International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2016): 79.57 | Impact Factor (2015): 6.391

Smartphone Usage in Higher Learning Institutions in Tanzania: A Case of Institute of Accountancy Arusha

Karisha Kavuta

Informatics Dept - Institute of Accountancy Arusha

Abstract: ***This study investigates the Smartphone usage among students in Higher Learning Institutions in Tanzania. The paper presents the results of survey conducted at the Institute of Accountancy Arusha on the usage of Smartphone for general purposes and for the academic purposes. A sample of 185 students were selected randomly from various programs - in different levels of study. The results show that 89% of all respondents own Smartphones. These results revealed that most of students spend their time with Smartphones in social media for chatting with friends, adding comments and uploading pictures on facebook, taking pictures, and listening to music. The study also examines how often the HLI students apply their Smartphones for learning purposes. The results show that students use their Smartphones for reading course timetable, reading announcements, downloading course materials and reading lecture notes. This study, however, has revealed that there are other important services which are not well utilized for learning purposes, such as watching Instruction movies example YouTube, recording and making movies of lectures and own works. Furthermore, the results show that students are aware of the benefits of using Smartphones for learning purpose, however, the problem is to balance the time for socializing and for studying using their Smartphones.***

Keywords: Smartphone, Higher Learning Institution (HLI), Institute of Accountancy Arusha (IAA), Smartphone Applications

1. Introduction

The rapid growth of technology has made the high change of the lifestyle, in several areas, including socialization, communication, learning process, conduct business, how people eat, spiritual services, nursing style, and many other lifestyles. In general, we can say the technology has changed everything in human life. This study focuses on how the communication technology has affected the education sector especially Higher Learning Institutions in Tanzania. The scope of this study is based on the Usage of Smartphone and their impact in the learning process of the Higher Learning Institutions students.

Smartphone technology has grown very rapidly due to the features included, which helps people to communicate easily through various applications. These applications include video conferencing such as Skype, and chat rooms application especially Google applications such as Facebook, WhatsApp, Viber, Badoo, and other applications found in Smartphone. It has been revealed that most users are of the new generation than the aged people.

Currently, Smartphone is gradually replacing the uses of desktop computers or even mobile computers such as laptops. This is because all works which could be done through computers can now be performed in a small gadget, a Smartphone. Such works are sharing of information, sending and receiving emails, chatting through various programs, opening and editing documents, online purchasing, paying for various products and services, browsing and shopping. This replacement of using Smartphone instead of computers is due to its portability, that a Smartphone can be carried inside a pocket of a trouser or shirt and go with it anywhere, this is a core factor. Additionally, Smartphone are added with sophisticated applications such as camera which is working as a scanner, and other more applications which increase a wider range of usage and integrate part of people's everyday life, hence a desirable device to apply in daily life [1].

This article intended to investigate how often HLI students use their Smartphone for learning purposes, finding whether students are aware of the benefits which can be found in Smartphone for learning. Finally, the study investigated the most useful Smartphone service applied by students and whether it affects the learning process.

2. Literature Review

The introduction of Smartphone is the key catalyst of the increment of number of mobile phone users. It has been revealed that all group ages are using mobile phones especially from developed countries. The study made by SanouBrahima [2] of the ITU, in ICT Facts and Figures shows that 70% of the world's youth population are online using smartphones, whereby, smartphones have been found to replace the usage of books in schools. The study indicates that children in United States are mostly likely to own mobile phones than books whereby, 85% of children own phones compared to only 73% owning books.

Uses of Smartphone in Learning

The Smartphone has been used by many researchers and apps developers to make it a good platform. Various studies have been conducted to find how effective the cell phones can be used as a learning tool. A study conducted in Malaysia by [3] on the Importance of Smartphone's Usage among Malaysian Undergraduates shows that, students in Malaysia universities have adopted the Smartphone as a necessity tool for learning at Higher Learning Institutions. They use Smartphones for

sharing notes between classmates, recording lectures, and taking pictures of assignments for future reference. Additionally, Smartphones are also used to share examination results through Facebook and other social media apps. The study made by [3] was focusing on how the Smartphones can be used to share learning materials and sharing examination feedback through different social media apps.

