### Cell Phones and Information Sharing among Bachelor of Technology Education Students at the College of Technical and Vocational Education, Kaduna Polytechnic

## Sani Salihu Imam PhD, Efobi, Felix Ugochukwu &

Sabo Yusuf Department of Electrical Technology Education, College of Technical and Vocational Education, Kaduna Polytechnic, Kaduna,

#### Abstract

The purpose of this study is to determine the influence of cell phones on information sharing among Bachelor of Industrial Technology students in the College of Technical and Vocational Education, Kaduna Polytechnic, Kaduna. Four research questions and four hypotheses were constructed to guide the study. The study adopted a survey research design. The sample size of 50 was made up of 32 male and 18 female students. The instrument for data collection used was a structured questionnaire using a four-rating scale (strongly agree, agree, disagree, and strongly disagree). Face validation was used to validate the instrument by three experts from the College of Technical and Vocational Education. Cronbachs Alpha was used to test and obtain a reliability co-efficient of 0.72. Data collected was analyzed using mean statistics of 2.50 and above for all the research questions, and the hypothesis was tested at a 0.05 level of significance. The findings reveal that the students use cell phones for information sharing through Whatsapp, Facebook, Short Message Services (SMS), and electronic mail (email) to enhance the quality of education and develop inclusive learning in all courses. Both male and female students show that cell phones influence information sharing through Whatsapp, Facebook, SMS and email. To this end, the study recommended the ministry of education should encourage teachers to use their cell phones in teaching and learning so that they can be carried along with global *technology*.

# **Key Word:** Cell phone, information sharing, assessment, information communication technology (ICT)

#### Introduction

Vocational and technical education is the acquisition of skills and techniques in chosen occupation or profession to enable an individual to earn a living. Federal Government of Nigeria [FGN], (2004) viewed vocational education as a system of education that is given in schools or

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classes under public supervision and control. It is predicated upon the teaching of skills and also demands the professional or expert use of hands. The teaching of skills at the formal sector existed in two types of institutions initially established in Nigeria; these are technical colleges and trade centers. Vocational and technical educational and technical education is a continuous process of adaptation of the worker's training towards acquiring the minimum knowledge required. FGN, (2004) emphasized that technical education aims to give training and impart the necessary skills leading to the production of craftsmen, technicians, and other skilled personnel who shall be enterprising and self-reliant. Abassah (2011) opined that technical education contends with training that borders on the acquisition of knowledge and skills in woodworks, metalwork, electrical/electronics, welding and fabrication, building, automobile, etc. including workshop organization and management, but much has not been done. An attempt to improve the poor state of technical education in Nigeria by the National Board for Technical Education [NBTE] led to the Bachelor of Technology program to equip graduates with the intellectual capabilities and hands-on skills for technological development. NBTE, (2017) stressed that we aim to produce somebody who has the globally recognized tertiary education which is a bachelor's degree but essentially a technician, very knowledgeable and highly skilled technicians that can operate at higher intellectual levels of technology.

Information sharing through Information and Communication Technology (ICT) is a key to delivering better, more efficient services that are coordinated around the needs of the individual. It is essential to enable early intervention and preventative work, for safeguarding and promoting the welfare and for wider public protection. Information sharing is a vital element in improving outcomes for all (Srivastava, Viranjay, Singh & Ghanshyam; 2013). Practitioners must understand when, why, and how they should share information so that they can do so confidently and appropriately as part of their day-to-day practice. Today, there is no doubt that cell phones have a significant effect on student learning performance at technical colleges. Every individual above 13 years will have their account on any of the popular internet networks such as Facebook, Snapchat, Instagram, enabling them to share information rapidly. It will not be wrong to say that the internet and education go hand in hand in the modern world. A student can connect with anyone at any point in time to pass an important message relating to academics. They can use such platforms via their smartphone, tablet, or computer, and learners can exchange questions, make phone calls or video calls. If a student is stuck with their homework, they can always communicate with their friends or tutors eliminating the emphasis laid on physical meetings. Researchers are finding that internet usage can be addictive, and some believe that we must identify a threshold beyond which its use is tantamount to overindulgence and can be counterproductive. Although it has been put forward that students spend much time participating in social networking activities, many blame the various sites for their steady decrease in grades (Kim, Jeong, & Lee; 2010). It also shows that only a few of these students are aware of the economic and professional networking opportunities in the use of cell phones.

