

**PERCEPTIONS OF HIGHER EDUCATION STUDENTS ON  
ELECTRONIC BOOKS USAGE**

**KNUST**

**BY**

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**A thesis submitted to the Department of Publishing Studies, Kwame Nkrumah  
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**DECLARATION**

I hereby declare that this submission is my own work towards the Masters of Arts in Publishing Studies and that, to the best of my knowledge, it contains no material previously published by another person nor material that has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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[Head of Department]

Signature

Date

***DEDICATION***

I dedicate this research work to my beloved mother Ernestina Ampomah (Miss.)

KNUST



## ACKNOWLEDGEMENT

To the Almighty God, who has seen me successfully throughout my studies and enabled me complete this thesis, be all the glory and thanks. I gratefully acknowledge that but for his grace, I could never have come this far.

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## ***ABSTRACT***

It is indicated that greater proportion of Ghanaian population use electronic devices such as desktop/laptop computers and smart (mobile) phones. It is also emphasised that majority of Ghanaian students have access to the internet for various social media activities such as whatsapp and facebook. As such this study was conducted to examine how students from the University would appreciate and adopt reading books in electronic form. The study also sought to identify and examine the challenges in the adoption of books in electronic format. The population of the study was tertiary students from the Kwame Nkrumah University of Science and Technology in Kumasi. The multistage and proportionate stratified random sampling techniques were used to obtain a sample size of 120 students for the study chosen from the six colleges of the university. This may not give the true representation of the sample size since the total student population of the various colleges were not used but rather, the total number of departments in each of the colleges. Questionnaires were the main data collection tool. The data collected were analysed qualitatively and quantitatively, and the Statistical Package for the Social Sciences (SPSS) and the Microsoft Excel software were used to convert data collected into simple percentages.

It was found that students perceive electronic books play an important role in teaching and learning. Reading books in electronic form have assisted students to complete assignments on time in the University. It has also reduced spending on teaching and learning materials, improved access to information and encouraged reading and learning. These were influenced by the number of visits to the internet by the students and the use of their electronic devices. However, students faced problems such as power fluctuations and instability of the internet in the adaptation of electronic books.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background to the study

The world is changing rapidly to accommodate technology in all aspect of life and business. The quick expansion of technology has inculcated into the lives of millions of people, the spirit of using Information and Communication Technology (ICT) in all activities. The World Bank defines ICT as processing, transmission and display of information through an electronic means like the internet (Rodriguez and Wilson, 2000). The United National Conferences on Trade and Development (UNCTAD, 2004) reports that about 67 million people had access to the internet in 2003. This represents an increase of 7.8 percent compared with figures at the end of 2002. Again evidence from the World Bank Statistical report on Internet Usage for all Countries indicate that Internet usage in Ghana has increased from 0.2 users per 100 people in 2000 to 4.3 users per 100 people in 2008 (World Bank, 2010). Moreover, internet access rate in North America is 9.5 percent; 26.3 percent in Europe; 39.5 percent in Asia; 3.5 percent in Africa; 2.9 percent in Middle East and 9.5 percent in Northern America and Caribbean (Internet World Stats, 2008).

A study conducted by the Organisation for Economic Cooperation and Development (2005) indicates an increasing use of computers and technology across the world. The report shows that young people (students) have high e-readiness (benefit from digital technology). Harel (2003) sees students of today as computer literates that learn through exploring, expressing, and exchanging ideas using technological means. This notwithstanding, there are other attributes given to students of today. Tapscott (1998) describes them as net generation. Again, Brown

(2002) describes them as digital fluent and digital learners. In a study conducted at Fordham College at Lincoln Center, Simon (2001) reports that students support electronic books and would like to recommend to friends. Also, 95 percent of the students indicated that they wish other courses offered electronic book option. With regards to cost, the study further reveals that 84 percent of the students were willing to pay any amount to purchase books from the internet. It is emphasized in studies that students prefer electronic books to printed books. They prefer using laptops and other e-readers (such as phones, iPod etc) for reading their e-textbooks (Young, 2009). Some students choose e-textbook so they can buy a digital version of the text at a lower price than the print copy while also saving space in their book bags (Lyman, 2008). This is supported by the view of Young (2009) that e-books cost less (about half) as much as a new print textbook. In a survey conducted in China in 2011, Hunt (2012) states that 63 percent of the population are internet users who read 600 million e-books. Of this, 30 percent read online, 27.6 percent read on cell phones and 5.4 percent use an e-reader at a cost of downloading between 20 to 50 cents.

Taking a retrospective view of the above discussion, it raises concern on the need for the book publishing industry to adopt electronic publishing. This implies that, the publishing industry should shift from printed books and adopt electronic books. To support this assertion, Lyman (2008) posits that publishers of today have now developed interest in electronic books. They are currently providing more electronic textbooks as digital copies of the print versions. A good example of such industry is the CourseSmart Company in the United States of America. The company provides e-textbook format on a common platform with a common location for reviewing and purchasing e-textbooks (Lyman, 2008). There were about 12,000 electronic books and currently it offers over 90 percent of e-books (CourseSmart, 2013). In Africa, Hunt (2012) mentions that electronic books are less applicable of digital publishing. For example, South Africa and other countries like Ghana

and Nigeria are lagging way behind global trends in embracing electronic publishing. Electronic books constitute less than 1.5 percent of the overall book in these countries (Hunt, 2012).