HubTech.com [4], a site for K-12 News, Lessons & Shared Resources By Teachers, For Teachers, How to Use Cell Phones as Learning Tools, said that, the study of how to use cell phone as a learning tool is due to the portability of technology, which enables the learning process to be taken beyond the limits of a college walls and or computer laboratory, in anytime. To restrict the use of cell phone in class is not worthy in this generation, instead, we need to use this technology which has been grown and owned by almost every student. The concept here is that, facilitators should think beyond the box on how to use the handheld technology to promote studies. In addition, [8] suggests to change the facilitation model, instead of using lecturing model, the interaction model is best in this technological generation.

In the study conducted by Alfawaher and Jusoh [1] based on the Smartphone usage among university students, the data collected from Najran University, Saudi Arabia, sampled of 324 students, showed that 94.4% (n=305/324) of the sampled respondents owned Smartphone. The study was based on assessing the usage of Smartphone in university by comparing normal usage versus learning usage. The results indicated that, the majority of students in Saudi Arabia used Smartphone as regular mobile phone, as a computer with an internet connection and as a digital camera. To specify how their Smartphones were supportive in learning purpose, the specific learning activities were measured, such as login to academic portal, use as blackboard, download class materials, taking and recording lecture notes. The results were summarized as shown in table 1:

Table 1: Smartphone Usage for Learning Purpose in Saudi Arabia

Activity	Percentage		
	Always	Sometime	Never
Login to academic portal	48.14%	43.56%	8.25%
For blackboard	8.85%	30.16%	60.89%
Taking notes	9.57%	24.42%	66.01%
Recording lecture notes	10.03%	23.08%	66.89%
Downloading class material	12.96	41.53%	45.51%

The results here showed that, in Saudi Arabia, students used Smartphone for learning purpose in few learning activities, irrespective to many functions the Smartphone could do for learning purpose. The study also revealed that, majority of the respondents used their Smartphone in login to the academic portal. The most service applied by students using Smartphone is to login to academic portal where 48.14% were always using the service and 43.56% used the service occasionally to make 91.7%. The study showed that the majority of the Higher Learning Institutions students of Saudi Arabia were occasionally using Smartphones for taking notes, recording lecture notes, downloading class materials, and for blackboard. On the other hand, the results of the study in Saudi Arabia showed that, there were big number of students who never used the Smartphones for taking notes, recording lecture notes, downloading class material. Therefore, the study concluded that, almost every student own Smartphone, however, the usage of this technology for learning purpose was very poor, instead, the Smartphone was used as regular mobile phones and as just media to connect the internet for giving access to the online social networks for leisure.

A study by Alson and Misagal [5] based on the *Smartphones Usage among College Students*, at the University of Perpetual Help System in Philippines, the findings revealed that 85% of students who used Smartphones were categorized between super users to addict. Only 15% of Smartphone users were under regular users' category. The findings of the study were summarized as shown in Table 2.

Table 2: Smartphone Usage among Students in Philippines

Usage per day	Male	Female	**Total**
Addict: Students launched applications above 60 times a day	12%	23%	**35%**
Super Users: Students launched applications 16 to 60 times a day	17%	33%	**50%**
Regular: Students launched applications under 16 times a day	9%	6%	**15%**
Total	38%	62%	**100%**

The data show that Female students were mostly addicted and or super users of the Smartphone in Philippines, that is, 56% female students were addicted and or super users compared to only 29% of male students. In addition to that, the study went further to investigate what were the uses of Smartphone. This was made to 85% those who were categorized as addicts to super user. The results measured in weighted mean (WM) showed that, Smartphones were used for socialization by (3.72 WM), finding information (3.48 WM), entertainment (3.65 WM), emergency (3.46 WM), and aiding to learning (3.46 WM). In their survey, they discovered that male students used Smartphones to benefit at times with 3.06 WM, however, they heavily used them for entertainment, especially listening to music. On the other hand, female students used Smartphones to benefit at times with 3.19 WM; however, they used them on socialization especially social networks such as Facebook, twitter and Instagram.

