

An Evaluation of Mobile Phone Usage Restriction in Selected

Public Places in Akure, Nigeria

Wasiu Lawal^{1*} E.O. Ogunti²

 Department of Electrical and Electronics Engineering, Federal University of Technology, Akure, Nigeria
Department of Electrical and Electronics Engineering, Federal University of Technology, Akure, Nigeria E-mail of the corresponding author: *awwalawwal@yahoo.com,

Abstract.

The use of mobile phone has become widespread among Nigerians; both old and young. Indiscriminate use of mobile phone has become popular in public and private places. In public places, it is becoming difficult to achieve total restriction in mobile phone usage because of varying attitudinal tendencies within the society. There is need to evaluate the compliance of the individual phone user to non-compliance with various phone usage restriction laws in public buildings so as to determine the proactive method that can be employed in forestalling future occurrences. In this paper, the degree of compliance of people to mobile phone usage restriction laws in public places is evaluated. Information was gathered through questionnaire administration and visitation to selected public places such as, examination halls, banking halls, and detention centers (police cells and prison halls) in Akure. The questionnaires were presented in such a way that it will provide response to the issue of the degree of phone usage restriction compliance, attitudinal responses of public places managers to violators, and the perception of unauthorized phone users to restriction regulation. The data obtained were analyzed statistically using descriptive statistics based on percentages. The validation of the results were carried out using paired-t test to determine whether there is a significant difference between the degrees of phone usage restriction in the specific public places used in this study. The results of the analysis showed that the phone usage restrictions were violated in all the places investigated and the highest violation response was recorded within the examination halls. The analysis further showed that the attitudinal response of the public places managers were encouraging while those of the users were not in favour of curbing mobile phone usage restriction. This shows that a proactive method should be devised to curb the use of mobile phone in unauthorized areas.

Keywords: Mobile phone, call restriction, public places, reactivity.

1. Introduction

Cellular communications is one of the fastest growing and most challenging telecommunication applications today. It represents a large and continuously increasing percentage of all new telephone subscribers around the world. In the long term, cellular digital technology may become the universal way of communication [1]. With respect to communication, the mobile phone is one of the most remarkable features of advancement. It plays a vital role in business and the economy, as well as in the personal and family lives of individuals [2]. Because of its being mobile, mobile phones can, amongst other things, save lives and provide security by making it possible to summon help quickly in an emergency, contact law enforcement or medical services and bank without having to visit a bank [3]. The Cellular telephone (commonly mobile phone, cell phone or hand phone) is a long-range, portable electronic device used for mobile communication [5]. In addition to the standard voice function of a telephone, current mobile phones can support many additional services such as SMS for text messaging; packet switching for access to the Internet; and MMS for sending and receiving photos and video. Most current mobile phones connect to a cellular network of base stations (cell sites), which in turn is interconnected to the public switched telephone network (PSTN), the exception is satellite phone [1, 2].

On the other hand, the advent of the cell-phone technology with the relentless push towards micro-miniaturization of devices increases the risk to exploit and misuse this technology for diabolical and illegal purposes [4]. For example, cell phones hidden in a meeting room, or on a person, lets a competitor listen in on company discussions. In a hospital, likewise, due to Electromagnetic Interference (EMI), when phones are near sensitive electronic equipment, important patient-care equipment can fail to perform

properly, putting patients at risk. Most importantly, vis-à-vis education, the use of mobile phones as aids for cheating has somewhat become a menace. Consequently, a very real need exists today for individuals, businesses, institutions and the government to take measures to detect and identify the unauthorized use of cell phones within the bounds of their controlled premises.

Based on the aforementioned problems, there is need to evaluate factors that determine the degree of compliance of the mobile phone users to the restriction laws in public buildings namely institutional buildings, banking hall to mention but few and to determine the effects of the mobile phone usage on the public, and the feeling of the listeners. The data obtained were analyzed statistically using descriptive statistics based on percentages. The rest of the paper is presented thus: the materials and methods used to analyze the system was presented in Section 2, results and discussion on the evaluation of unrestricted use of mobile phone in public building is given in Section 3, while conclusion is in Section 4.