One of the information technologies in the field of cell phones. Today, cell phones are called smartphones and are capable of doing almost anything a computer can do. Computer Hope, (2021) explained a few examples of what some of the new cell phones are capable of

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doing to include: Take and making calls to any other person with a cell phone, sending and receiving text messages, taking, view and storing pictures, and videos using a built-in camera, access the internet, email, chats and even download apps for the phone; play games and access common programs, such as calculator, contacts, calendar, clock, to-do list, etc; remotely control other devices connected to the internet or via Bluetooth; store and run files; play music and watch movies. The heavy dependency on cell phones by students of tertiary institutions in Nigeria can never be over-emphasized especially as the internet has taken a firm grip on the affairs of the younger generation. The reality of the modern-day requires us to stay in touch with the latest happenings. Cell phones contain applications such as Twitter, Zoom, Facebook, Whatsapp, Linkedin, etc which are online technology platforms that both the students and teachers connect to disperse information and updates. These online platforms contribute to the ongoing construction of relationships, as García-Peñalvo, (2016) explained, scientific evidence indicates that mobile phones can easily become objects of emotions as recent studies revealed similar patterns in attachment to mobiles and attachment to peers. The rapid adoption and diffusion of the cell phone among young people was largely unanticipated and often while older adults were still navigating using these phones. Cell phones promote learning by offering support with sharing documents (such as video, audio, microsoft and PDF file) as well such as via Google Drive Box, Google Does, some teachers use cell phones to connect with their students via Facebook, live Zoom Meetings, and a host of others which have largely been beneficial even to a bachelor of technology students.

Bachelor of Technology programs are accredited by National University Commission (NUC) as a level of institutions that confer Bachelor of Technology Degrees after completion of three years, four years, or even five years programs of study (Bachelor of technology, 2019). Bachelor of Technology programs is considered as a skill-oriented course. In Nigeria, Bachelor of Technology programs are offered by Universities of Technology or Science and Technology which can be federal, state, or privately owned. The program is run for five years of ten semesters, nine of these semesters are spent in the university while one (usually the second semester of the fourth year) is spent on compulsory industrial training (IT) ranging from three to six months thought can be extended to a whole session (Bachelor of technology, 2019). The aim of the program is achieved through a series of technical subjects which provide essential highlevel skills necessary for every labor market worldwide, including industries. Currently, Nigerian industries and employers of labor suffer greatly as a result of inadequate manpower with the required technical skills and knowledge to function optimally in the technical aspects of the work-fields. Osasuwa (2017) raised an alarm that more than seventy (70) percent of graduates churned out by Nigeria Universities and other higher institutions of learning were unemployable. Abdullahi (2010) pointed to lack of skills as one of the reasons for unemployment among Nigeria graduates. This can be traced back to a lack of proper information sharing using ICT during their school training that may need to be assessed based on their gender

Gender is a socially constructed definition of women and men. It is not the same as sex (biological characteristics of women and men) and it is not the same as women. Gender is determined by the conception of tasks, functions, and roles attributed to women and men in society and public and private life. Gender according to Santrock (2001) involves the biological dimension of being a female or male. This has been a crucial matter to the educationists. Issues that are multidimensional in outlook as they relate to the teaching and learning of technical education in this regard have been very contentious. Providing quality education ensures sustainable development. Adopting an approach that takes into account the relationship and interaction between males and females, according to the United States Agency for International Development (USAID, 2008) will address four dimensions: equality of access; equality in the learning process; equality of educational outcomes and equality of external results. Science technology educators such as Adigwe, 2012 and Nwosu, 2015 researched gender differences and their competencies. The results, though inconclusive, showed measurable differences between male and female students in competencies, and interest in terms of learning technical subjects.

#### **Statement of the Problem**

The invention of cell phones alone is an advancement that drastically shifted the level of communication around the globe. The technological development leading to cell phones supporting internet connectivity was a landmark breakthrough in the Information Communication Technology industry, taking communication as well as information sharing to an entirely new height, saving time and money. Social media platforms such as Facebook, Whatsapp, Twitter, Telegram, etc. have utilized this avenue to create an online community where people can meet and interact, sharing information using instant messaging features.