A study made by Graham [6] and presented by National Education Association (NEA), on the Using Smartphone in the class, a case of America students. The study focused on the advantages a student and facilitator could obtain through using Smartphone in the class. Knowingly that not every class room can have a full of desktop computers and or laptops, but most of higher learning students have Smartphones, Halla Ken as quoted by Graham, suggests that, these resources could be useful in learning process in class. In interview, Halla expressed that Smartphone with internet access could help a student to use multitude of education friendly apps. As per [6]

and Union, I.T. *Global ICT Developments* [2] studies showed that most of students in America were owning Smartphone compared to those who own books. [6] Also added that most of teenagers never left behind their Smartphones wherever they went, therefore it was a deal to motivate them using such technology for learning purpose. Halla Ken, suggests the ways a Smartphone can be used as a learning tools, such as:-

1) Ensuring to stay academic: that, teachers or facilitators should not perceive negative side for a student to use Smartphone in class like testing or chatting with friends or update their various social media sites. Instead, it is a high time to engage students with activities which could make him/her busy to use his/her Smartphone for learning. Here, facilitators should change the teaching style, that is, the lecturing and stay in front of the class such model does not fit in this type of a class with most of students with Smartphone. Therefore, a teacher or facilitator can pose the task which involves all students to search and read through their Smartphone while a facilitator roaming around the class. This will make a student shy to use it on unrelated activities in the class.
2) Stay organized: Halla Ken as interviewed by [6], He also was trying to show that, there were several apps which can connect a student with his/her teacher or lecturer for getting an assignment and do it out of the class. The app like Remind101, can remind a student on the given tasks and their deadline of submission. This app is also useful to low level school, whereby, it allow the parent and child to register, so that the reminder is given to both child and parent on the homework given by a teacher to be accomplished at home.
3) Apps for social science: these are apps which are embedded with materials for social science studies. Such material can be National Constitution, demographic information of different countries in the world, president's information and the history of white house in a case of America.

Risk behavior on Smartphone usage

There has been a concern among parents, healthcare professionals, educators, and law enforcement on their children who use cell phone for communicating through Face book, Twitter and texting. This anxiety is based on harmful behaviors the youth may engage in these types of communication which become more common [7].

The major risk behavior that youth may possibly engage in online communication can include communicating with or being lobbied by prospective sexual hunters online, engaging in cyber bullying, and publicly posting sexual images of themselves and of others. [8], [9], and [10].

The study about Teens and Mobile phones, in Washington, DC [11], showed that 78% of teenagers owned cell phones and one third of them sent more than 3,000 texts messages a month, and the use of sexting is a part of this form of communication. According to Mitchel et al, [8], sexting is the sending and or receiving of sexually suggestive imagers to peers through a cell phone.

In their study Kathy and Donna [12], concerned the Sexting among Teenagers in the United States, their findings indicate that, out of 378 respondents, (68%, n=257) reported that they did not send sexting images of themselves in high school. Approximately one-third (31%, n=120) reported that they send sexting images of themselves in high school to someone else using a cell phone. For those who did not engage in sexting (27%, n=70), at least considered sending a sexting images of themselves in high school, while (18%, n=68%), reported photographing images of their own naked breasts, genitals, or buttocks for personal views. Fewer respondents (43%, n=162), indicated never receiving compared to never sending a sexting images. On the other hand, (56%, n=212), of all respondents admitted to receive a sexting images of someone else.

According to the various studies above, some researchers were directly studying the same issue in Higher Learning Institutions; however, their studies were conducted from developed countries. There is a gap between developed and developing countries like Tanzania. In addition, some of researchers were focused on showing how the Smartphone could be used as a learning tool without considering the environment which could have less Smartphone owners. This study focused on all environment, whether many students own Smartphone or not, to measure how are they aware on Smartphone usage as a learning tool.

