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Mobile Phone Usage Patterns of Library and Information Science Students at Delta State University, Abraka, Nigeria

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Abstract

The purpose of this study is to investigate mobile phone usage patterns among students of the Department of Library and Information Science, Delta State University, Abraka, Nigeria. Through systematic random sampling technique, data were collected by means of a questionnaire from one hundred (110) undergraduate students. Results reveal that a majority of the respondents communicate using their own handsets; the students also use mobile phones at mobile phone shops/booths/kiosks. Some also use friends or relatives phones; while most respondents use mobile phone to communicate with their parents/relatives, there are those who use the phone to send/receive text messages; family matters, followed by finance constitute subject/topic of mobile communication; for most of the students, mobile phone use has limited their need to travel; frequent network/call failure was an inhibition to use of mobile phones to a majority of the students. It is recommended that network operators should increase capacity of their network to solve the problem of network failure.

Introduction

In the world of telecommunications, which involves the transmission of one or more signals of voice, data (high-speed and low-speed), video, Internet and fax over short and long distances, there exists three competing and complementary technologies: wired (copper, coaxial-cable and fiber-optics), wireless (fixed and mobile) and satellite (Aluko, <http://www.jidaw.com/itsolutions/telecom1.html>). The world is fast becoming a global village and a very important tool for this process is communication of which telecommunication is a key player; the quantum developments in the telecommunications industry all over the world is very rapid as one innovation

replaces another in a matter of weeks; a major breakthrough is the wireless telephone which comes in either fixed wireless telephone lines or the Global System of Mobile (GSM) communication; communication is undoubtedly a major driver of any economy, emerging trends in socio-economic growth shows a high premium being placed on information and communication technology (ICT) by humans, organizations and nations (NigeriaBusinessinfo.com, 2003).

The use of mobile phones for communication is growing in Africa (of which Nigeria is a country). In Africa, mobile subscriber numbers have increased by over 1,000 per cent between 1998 and 2003 to reach 51.8 million; mobile user numbers have long exceeded those of fixed wired line users which stood at 25.1 million at the end of 2003; mobile telephony has been critical in boosting access to telecommunications in Africa and has substantially helped lift telecommunications users; mobile penetration had reached 6.2 per cent at the end of 2003, in contrast to 3 per cent for fixed line, the rise of mobile phone usage has been driven by a combination of factors, such as demand, sector reforms, the licensing of new competition and the emergence of major strategic investors, such as Vodacom, MTN, Orascom and Celtel (Blake 2004 and Moholi 2005).

Though Africa has made tremendous progress in the last few years in telecommunications especially in the Global System of Mobile Communication, it should be pointed out as noted by Okoruwa (2004) that Africa still lags far behind the more industrialized parts of the world in telephone penetration and Internet access, but that as demonstrated by GSM, huge opportunities exist for Africa to leap frog the gulf, piggy-backing on the advances in cellular technology; where once it took years and massive capital investment to lay cables across massive distances in order to install telephone lines, telecommunications is now much simpler, easier, and faster on account of wireless technology.

In 2001, the GSM was introduced into Nigeria. The Nigerian Communications Commission (NCC) issued four wireless licenses to MTN Nigeria Communication, Econet Wireless Nigeria Limited (now Vmobile), Communications Investment Limited (CIL) and state-owned NITEL at the fee that was determined by NCC. CIL, however, had its license withdrawn because of inability to meet with the deadline for payment (Nigerian Tribune, 2003). The fourth GSM provider Glomobile (Globalcom) though won its multiple license in September 2002 for the provision of telecommunications services, did not commence provision of mobile phone services until August 2003. It should however be added that mobile phone services are also being offered by 2 or 3 Wireless Local Loop (WLL) operators in Lagos State, but the services appear strictly limited to the Lagos area; the government also revalidated MTS mobile operating license recently, but the company now appear to have lost

frequency with which to operate analogue services (Oki et al, <http://www.geplaw.com/competepreicemts.htm>).