2. Materials and Methods

Information was gathered through questionnaire administration and visitation to selected public places in Akure including examination halls, banking halls, and detention centers (police cell and prison halls). Three sets of questionnaires were used for the investigation. The first category of questionnaires was set in relation to examination halls with seventeen questions. The second category of questionnaires administered in banking halls were set with twenty-nine questions, while those administered at correctional facilities (police detention center and prison halls) had twenty-three questions.

The questions asked targeted the degree of phone usage restriction compliance, attitudinal responses of public places managers to the culprits and how the unauthorized phone users felt with the regulation and among others. The data obtained were analyzed statistically using descriptive statistics based on percentages. The percentages responded to the targeted enquiries; T is calculated as the ratio of the total of actual response, R_a to the overall total of those that responded to all the enquiries, R_a . That is,

 $T(\%) = (R_a/R_o) \times 100$

(1)

The validation of the results was carried out using paired-t test to determine whether there is a significant difference between the degrees of phone usage restriction in the specific public places used in this study.

3. Results and Discussion

Forty questionnaires based on phone usage in examination halls were distributed out of which twenty-seven were returned (67.5%). Out of forty questionnaires distributed to the banks thirty-three (82.5%) were returned, while for the correctional facilities thirty-three (82.5%) out of the forty questionnaires were returned. From these results, the banks and correctional facilities have the highest percentage of questionnaires returned while examination halls have the lowest.

The figure 1 shows that the number of workers that have been using mobile phones for at least four years and above in the correctional facilities is about 100%, while about 74% of workers of educational institutions have been using cell phones for the same period, and only 45% of bank workers agreed to having been using cell phones within the same period. The results show that the usage of mobile phone is not new to most people, even when at work and when doing it against regulation. Most of these people are expected to have better experience as to what can be the effect of using mobile phone in a restricted area since the device is not new to them as larger percentage of them fall within the category of people that have been using mobile phone for three to four years.

Computer Engineering and Intelligent Systems ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online) Vol.4, No.4, 2013





Figure1. Period of using mobile phones.

The results in figure 2 show that those that are with working experience of between 1-4 years took highest in rank in the banks followed by correctional facilities and lastly examination halls. Those with 5-8 years took highest rank in the correctional facilities in the chart followed by banks and lastly educational institutional workers.



Figure 2. Working experience.

The results from figure 3 shows that the employees with higher educational qualifications (HND, PGD, and BSC degrees) are majorly supervisors of examinations in educational institutions while those with terminal degrees (PHD) in the institutions do not normally participate in examination supervision. In the banking sectors, the employees with HND, PGD, and BSC constitute the largest percentage of the work force. In addition, most staff in correctional facilities is with certificates from WAEC, OND and BSC.

Computer Engineering and Intelligent Systems ISSN 2222-1719 (Paper) ISSN 2222-2863 (Online) Vol.4, No.4, 2013



www.iiste.org

IISTE

Figure3. Educational qualification.

The results of figure 4 shows that the different public enterprise under considerations put restrictions on the usage of mobile phones, banks has the highest restriction followed by correctional facilities and examination hall as shown on the chart. The percentage of those that have knowledge about the restrictions of usage of mobile phones in these places are higher than those that do not have knowledge about the restrictions. This shows that workers are well acquitted with the restriction on the usage of mobile phones in public buildings and they know well that users are not authorized to use their mobile phones in these areas considered with the restriction order.

The results of the figure 5 shows that the largest supporters of mobile phone usage restriction came from the banks followed by correctional facilities and then, the examination halls. This is because the banking industry is financial institution dealing with people's money which involves a lot of financial risk and the fear of been attached by armed robbers. These could be a major threat to the banks workers because the case of disturbances is not the major concern since customers are allow to talk freely in the banks with a lot of activities going on. The likely reason for the higher support in correctional facilities for restriction on phone usage is to prevent the possibility of inmate planning prison brake, or threatening outsiders. For the case of examination halls, the usage of phones were voted against to discourage the use of as a tool for cheating, and not for disturbance since the users were not allowed in the first instance to talk during the examinations. However, student may cheat via receiving text messages according to the result obtained. Moreover, since examination does not pose threat on live and properties as in the case of banks, the level of supporters of phone usage restriction in examination hall ranked the lowest when compared with banks and correctional facilities.