3. Methodology

A case study design was used in this study since it was easy and inexpensive to the researcher, whereby, the Institute of Accountancy Arusha was selected to represent all Higher Learning Institutions in Tanzania. The targeted population was the students enrolled in various programs including Computer Science, Information Technology, and Business Studies. The survey was conducted in a classroom and monitored by a teaching faculty of a program. The study used the simple random technique to select the respondents. The survey questionnaires were distributed to 200 undergraduates' students at Institute of Accountancy Arusha. Only 185 questionnaires were returned

The questionnaire was organized in three parts. The first part consisted of questions related to demographic data such as gender, age group, program and level of studies, and a question whether she/he owns a Smartphone. The second part involved questions which focused on regular usage of Smartphone. These included types of usage; if Smartphone are used for social media and whether the social media has contribution in learning process of higher learning students. The third part involved questions related to how Smartphones were used for learning. Multiple choice and multiple selection questions were employed. Descriptive statistical techniques were used in data analysis.

4. Findings and Analysis

4.1 Characteristics of Respondents

This study involved a total of 185 respondents including 100 (54%) males and 85 (46%) female. Among males 33 (33%) were registered for Diploma programs while 67 (67%) were registered for Bachelor Degree programs. On the other side, out of 85 females respondents, 44 (51.8%) were registered for diploma programs while 41 (48.2%) were registered for bachelor Degree program. The study revealed that, out of 185 respondents, 164 (89%) owned Smartphones. Among them, 89 (54.3%) were males while 75 (45.7%) were females. The study shown that, the students who own Smartphone in IAA are gender balanced as the 89% of all male students and 88% of female students were found to own Smartphone.

Table 3: Students Own Smartphone in HLI (Field data, 2017)

	Respondents		Total	Own Smartphone (n = 164)	
	Male	Female		Male	Female
Diploma	33	44	77	28 (85%)	37 (84%)
Bachelor Degree	67	41	108	61 (91%)	38 (93%)
Total	100 (54%)	85 (46%)	185 (100%)	89 (89%)	75 (88%)
Overall Smartphone owners per gender				89/164 (54.3%)	75/164 (45.7%)
Overall Smartphone owners as per all respondents				**164 (89%)**	

4.2 Smartphone Usage in HLI students

The findings of this study show that many students have been found to use internet through their Smartphones, whereby, 51.2% (14% + 37.2%) of all respondents who own Smartphone are using from 2 hours to more than 3 hours a day which is categorized as high and very high usage in this study, 21.3% found to use 1 to 2 hour a day and categorized as moderate usage and 27.5% (11.6%+15.9%) are low users of the an Internet through their Smartphone. Table 4 summarizes the usage of Smartphone per day.

Table 4: Smartphone usage per day (Field data, 2017)

Category	Time spent	Frequency	Percent
Very low usage	Less than 30 minutes	19	11.6
Low usage	30 minutes to 1hour	26	15.9
Moderate usage	1 hour to 2 hours a day	35	21.3
High usage	2 hour to 3 hours a day	23	14
Very high usage	More than 3 hours	61	37.2
	Total	**164**	**100**

In addition, the respondents were asked to show the amount of internet data they use per month. The rates were divided into five groups, 0 – 200MB as Very Low Usage, 200MB -500MB as low usage, 500MB – 1GB as Moderate Usage, 1GB – 2GB as High Usage, and more than 2GB as Very High Usage, through their Smartphone. The study shows that most of the students at the Institute of Accountancy Arusha high users of the Internet Data through their Smartphone.

The study reveals that 121out of 164 equivalent to 73.8% of the Smartphone owners were highly(include high and very high) using Internet Data, 23 out 0f 164 (14%) were using moderate internet data. Only 20 out of 164 equivalent to 12.2% (include low and very low) were categorized as low internet Data users. Table 5 illustrate in summary.