By 2002, mobile subscribers in Nigeria stood at 1.5 million (Nigerian Tribune, 2003) but by the end of 2003, MTN alone had 1,650,000 active subscribers on its network, Econet Nigeria (Vmobile) had subscriber base of over one million, new entrants Globalcom and M-Tel (owned by NITEL - Nigerian Telecommunications Limited) have not less than one million subscribers (The Guardian, 2004). This shows that there is rapid growth in mobile phone subscription and usage in the country. The pervasive growth of GSM in Nigeria is a bold pointer to how much it impacts on life itself; the growth in telephone penetration in Nigeria and the future potential for even more growth and pervasiveness tends to shift the paradigm of thought and maximize the fears of what was once morbidly referred to as the digital divide (Okoruwa, 2004).

Watt (2003) reports that a group of researchers in UK has spent some time investigating how people use mobile phones; it appears that people use mobile phones to decide when and how to communicate with people; children use them to ask each other for advice whilst older women use them to keep track of their husbands; students enjoy sending text messages to each other and young women find them a comfort while walking home late at night; the mobile phone is the single most important device to let people control their relationship with others and to self author their image and lives.

Scotts (2004) reports a research carried out by Gamos Ltd. on some characteristics of the use of telephones amongst rural and low income communities in some African countries - Botswana, Ghana and Uganda. The study reveals that rural inhabitants and poorer urban users value phone services but do not use them very often compared to relatively more affluent users; over 40% of respondents in Uganda used mobile phones through friends and family and individuals; although a further 24% of people used mobile phone through teleshops; the results from all three countries were quite striking and consistent, demonstrating a strong preference for mobile phones rather than fixed line phones, and a preference for private phones rather than public access points. In an earlier report of the research, Scotts (2003) reveals that better educated people use phones more, have a strong intention to use phone in the future, and have a more positive attitude toward phones.

Though increasing portion of the Nigerian population is making use of mobile phones in the past three years, no attempt has been made so far to investigate pattern of mobile phone usage in Nigeria. This survey which is on patterns of mobile phone usage by undergraduate students of the Department of Library and Information Science of the Delta State University, Abraka, Nigeria, will, to a large extent, fill this gap. This study explore the personal characteristics of the respondents (students),

mobile use access points; their frequency of mobile phone use, topics/subjects of mobile communication, how long they have been using mobile phones, benefits derived from use of mobile phones as well as problems encountered in mobile phone usage.

This study is significant in that its findings would reveal the mobile communication behaviors of the students and the problems they encounter in their use of mobile phones. It is hoped that these would assist service providers and telecommunications authorities to improve on the quality of their service delivery.

Method

This study employs the survey design using the questionnaire to collect data. In order to ensure that relevant items were included in the questionnaire, extensive and relevant literature was consulted before the instrument for data collection was constructed; this was also in order to ensure content validity of the questionnaire. The initially constructed questionnaire was given to experts in the field to go through and criticize. This led to the deletion of some items and addition of others. This was done in order to make sure that the data collection instrument had face validity. The questionnaire was divided into two parts--part A contained items intended to collect data on personal characteristics of the respondents, while part B had items designed to obtain data on mobile phone usage patterns.

Through systematic sampling technique, copies of the questionnaire were administered and retrieved from the 110 undergraduate students of the Department of Library and Information Science of the Delta State University, Abraka, Nigeria in their lecture halls in December 2004. The data that were collected through questionnaires were analyzed using frequency counts and percentages.

Results and Analysis

Personal characteristics of respondents

The four levels of study are well represented in this study as can be seen in table 1.

Table 1. Levels of study		
Levels	Number	Percent
100	28	25.5
200	31	28.2
300	28	25.5

400	23	20.9
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Table 2. Sex of respondents

Sex	Number	Percent
Male	37	33.6
Female	73	66.4

There are more female respondents 73 (66.4%) than males 37 (33.6%). This result corroborates an earlier one (Adomi, 2000) in which there were more females than males in library science programs. There are generally more females than males in the library and information science programs, which mirrors librarianship occupation in which women outnumber men (The Encyclopedia Americana, 1995).

Ownership of Mobile Phone/Handset

Table 3. Possession of mobile phone/handset

Response	Number	Percent
Yes	76	69.1
No	34	30.9

A question was asked in order to find out if the respondents owned mobile phone/handset or not. The number of those who answered in the affirmative 76(69.1%) are more than those in the negative who are 34 (30.9%) in all. It could therefore be inferred that most of the students are regular users of mobile phones.

