school premises.
- Producers of smart phones should subsidize the price for students so that those who do not have it can afford it.
- Though smart phones are useful to students, they should be encouraged to read their books also.
- Apart from access to online information resources, students should apply the smart phones to uses. At their level, videoing class presentations and experiments should be increased because a replay of it later will make it come afresh in their memory. Though this should be done with caution to avoid distractions.
- Students should use alternative means to charge their smart phones.
- Because of low storage capacity of smart phones, students should also own computers.

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