Table 5: Internet data per month (Field data, 2017)

Category	*Size of Bundle*	*Frequency*	*Percent*
Very low usage	0 - 200MB	6	3.7
Low usage	200 - 500MB	14	8.5
Moderate usage	500 - 1000MB	23	14.0
High usage	1GB - 2GB	40	24.4
Very high usage	More than 2GB	81	49.4
	Total	164	100.0

4.3 Smartphone for General Purpose Applicationsin HLI

This section explains the way Smartphoneswere applied by students for general purposes. The results given in table 6, includes the list of various general purposes applications of Smartphone corresponding to their frequencies of the ranks.
The common applications of Smartphone for general purposes arranged in descending order of the percentage of usage. The study evaluated the applications using the regularity and often used, while the seldom and not used were ignored in the analysis. This is because, we assumed that, if the frequencies of usage of an application is high in the regular and often (frequently used), then it is obvious that it will be less on the other side which is seldom and never used (or not frequently used), and vice versa. Therefore one side of the result can be used to give the meaning of whether the application was highly used by most students or not.

Table 6: Smartphone for General Usage at HLI (Field data, 2017)

General Applications	*Frequently Used*			*Not frequently Used*	
	Regularly	*Often*	*Total*	*Seldom*	*Never*
Chat with friends in WhatsApp or other social media?	85 (52.1%)	52 (31.9%)	137 (83.5%)	19 (11.7%)	7 (4.3%)
Listen to music?	67 (40.9%)	54 (32.9%)	121 (73.8%)	29 (17.7%)	14 (8.5%)
E-Mail?	72 (44.4%)	45 (27.8)	117 (71.3%)	37 (22.8)	8 (4.9)
Take pictures?	67 (40.9%)	49 (29.9%)	116 (70.7%)	33 (20.1%)	15 (9.1%)
Add comments in social media e.g. Facebook?	46 (28%)	46 (28%	92 (56.1%)	49 (29.9%)	23 (14%)

Synchronize with your home computer?	42 (25.6%)	43 (26.2%)	85 (51.8%)	40 (24.4%)	39 (23.8%)
Up load pictures on the web e.g. facebook?	40 (24.4%)	39 (23.8)	79 (48.2%)	54 (32.9%)	30 (18.3%)
Create and edit texts?	44 (26.8%)	35 (21.3)	79 (48.2)	45 (27.4%)	40 (24.3%)
Make bank transactions/shopping?	34 (20.7%)	43 (26.2%)	77 (47%)	43 (26.2%)	44 (26.8%)
Record movies?	24 (14.6%)	26 (15.9%)	50 (30.5%)	47 (28.7%)	67 (40.9%)
Up load movies on the web e.g. YouTube?	27 (16.5%)	13 (7.9%)	40 (24.4%)	52 (31.7%)	72 (43.9%)
Create animations?	15 (9.1%)	20 (12.2%)	35 (21.3%)	45 (27.4%)	84 (51.2%)
Edit movies?	17 (10.4%)	17 (10.4%)	34 (20.7%)	42 (25.6%)	88 (53.7%)
Create drawings?	14 (8.5%)	20 (12.2%)	34 (20.7%)	53 (32.3%)	77 (47.0%)

The results of the study depict that the most applications used by HLI students were chatting with friends through social media such as WhatsApp, and Facebook by 83.5%, followed by listening music by 73.8%, email by 71.3%, using Smartphone as a camera by 70.7%, adding comments in Face book by 56.1% and synchronize with home computer by 51.8%. The results also show that the following applications are less applied by students in HLI; that is only 48.2% upload picture on Face book and other social media, 47% use their Smartphones for making bank transactions or shopping, 30.5% use for recording movies, 24.4% use for uploading movies in YouTube, and only 21.3% use to create animations.

4.4 Smartphone Usage for Learning Purpose Applications in HLI

The respondents were asked to rank how they use the following applications related to their studies. The results are summarized in a table sequentially from the one scored highest in total of regularly and often. The results as shown in table 7, reveal that most of students at the Institute of Accountancy Arusha are aware of the usage of Smartphone as a tool for their learning purposes. The survey results show that 95.1% of students who own Smartphone use them for reading course timetable, 90.2 reading announcements related to their studies, 87.2% use Smartphone for downloading study materials from various sources in the Internet, 86.0% use them to read lecture notes (here Smartphone used as a computer), 83.0% use for sharing class notes with their classmates.