Table 4. Other means through which those who own mobile phones/handsets communicate

Other avenues	Number	Percent
Mobile phone shops/booths/kiosks	47	61.8
Friends/course mates' mobile phones/handsets	28	36.8
Parents/relatives/brothers/sisters' mobile phones/handsets	52	68.4
None	2	2.6
No response	1	1.3

N=76

A question was asked to determine if respondents who owned mobile phones communicate through other mobile means. A majority of them 52 (68.4%) communicate using the phone belonging to their parents/relatives. This ranked first possibly because they feel more confident asking their parents/relatives to allow them you use theirs than asking others for theirs. Use of mobile phone shops/booths/kiosks ranked second. The data in the table indicate that apart from the personal mobile phones of the respondents, they sometimes communicate with other handsets. This confirms the findings by Scott (2003) that people not only have a choice of technology, but they have a choice of access points where they can make/receive calls also.

Reasons for communicating with other mobile phones

Table 5. Why those who own personal mobile phones communicate via other phones/handsets		
Reasons	Number	Percent
When I do not have credit in my phone	61	80.3
When my handset battery is weak	14	18.4
No response	12	15.8

N=76

Not having credit in handset ranked highest with 61 (80.3%) respondents. It could be due to the fact that students who may not have money all the time to purchase recharge cards for their handset. Most of them probably depend on their parents/sponsors for their financial upkeep. Another possible reason could be due to the fact that it is much cheaper to resort to using other access points than going immediately to procure credit. While it costs between NGN20.00 and NGN30.00 to use the mobile phone for communication in public access point like teleshops/booths/kiosks, it cost between NGN400.00 and NGN15000.00 to buy a recharge card depending on the mobile service provider and length of time for which credit is being procured.

Access Points For Non-owners Of Mobile Phones/Handsets

Table 6. Access point for non-mobile phone owners		
Access points	Number	Percent
Mobile phone shops/booths/kiosks	21	61.8
Friends/course mates' mobile phone/handsets	13	38.2

Parents/relatives/brothers/sisters' mobile phones/handsets	9	26.5
No response	3	8.8

N=34

For students who do not possess mobile phones/handsets, there are three available avenues through which they use phones as indicated in table 6. There are over 25 mobile phones booths located within the University where people can make calls. These are owned by private entrepreneurs. The booths can best be described as mobile call centers as they are located under trees and large umbrellas - while some attendants carry out their business under fruit trees, others do so under wide/large umbrellas. Each attendant/entrepreneur normally makes seating arrangement of between 3 to 6 plastic chairs for their clients. A majority of the respondents 21 (61.8%) who do not own a phone/handset in this study patronize mobile phone shops/booths/kiosks. 13 (38.2%) of them indicate that they make calls with the mobile phones/handset of their friends/course mates. The view had earlier been expressed in both Uganda and Botswana that although it was regarded as culturally acceptable to ask individuals who own private mobile handsets to make calls, this was strictly regarded as a gesture of goodwill (Scott, 2004). The findings of this study agree with those of Scott 2004 in which over 40% of respondents in Uganda used mobile phones through friends and family

Reasons for using mobile phones

A question was asked to find out how frequent the students use mobile phones for different purposes.

Table 7. Frequency of use of mobile phones for different purposes												
	Very often		Often		Occasional ly		Rarely		Never		Undecided	
	Numb er	%	Numb er	%	Numb er	%	Numb er	%	Numb er	%	Numb er	%
To discuss with/ pass information about class assignments to course mates	18	16.4	20	18.0	18	16.4	3	2.7	15	13.6	36	32.7
To exchange information	12	10.9	18	16.4	20	18.2	9	8.2	21	19.1	30	27.2

about lecture time table												
To seek/exchange research information	4	3.6	5	4.5	6	5.5	4	3.6	80	72.7	11	10.0
To enquire about welfare of friends/course mates	21	19.1	29	26.4	10	9.1	3	2.7	12	10.9	35	31.8
To communicate with lecturers	1	0.9	6	5.5	34	30.9	24	21.8	28	25.5	17	15.5
To send/receive text messages	48	43.6	27	24.5	4	3.6	2	1.8	12	10.9	15	13.6
To communicate with my parents/relatives	62	56.4	18	16.4	2	1.8	-	-	6	5.5	12	10.9
To communicate with friends	53	48.2	33	30.0	2	1.8	-	-	8	7.2	14	12.7