From the forgoing discussion, it shows how quickly the book publishing industry in Ghana should focus on moving to this new form of publishing that is electronic publishing, since the main purpose of every publisher is to satisfy their target readers who are now embracing this new technological advancement. It is for this reason that, this study is aimed at examining students' perception on electronic books and for that matter electronic publishing.

## **1.2 Statement of the problem**

The recorded total number of mobile phone in Ghana was 8,049,408. (Connected to internet) (Ghana Statistical Service, 2013). The total number of the population with age 12 years and above was 16,886,306 and out of this number, mobile phone users constituted 47.7 percent. Ashanti Region hosts the second largest population (23.1%) using mobile phones. About 44 percent of the population aged 12-29 years who are in school use mobile phones (Ghana Statistical Service, 2013). Also, about eight percent of households in Ghana owned a desktop/laptop computer with 1.1 percent for households with no formal education and 59.1 percent for households with tertiary education where Ashanti Region is the second highest with 24.1 percent after Greater Accra Region (Ghana Statistical Service, 2013). In 2010 the highest usage of internet was recorded in Greater Accra Region ((42.3%) followed by Ashanti Region (22.5%) (Ghana Statistical Service, 2013).

However, the school system in Ghana is still characterised by learning shaped by printed books.

Student's access to books is usually at the library which cannot accommodate all of them. Libraries are seen as essential by over 90 percent of the population in Ghana (Zel, 2013).

Therefore students' knowledge on the usage and relevance of electronic books in enhancing learning was low (Zel, 2013). Ben-David Kolikant (2009:131) sees this kind of learning environment as awkward as students may doubt the relevance of school as a learning-to-learn institute given their informal learning experience. Most of the publishing industries have still not realized the importance of electronic publishing in book publishing (Zel, 2013).

In Ghana, Worldreader conducted a pilot study in 2011 in collaborations with the Global Development Alliance programme and the US Agency for International Development (USAID) on public school students' access to books through e-reader technology. Ten Ghanaian publishers participated in the pilot project by having a range of their books digitized and made available on the Kindle, mostly books for children and young people, and a small number of textbooks (Zel, 2013).

Though there are studies on publishing in Ghana on electronic books and its usage, much has not been done on electronic books. Past and current studies (For example, Rodney, 1973; DarkoAmpem, 2003; Makafui, 2010; Scott, 2012; Hunt, 2012; Zell, 2013 etc) have looked at electronic publishing. However, their focus was not to assess students' perception on electronic publishing.

This study aimed at examining the perceptions of students on electronic books.

### **1.3 Objectives of the study**

The main objective of the study is to examine how Ghanaian university students would appreciate reading electronic books compared to printed books. The specific objectives of this study include the following.

1. To access the perceptions students' from tertiary schools have on using electronic books.
2. To identify the challenges in adopting and reading electronic books.

### **1.4 Research questions**

1. What perception do students' from tertiary schools have on using electronic books?
2. What are the challenges in adopting and reading electronic books?

### **1.5 Significance of the Study**

The major driving force for this study is to assess students' perception about electronic books in Ghana. Hence, the study will serve as a source of empirical knowledge to guide policies and strategies aimed at promoting electronic publishing in Ghana.

As indicated in the problem statement, there are few studies which have looked at electronic books in the country. Further, a study such as this has the potential to provide ground and impetus for change or transformation from depending on printed books to electronic books.

### **1.6 Scope of the Study**

The geographical scope of the study is the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi. The study area was chosen because it is a technological institution compared with other university as the name suggest. It was therefore appropriate to find

out the perception of students at the University on electronic books. It is the aim of this study to examine the perceptions of students from the KNUST on using electronic books in learning. The challenges students face in adaptation, reading or researching information from the internet also forms part of aim of this study.

A tertiary institution from Kumasi was chosen because the population of Kumasi, which is Ghana's second largest city, is very cosmopolitan as well as that of its educational institutions. There is also the availability of many internet facilities. For these reasons a study based on the Kumasi situation is indeed very representative of the Ghanaian situation.

### **1.7 Limitations of the Study**

The study population was students from the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi. Students were sampled from the six colleges of the university base on the total number of departments rather than the total population of students in each college. This may not give the true representation of the study since some vital information may be concealed and this may affect the final findings and conclusion.

Again, this design dwells on data in a particular time of the respondent and findings could differ from earlier or later findings.