Figure 4. Restriction on mobile phone usage.



Figure 5. Restriction Support.

The results on figure 6 show the level of compliance of restricting phone users in the public buildings under consideration. The compliance level of the phone users in the correctional facilities took highest percentage when compared with banks and examination halls, which is 50-60%. The banks took the next position of compliance (30-60%), while the phone users in examination halls took the least level of compliance. This shows that the technique that will detect illegal phone use will be best needed in the examination hall followed by banking halls and correctional facilities.

The chart of figure 7 depicts the percentage (%) of staff working under each restricted public building that have ever seized a phone, the status of the staff seizing such cell phones from unauthorized users. The highest percentage, which is 67%, is recorded in correctional facilities followed by banks (64%) while the percentage of staff in the examination halls is the lowest (44%). Looking critically into the figure 5, the level of support for restrictions was higher in the banks and correctional facilities, and by implication, the level of support may affect the level of staffs seizing phones, which is as shown in figure 5, and figure 7.



Figure6. Compliance level of mobile phone users



4. Conclusions

The degree of compliance of people to mobile phone usage restriction in public places was evaluated in this study. Information was gathered through questionnaire administration and visitation to specifically selected public places in Akure including examination halls, banks, and police station's cell and prison. Responses to the questions asked on the degree of phone usage restriction compliance, attitudinal responses of public

places managers to the culprits and how the unauthorized phone users felt with the regulation were collated. The evaluation of the outcome data was carried out using statistical tools based on percentages. The findings from the study showed that the phone usage restriction was violated in all the places investigated and the highest violation response was recorded with the examination halls of the selected public institutions. The findings further showed that the attitudinal response of the public places managers was encouraging while that of the public places users was not in support of curbing unauthorized mobile phone usage. This shows that a proactive method should be devised to curb the use of mobile phone in unauthorized areas.

References

[1] Asha Mehrota (1997), GSM engineering system, Artech house communication series, London, pp1-5.

[2] M. Mouly, M. B. Pautet, Current Evolution of the GSM Systems, IEEE Personal Communications, October 1995.

[3] Ian Poole, Cellular Communication Explained: From Basics to 3G" Elsevier Ltd, Oxford, and UK, 2006.

[4] ITT Technology, Detecting and Locating Mobile phones in Correctional Facilities. EVI Technology, LLC 7065 Columbia Gateway Drive Columbia, MD21046, (2007).

[5] Margaret Rouse (2007), what is cellular Telephone? Archived from Search mobile computing .techtarget.com

[6] EVI Tech., Detecting and Locating Cell Phones in Correctional Facilities, EVI Technology, LLC. June 2007.

[8] V. Shannon, iPhone Must Be Offered Without Contact Restrictions, German

CourtRules"(inEnglish).TheNewYorkTimes. Information on http://www.nytimes.com/2007/11/21 /technology/21iphone.html. Accessed 2 February 2011.

[9]ETSI, European Telecommunications Standards Institute. 2011, Cellular History". *Etsi.org*. Archived from the original on 5 May 2011. http://www.webcitation.org/5yRQXw2sv. Accessed 5 May 2011.

[10] Information on How Cell Phones Work, How Stuff Works A Discovery Company. Accessed April 2009. Website http://www.howstuffworks.com/cellphone.

[11] W. C. Y. Lee, Wireless and Cellular Telecommunications, 3rd Ed. McGraw-Hill Engineering, 2009.

[12] Information on Hackers crack open mobile network. bbc.co.uk. 31 December 2010.

http://www.bbc.co.uk/news/technology-12094227, accessed 20 April 2011.

[13]Nicholas W.S (2011) study of cellular phone detection techniques University of Nebraska - Lincoln

[14] European Telecommunications Standards Institute (2011)"Cellular History". *Etsi.org.* Archived from the original on 5 May 2011. http://www.webcitation.org/5yRQXw2sv. Retrieved 5 May 2011.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage: <u>http://www.iiste.org</u>

CALL FOR PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <u>http://www.iiste.org/Journals/</u>

The IISTE editorial team promises to the review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library, NewJour, Google Scholar