The data in table 7 reveal how frequently the respondents use mobile phones for different purposes. While 18 (16.4%) of them use mobile phone to discuss with/pass information about class assignment to their class mates very often, 20 (18%) of them do so often. It has been discovered (Watt, 2003) that students in the UK enjoy sending text messages to each other. That 48 (43.6%) very often and 27 (24.5%) often use mobile phones to send/receive text messages in this study corroborate that reported by Watt (2003). In an earlier study by Eldridge and Grinter (2001) on text messaging in teenagers, it was discovered that the teenagers use text messaging to arrange times to chat and to remind each other of arrangement already made, to coordinate with both friends and family as well as to chat or gossip. It is possible that the respondents (students) in this study use text messages for the same purposes.

Table 7 indicates that a majority of the respondent very often use mobile phone to communicate with members of their family and friends. The findings agree with that reported by Scott (2004) that the greatest number of people in poor communities in Botswana, Ghana and Uganda use phones simply for chatting to friends and family.

Topics/subject matters of mobile communication

Table 8: Topics/subjects of mobile communication												
	Very often		Often		Occasional ly		Rarely		Never		Undecided	
	Numb er	%	Numb er	%	Numb er	%	Numb er	%	Numb er	%	Numb er	%
Finance	37	33.6	26	23.5	30	27.3	4	3.6	1	0.9	12	10.9
Academic matters	32	29.1	26	23.6	26	23.6	4	3.6	2	1.8	20	18.2
Love matters/affairs	16	14.5	18	16.4	24	21.8	18	16.4	4	3.6	30	27.3
Family matters	41	37.3	25	22.7	20	18.2	6	5.5	1	0.9	17	15.5
Social matters	17	15.5	31	28.2	32	29.1	10	9.1	3	2.7	17	15.5
Politics	2	1.8	6	5.5	13	11.8	25	22.7	37	33.6	33	30.0
Sports	4	3.6	7	6.4	19	17.3	25	22.7	23	20.9	31	28.2
Religious matters	15	13.6	23	20.9	22	20.0	16	14.5	4	3.6	20	25.5

Mobile phone can be used to exchange any type of matter/information which is of mutual interest/concern. Table 8 shows that the respondents' topics/subjects are varied. Finance, academic matters and family matters are communicated via mobile phones by a majority of the respondents very often and often respectively. The type of respondents in this study could be responsible for this pattern. As students, it is expected of them to exchange academic information frequently.

Time spent in making a call

A question was asked to find out the factors which determine the length of time the students spent while making a call. The analyzed data in Table 9 indicates that the length of message the caller has to pass across to the receiver ranked highest with 46 (41.8%) followed by finance, 42 (38.2%).

Table 9. Factors which determine the length of time spent while making a call		
Determinants	Number	Percent
Length of message I have to pass across to receiver	46	41.8
Length of message receiver has to pass across to me	24	21.8
Finance	42	38.2
Amount of credit available in handset	32	29.1
Others	4	3.6
No response	11	10.0

Mobile phone use history

Table 10: How long respondents have been using a mobile phone		
How long	Number	Percent
Less than 6 months	24	21.8
6 - 10 months	24	21.8
11 - 15 months	16	14.5
16 - 20 months	10	9.1
More than 20 months	21	19.1
No response	13	11.8

In view of the fact that the GSM was launched in Nigeria in August 2001, it can be deduced from the analyzed data in table 10 that more than half of the students have spent appreciable period of time in mobile phone use as they have spent more than 10 months in doing so.