Cell phones have also aided students. According to Shakoor, Fakhar & Abbas (2021), the higher adoption rate of smartphones is seen among university students who are in bachelor's programs. Of the wide concern among many instructors, Nayak (2018) noted that cell phones cause potential destruction to students, calling for attention to the high rate in the usage of these gadgets among students. Nevertheless, to the best knowledge of the researcher, not much has been done in examining the impact of cell phones on information sharing among students. Hence this study seeks to determine the influence of cell phones on information sharing among Bachelor of Industrial Technology students in the college of Technical and Vocational Education, Kaduna Polytechnic, Kaduna State.

#### **Purpose of the Study**

- 1. The influence of cell phones on information sharing among students through Whatsapp.
- 2. The influence of cell phones on information sharing among students through text message (S.M.S).
- 3. The influence of cell phones on information sharing among students through Facebook.
- 4. The influence of cell phones on information sharing among students through electronic mail (email).

#### **Research Questions**

The following research questions were poised to guide the study.

1. How does cell phone influence information sharing among students through Whatsapp?

- 2. How does cell phone influence information sharing among students through text messages (S.M.S)?
- 3. How does cell phone influence information sharing among students through Facebook?
- 4. How does cell phone influence information sharing among students through electronic mail (email)?

#### Null Hypotheses

- H<sub>o1</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing through Whatsapp.
- H<sub>o2</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through text messages (SMS).
- $H_{o3}$  There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through Facebook.
- H<sub>o4</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through electronic mail (Email).

#### Methodology

The purpose of this study was to determine the influence of cell phones on information sharing among Bachelor of Industrial Technology students in the College of Technical and Vocational Education, Kaduna Polytechnic, Kaduna. The study adopted a survey research design. The target population consist of 75 final year students in the College of Technical and Vocational Education which include 48 male and 27 female students. Stratified Random sampling technique was adopted in sampling the population. The sample size of 50 was made up of 32 male and 18 female students. The instrument for data collection used was a four-section structured questionnaire using a four-point rating scale (strongly agree, agree, disagree, and strongly disagree). Face validation was used to validate the instrument by three experts in the College of Technical and Vocational Education and Communication Department before administering it. Cronbachs Alpha was employed to determine the internal consistency of the instrument, with a reliability co-efficient of 0.72. Data collected was sorted and analysed using mean statistics of 2.50 and above for all the research questions, and the hypotheses were tested with a t-test at a 0.05 level of significance.

#### Results

The result was presented based on the research questions and hypotheses guiding the study.

**Research Question 1:** How does cell phone influence information sharing among students through Whatsapp?

 Table 1: Mean rating of responses on cell phones influence on information sharing among students through Whatsapp

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S/N	Influence of Cell Phones information sharing among students through Whatsapp	X	Remark
1.	Sharing information through video calls	3.06	Agreed
2.	Sharing information among students at a cheaper rate	3.06	Agreed
3.	Sharing information by between school and students	2.73	Agreed
4.	Sharing information among students using voice calls	3.27	Agreed
5.	Easiest and fastest ways to share information	3.47	Agreed
6.	Sharing information between tutors and students from their various locations	2.93	Agreed
7.	Sharing of academic pictures among student	3.07	Agreed
8.	Sharing information on Whatsapp status	3.13	Agreed
9.	Sharing information on whatsapp groups	3.13	Agreed

From Table 1 shows that the respondents have agreed with item1-9. This is because the above-listed items have mean ratings between 2.73 - 3.47. This shows how strong cell phones influence information sharing among B. Tech students through Whatsapp. Therefore, B. tech students agreed with cell phones influence on information sharing among their colleagues through Whatsapp. That is, students use Whatsapp in sharing information with their colleagues.

**Research Question 2:** How does cell phone influence information sharing among students through electronic mail (email)?

Table 2: Mean Rating of Responses on how	cell phones influence information sharing among B.
Tech students through email	

<b>S</b> /	Influence of Cell Phones information sharing among	$\overline{X}$	Remark
Ν	students through email		
1.	Sharing video among students	2.93	Agreed
2.	Sharing picture information among students	3.07	Agreed
3	Sharing confidential docu	3.2	Agreed
	ments among students		
4.	Sharing formal means of communication among students	3.26	Agreed
5.	Saving shared document for future reference among students	3.26	Agreed
6.	Sharing information among multiple parties	3.13	Agreed
7.	Sharing audio among students	2.93	Agreed

Table 2 above indicates that all respondents have agreed on items 1 to 7, this is because the items have mean ratings between 2.93 and 3.26 which is above the cutoff of 2.50. Therefore,

B. tech students agreed with cell phones influence on information sharing among their colleagues. That is, students use email in sharing information with their colleagues.