Additionally, the results also revealed that 74.4% search online library for finding different literatures for their own studies, 67.7% use in taking photos of their works. Furthermore, we found that 60.4% use Smartphone for emailing to their classmates and to the lecturers as a media of communication for learning purposes. Only 51.8% of the respondents who own smartphones uses in watching instructional movies such as YouTube and very few students 26.2% who utilize Smartphone for making movies of their study works.

Table 7: Smartphone for Learning Activities (Field data, 2017)

Applications Related To Studies	Regularly	Often	Total	Seldom	Never
Look up your course timetable	109 (66.5%)	47 (28,7%)	156 (95.1%)	7 (4.3%)	1 (0.6%)
Look up announcements	88 (53.7%)	60 (36.6%)	148 (90.2%)	10 (6.1%)	6(3.7%)
Download study materials	91 (55.5%)	52 (31.7%)	143 (87.2%)	15 (9.1)	6 (3.7%)
Read lecture notes	77 (47.0%)	64 (39.0%)	141 (86.0%)	16 (9.8%)	7 (4.3%)
Surf the web for learning material	82 (50.0%)	59 (36.0%)	141 (86.0%)	20 (12.2%)	3 (1.8%)
Share notes with classmates	78 (47.6%)	58 (35.4%)	136 (83.0%)	22 (13.4%)	6 (3.7%)
Do library /literature searches	60 (36.6%)	62 (37.8%)	122 (74.4%)	34 (20.7%)	8 (4.9%)
Take photos of my work	54 (32.9%)	57 (34.8%)	111 (67.7%)	30 (18.3%)	23 (14.0%)
E mail to lecturers/classmates	47 (28.7%)	52 (31.7%)	99 (60.4%)	50 (30.5%)	15 (9.1%)
Watch instructional movies	43 (26.4%)	42 (25.8%)	85 (51.8%)	41 (25.2%)	37 (22.7%)
Make movies of my work	19 (11.6%)	24 (14.6%)	43 (26.2%)	42 (25.8%)	79 (48.2%)

4.5 Importance of Smartphones in HLI

The respondents were asked to rank the statements related to the importance of Smartphone in HLI. The results show that the majority agree that Smartphone is very important in HLI for learning purpose. The following were the results of the ranks given over the statements related to how Smartphone can be helpful for learning purpose.

1) Smartphone improves access to my course and learning material. 162 responded on this question, where 142(87.6%) agreed on the statement, 10(6.2%) were neutral, and other 10(6.6%) disagreed on the statement
2) Smartphone helps me to keep learning material online through cloud computing such as Google drive, appbox, dropbox etc, for easy access. This statement was responded by 163, whereby 143(87.7%) agreed on the statement, 11(6.7%) were neutral on the statement, and 9(5.6%) disagreed on the statement
3) Smartphone helps to keep material in phone/SD card storage: 163 responded on the question, 145(89%), agreed on the statement, 11(6.7%) were neutral and 7(4.3%) disagreed on the statement.
4) Smartphone helps me to learn more independently: 163 responded on the statement, and their responses were 132(81%) agreed on the statement, 21(12.9%) were neutral, and 10(6.1%) disagreed on the statement.
5) Smartphone should be utilized more by the University/ teaching staff: 162 responded on this statement, whereby

116(71.6%) agreed on the statement, 35(21.6%) were neutral, and 11(6.8%) disagreed on the statement.