Benefits of mobile phone use

Table 11: Benefits derivable from mobile phone use		
Benefits	Number	Percent
Limited the need to travel	72	65.5
Promoted interpersonal relationships	33	30.0
Assisted me in obtaining academic information quickly	34	30.9
Helped me to exchange information anytime the need arose	52	47.3
Helped me to send messages anywhere there is mobile/telephone coverage	34	30.9
No response	5	4.5

Problems encountered in mobile phone use

Table 12. Problems experienced in the use of mobile phones		
Problem	Number	Percent
Frequent network/call failure	71	65.5
High cost of recharge cards/airtime	45	40.9
Limited area of coverage	39	35.5
Occasional scarcity of recharge cards	18	16.4
Power outage/NEPA black outs which make it difficult to charge handsets at times	28	25.5
Lack of privacy in mobile phone shops/booths/kiosks	18	16.4
Interconnectivity problems	26	23.6
Delay in delivery of text messages	20	18.2
Queuing up for turn/congestion in mobile phone shops/booths/kiosks	11	10.0
Handset interception through duplication of SIM cards	10	9.1
Theft of handsets	24	21.8
No response	7	6.4

Of the various problems encountered by mobile phone subscribers/users in Nigeria, that of frequent network failure/call failure ranks first in this study as it attracted the

highest response of 71 (65.5%). Network failure occurs from time to time and lasts from a few minutes to several days. Users are usually unhappy at such times as they can neither make nor receive calls until the network is restored.

39 (35.5%) of the respondents indicated limited area of mobile phone coverage as another problem. It has been reported by Southwood (2004) that in Africa, 40% of the population are in areas that are not covered by mobile services. Those who live in such an area, cannot enjoy mobile phone services.

Essentially, reliable access to energy and transport are important factors in bringing to market the benefits of information technologies; for instance, providing cost effective Internet or mobile phone services in marginalized areas depends on availability and reliability of power without which isolated projects cannot be scaled up (UNIDO, 2004). Electricity supply from the national grid is very epileptic in Nigeria. Thus 28 (25.5%) of the respondents are unable to charge their handsets sometimes due to electricity outages. Power outages can last from a few seconds to several weeks. It has been reported by Aluko (<http://www.jidaw.com/itsolutions/telecomm1.html>) that telecommunications cost to the customer/user will be prohibitive in Nigeria when compared with other countries if our national electric power authority infrastructure remains poor and electric supply erratic; there is no doubt the burden for the supply for diesel generators and backups in far flung areas of the country by mobile telecommunications operators is an unusual cost. Both subscribers and GSM operators are affected by power outages in Nigeria.

Another problem highlighted by some respondents 26 (23.6%) is that of interconnectivity. Since the inception of GSM in Nigeria in 2001, subscribers/users have been experiencing problem of access to other networks other than the ones the subscriber holds (though the problem is gradually being solved). It is common for those who can afford it to subscribe to more than one of the existing networks -MTN, Econet (now Vmobile), M-Tel and Globacom thereby acquiring and using more than one handset/mobile phone.

Recommendations

The Global System of Mobile Communication introduced to Nigeria in 2001 is used by the respondents in this study to communicate with their course mates, friends, lecturers and family relatives. Family matters, finance and academic matters constitute the topic/subject of mobile communication for a majority of the students, but mobile phone use has limited the need for most of the students to travel followed by facilitation of exchange information anytime the need arose. The use of mobile phone is hampered by frequent network/call failure for most of the respondents. The following are recommended in the light of the result of this study

1. The cost of recharge cards/airtime should be reduced to enable people spend more time in making a call. At present, recharge cards cost between NGN400 to NGN1500 depending on the number of days which one wants for. An airtime charge is per second billing (PSB). Thus, if a subscriber/user bought recharge card of NGN1,000 which normally should last for 10 days, the card can last for fewer days depending on the length of time spent making calls.
2. GSM operators should increase the capacity of their networks to avoid network congestion which cause network failure/call failure and delay in delivery of text messages.
3. Network operators should make frantic efforts to extend mobile coverage to all parts of the country. This will enable people from every part of Nigeria to enjoy the benefits of mobile phone technology.
4. The Federal Government of Nigeria, through the Ministry of Mines and Power, should work towards stabilization of power supply to enable subscribers and network operators overcome problems caused by power outages.
5. All the network operators should try hard to ensure that all the networks in the country are interconnected - seamless traffic flow between networks should be ensured. This will solve the problem which makes people to subscribe to more than one network service.

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