**Research Question 3:** How does cell phones influence information sharing among students through short message service (SMS)?

**Table 3:** Mean Rating of Responses on how cell phones influence information sharing among students through short message service (SMS).

S/ N	Influence of Cell Phones information sharing among students through SMS	$\overline{X}$	Remark
1	Sending homework information influences academic support to students	3.0	Agreed
2.	Mass emergency notifications are sent from institution to students easily	3.27	Agreed
3	Notifications sent from institution management through SMS influences students to take prompt action	3.27	Agreed
4.	using SMS service by the School authorities influences students' update of new information	2.8	Agreed
5.	SMS notifications has the potential to improve student punctuality	3.0	Agreed
6.	Students pay attention more to SMS than other electronic notifications	2.8	Agreed
7.	Soliciting for urgent action from students	3.0	Agreed

Table 3 above shows that the respondents have agreed on items 1 - 7. This is because the items have a mean rating between 2.8 - 3.27 which is above the cut-off of 2.50. Therefore, B. tech students agreed with how cell phones influence information sharing among their colleagues. That is, students use SMS in sharing information among their colleagues.

**Research question 4**: How does cell phones influence information sharing students through Facebook?

**Table 4:** Mean Rating of Responses on how cell phones influence information sharing among students through Facebook.

S/ N	Influence of Cell Phones information sharing among students through facebook	$\overline{X}$	Remark
1	Sharing messages with students through Facebook	3.3	Agreed
2	Communicating with voice calls among students through	2.9	Agreed

Facebook

3.	Communicating with video calls among students through	2.8	Agreed
	Facebook		
4.	Posting of academic articles among students through	2.27	Disagreed
	Facebook		
5.	Visiting of academic pages among students	2.93	Agreed
6	Organizing live video/audio group sessions among students	2.93	Agreed
7.	Use of cell phone facilities in the teaching and learning	2.8	Agreed
	process foil students from idleness through Facebook		-

From Table 4 shows that the respondents have agreed with items 1, 2, 3, 5, 6, and 7, this is because the above-listed items have a mean rating between 2.80 and 3.30 and the respondents disagree with item 4 with a mean score of 2.27, and this is because it has a mean rating below the cutoff of 2.50. Therefore, the average B. tech student agreed with how cell phones influence information sharing among their colleagues. That is, students use Facebook in sharing information with their colleagues.

**Ho**<sub>1</sub> There is no significant difference between male and female students' responses to the influence of cell phones on information sharing through Whatsapp.

**Table 5:** Independence t-test on male and female student's responses on the influence of cell phone on information sharing through Whatsapp.

Variables	Ν	$\overline{X}$	SD	df	t-Cal	p-value	Decision
male	32	2.93	.49				
				48	406	.687	Accept Ho
female	18	2.98	.38				

The p-value (0.69) is greater than the significance value (0.05). Therefore, there is no statistically significant difference between the response of the male and female students on the influence of cell phones on information sharing through Whatsapp at a 95 percent confidence level.

**Ho**<sub>2</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through text messages (SMS).

**Table 6:** Independence T-Test on male and female student's responses on the influence of cell phone on information sharing through Text Messages (SMS).

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Variables	Ν	$\overline{X}$	SD	df	t-Cal	p-value	Decision
male	32	2.93	.19				
				48	038	.970	Accept Ho
female	18	2.93	.23				-

The p-value (0.97) is greater than the significance value of 0.05. Therefore, there is no significant difference between the response of males and females on the influence of cell phones on information sharing through Text Messages (SMS).

**Ho**<sub>3</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through Facebook.

**Table 7:** Independence T-Test on male and female students' response to the influence of cell phones on information sharing through Facebook.

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Variables	Ν	$\overline{X}$	SD	df	t-Cal	p-value	Decision
male	32	3.11	.56				
				48	.037	.971	Accept Ho
female	18	3.11	.48				

The p-value (0.97) is greater than the significance level of 0.05. Therefore we conclude at a 95% confidence level, there is no significant difference in the influence of cell phones on information sharing through Facebook between male and female students.

**Ho**<sub>4</sub> There is no significant difference between male and female students' responses on the influence of cell phones on information sharing between male and female students through electronic mail (Email).