5. Conclusion and Recommendations

5.1 Conclusion

The study was conducted at the Institute of Accountancy Arusha, to represent HLIs in Tanzania. The main objective of the study was to investigate often HLI students use their Smartphone for learning purposes, finding whether students are aware of the benefits which can be found in Smartphone for learning. Finally, the study investigated the most useful Smartphone service applied by students and whether it affects the learning process. The results of the survey show that 89% of HLI students in IAA own Smartphone. From the results it was also found that the percentage of Smartphone owners among students is gender balanced, whereby 89% of male students and 88% of female students own Smartphone. The study shows that most of students use Smartphone for chatting with friends in social media, listening to music, emailing, taking pictures using Smartphone camera. In addition the uploading pictures on Face book, creating texts and editing, recording movies and uploading movies to YouTube, creating animation and drawings were least applied. Furthermore, most of students use their Smartphone for learning purposes; the most applicable services accomplished by Smartphone in learning purposes are using Smartphone to read course timetable, read announcements, surf learning material in different websites and download study material, share notes with classmates. It has also been found that few students use Smartphone for watching instructional movies and making movies of their works. Finally, the study concludes that students are aware of the advantages of using Smartphone technology for their learning purposes.

5.2 Recommendation

According to the results of the study, we recommend to students to minimize the usage of Smartphone for general purpose such as spending much time chatting with friends in social media, instead spend more time with the same technology for their learning purpose. According to the findings, since the Smartphone is portable and carried to almost anywhere, we recommend to students to use Smartphone as a storage media of study materials, use cloud computing applications for online storage for easy retrieval through Smartphone anywhere.

References

[1] Alfawareh, H.M., Jusoh S., (2014); Smartphones usage among university students: Najran University case. International Journal 0f Academic Research. 6(2),321-326
[2] Sanou B (2017). ICT Facts and Figures [online] Accessed at: https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2017.pdf (retrieved on 28th December 2017)
[3] Mohtar, N.M et al (2013), The Importance of Smartphone's Usage among Malaysian Undergraduates, OSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 14, Issue 3 (Jul. -Aug. 2013), PP 112-118. [Online] http://www.iosrjournals.org/iosr-jhss/papers/Vol14-issue3/S0143112118.pdf?id=6710 (Accessed on 15 May, 2017)
[4] Ormiston Meg (2012), How to Use Cell Phones as Learning Tools, K-12 News, HubTech.com, [online] http://www.teachhub.com/how-use-cell-phones-learning-tools (Accessed 12th May, 2017)
[5] Alson J.N & Misagal L.V (2016) Smart Phones Usage among College Students, International Journal of Research in Engineering & Technology (IMPACT: IJRET. 4(3), pg. 63-70
[6] Graham, Edward (2015), Using Smartphones in the Classroom, National Education Association (NEA), [online] http://www.nea.org/tools/56274.htm (Accessed on 18th May, 2017)
[7] Dowdell EB, Burgess AW, Flores JR. (2011). Original research: Online social networking patterns among adolescents, young adults, and sexual offenders. American Journal of Nursing. 111:28–36.
[8] Mitchell K, Finkelhor, D., Jones, L., Wolak, J. (2012) Prevalence and characteristics of youth sexting: A national study. Pediatrics, 129(1), 13-20.
[9] Ybarra, Mitchel, Finkelhor, and Wolak, (2007) Internet prevention messages: targeting the right online behaviors, Archives of Pediatrics and Adolescent Medicine, 161(2), 138-145.
[10] Ybarra, M., & Mitchell, K. (2008). How risky are social networking sites? A comparison of places online where youth sexual solicitation and harassment occurs. Pediatrics, 21(2), 350-357
[11] Lenhart, A., Ling, R., Campbell, S., & Purcell, K. (2010) Teens & mobile phones. Retrieved May 30, 2011 from Pew Internet & American Life Project website:http://www.pewinternet.org/Reports/2010/Teens-and-Mobile-Phones.aspx
[12] Kathy Martinez-Prather & Donna M. Vandiver, (2014) Sexting among Teenagers in the United States: A Retrospective Analysis of Identifying Motivating Factors, Potential Targets, and the Role of a Capable Guardian, International Journal of Cyber Criminology, 8(1), 21-35

Author profile

Kavuta, Karisha D holds a Master of Science degree in Networking & Data Communications from Kingston University – UK in 2010. Currently is working at the Informatics Department of the Institute of Accountancy Arusha as an Assistant Lecturer.