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, McInnis & 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,
McInnis & 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 owning 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

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>153</td>
<td>83</td>
</tr>
<tr>
<td>No</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Blank</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>184</td>
<td>100</td>
</tr>
</tbody>
</table>

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

Table 2: Brands of smartphone owned by students

<table>
<thead>
<tr>
<th>Brands</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPhones</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Samsung</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Android</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>HTC</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>RIM</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>Blackberry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Techno</td>
<td>44</td>
<td>24</td>
</tr>
<tr>
<td>Nokia</td>
<td>59</td>
<td>32</td>
</tr>
<tr>
<td>Ericsson</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>184</td>
<td>100</td>
</tr>
</tbody>
</table>

Analysis from table 2 shows that students use a variety of smartphones. Nokia is the most popular with 59(32%) of those who reported owning a smart phone. Other types of smartphones 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

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>On daily basis</td>
<td>146</td>
<td>80</td>
</tr>
<tr>
<td>Once a week</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Several times a week</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Few times a month</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>When the need arises</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>100%</td>
</tr>
</tbody>
</table>

On the frequency of use of smartphones, 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 smartphones regular and it seems to be a part of their daily activities.

Table 4: Reasons for using smartphone

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

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

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.

References