**Table 8:** Independence T-Test on male and female students' response on the influence of cell phones on information sharing through electronic mail (Email).

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Variables	Ν	$\overline{X}$	SD	df	t-Cal	p-value	Decision
male	32	2.77	.40				
				48	.249	.805	Accept Ho
female	18	2.74	.38				-

The p-value (0.89) is greater than the significance value of 0.05. Therefore we conclude there is no significant difference between the responses of both genders on the influence of cell phones on information sharing through electronic mail (email). This means both males and females utilize email in information sharing using their cell phones.

#### **Findings of the Study**

- 1. Cell phones influence information sharing among students through Whatsapp.
- 2. Cell phones influence information sharing among students through text messages (S.M.S).
- 3. Cell phones influence information sharing among students through Facebook.
- 4. Cell phones influence information sharing among students through electronic mail (email).

#### **Discussion of Findings**

#### Influence of sharing information through Whatsapp among B. Tech students

Findings according to table 1 indicate that the respondents agreed on all the cell phones influence on information sharing among B. tech students through Whatsapp. The result is in line with Motiwalla (2007). In his research related to the use of instant messaging for educational purposes, Motiwalla suggests that the popularity and support for mobile devices within the student population are great and that the majority of students at polytechnics and universities benefit from texting through Whatsapp. The study went further in table 5 to find out there is no significant difference in the use of cell phone app in sharing information between male and female students. The popularity of Whatsapp has made both genders of students equally likely to use this cell phone app for information sharing.

#### Influence of sharing information through email among B. Tech students

Findings according to table 2 showed that respondents agreed on all the cell phones influence on information sharing among B. tech students through short message service (SMS). This finding agrees with Wheeler, Yeomans, & Wheeler (2008) and Lau (2017). According to Lau, text messages can be a great way of sending homework information and academic support to students, which include workshops and courses, information on majors and career options as well as class cancellations. Additional information that schools can communicate via SMS includes exam dates and the extension of library hours, especially during finals. Wheeler et al noted that schools, especially universities, can use SMS services to recruit students, send status updates to applicants, and confirm admissions to students. The messages may include embedded links to direct prospective students to the right department and other useful resources, in the event of a safety or crime alert, extreme weather condition, or even a last-minute lecture room change.

#### Influence of sharing information through SMS among B. Tech students

Findings according to Tables 3 and 7 also revealed that both respondents agreed to all cell phones influence on information sharing among B. tech students through Facebook, which is in line with Kim, Jeong & Lee (2010). The use of academic pages on Facebook has a positive influence on student performance. It explains that people from different age ranges interact and exchange content. They share videos and pictures, discuss subjects, chart, publish advertisements for group events, or play available applications. Young generations (students) are the most heavily present on Facebook, and the resulting increased levels of information flow management are required to engage students in the tasks while they are engaged in constant interactions and socialization with themselves.

#### Influence of sharing information through Facebook among B. Tech students

Findings according to Table 4 and 7 revealed that both male and female students agreed on all the cell phones influence on information sharing among B. tech students through email. This finding supports the study of Ellison, Steinfield & Lampe (2007) and Asif (2018). According to Ellison et al., allowing students to use email to their advantage is a great way for students to communicate with each other. If they have questions about their assignment, they can email their peers for a quick answer. They can also help each other with their projects, as she uses email to create a project for her fourth-graders in which they compared stream studies with students on the west coast and in New York, communicating through email.

#### Conclusion

Cell phones have become an essential part of our lives and are widely used as the easiest and cheapest means of communication, influencing information sharing even among bachelor of technology students. There is no significant difference in the influence of cell phones on information sharing between male and female bachelor students. The assessment carried out in this study shows both male and female respondents agrees to cell phone influence on sharing of information among students through Whatsapp, Facebook, and short message services (SMS), and electronic mail (email).

The use of cell phones has found its way into the lives of students. It has become one of the quickest and easiest ways of sharing information. This study will provide insight to educators, teachers, curriculum planners and designers, schools, and other relevant authorities on the need to integrate cell phones into the teaching and learning process as an effective way of sharing information among students.

#### Recommendations

- 1. School Managements should encourage students to positively engage their cell phones in academic activities.
- 2. The Schools Authorities should provide the students with free wifi to allow them access to the internet, and that will prompt them to research academic resources.

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