### **1.8 Delimitations**

This study is conducted among students in the Kwame Nkrumah University of Science and Technology. The study was not restricted but included students from all the colleges in the University

## 1.9 Organisation of the study

The study is divided into five chapters. Chapter One looks at the introduction. Here, the background of the study, study objectives and questions, scope, limitations and delimitations, and problem statement are presented. Chapter Two looks at the literature review. Here, information is sourced from the internet/journals on students' perception or acceptance of electronic books and the readiness of the book publishing industry in Ghana to embrace electronic publishing. Chapter Three looks at the methodology. Here, the research design, population, sample size and procedures, methods of data analysis and presentations are discussed. Chapter Four consists of discussion of findings emanated from the field. The study ends with Chapter Five which presents summary of findings, the recommendations and conclusion of the entire study.



## CHAPTER TWO

## LITERATURE REVIEW

### 2.1 Overview

According to Gunaratne (2001) and Stevenson (1994), scholars refer to the emergence of writing, invention of printing and the convergence of telecommunication, computers and digitization as the three communication revolution in human history. These revolutions affected or changed society in one way or the other. Writing which came about as a result of the invention of words undermine the monopoly held by the elders, who preserved in oral form the accumulated knowledge of preliterate people. With the invention of moveable type by Gutenberg, the printing press and printing was invented which also ended the information monopoly of the church, the clergy and the mandarins, depending on the social context. However the invention of digitization will or may change the societal power structure in ways yet to be seen (Gunaratne, 2001).

Currently, the global publishing industry is going through a period of change and this is reshaping the manner and method in which the author communicates with the target readers. Today, traditional works of authors are increasingly created and disseminated to the public in digital form just like many radio and television programs, musical compositions, movies, maps, reports, stories, poems, letters, scholarly articles, newspapers and photographs are all —born digital. Therefore, there is a growing trend of converting analogy material to digital form so that it can be easily and efficiently stored, transmitted and accessed. This has been made easier with the invention of the internet and the personal computer (Besek et al., 2008).

However, many conventional publishers are of the view that, traditional publishing; advertising and distribution of books will never die and; therefore, do not see the future. This is very freighting because, many of their target readers are increasingly switching from traditional print media to

digital media because, they are enjoying greater diversity of choice, lower cost, easy accessibility of books and reading material even though the manner in which they are making the transition varies with age, gender and nationality (Besek, et al., 2008). Authors are now writing for reasons different than publishers publish and electronic-books are blowing the distribution doors wide open for authors (Biba, 2011). Again, electronic publishing is now being embraced by the scholarly community who see it as an attractive and to high financial outlay of the print version Morris (2006).

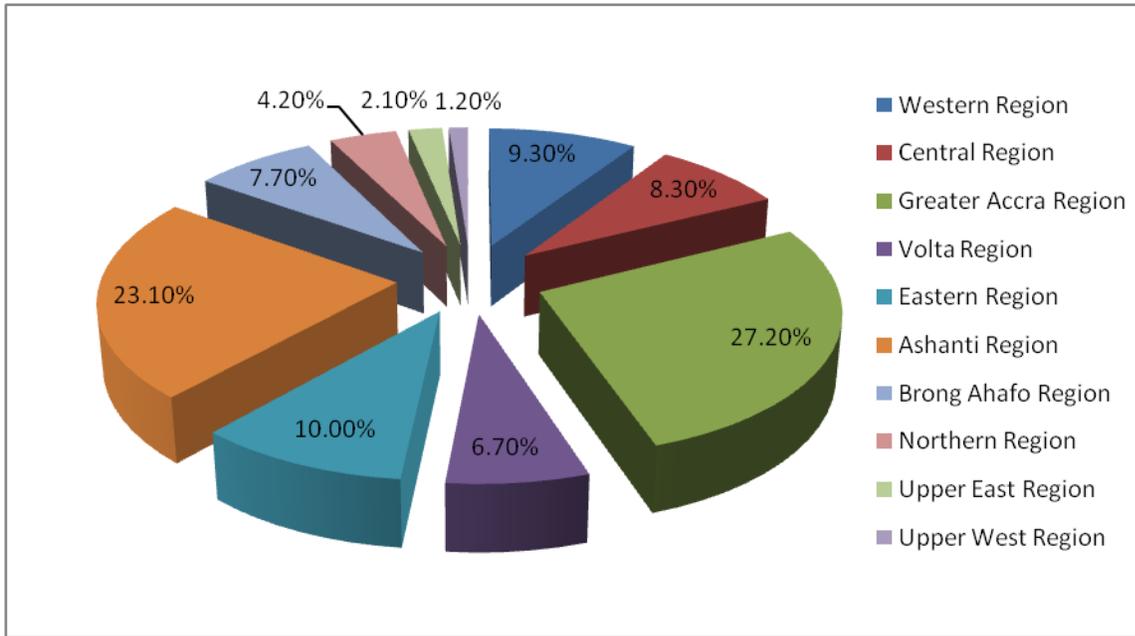
## **2.2 Concept of Technology (ICT)**

### ***2.2.1 Some definitions***

The study of technology has received recognition by researchers since the 1980s (Shrivastava, 1984; Laudon and Laudon, 2001). Shrivastava (1984) sees technology innovations as changes in technology that improves business performance. The World Bank defines ICT as processing, transmission and display of information through an electronic means like the internet (Rodriguez and Wilson, 2000). Laudon and Laudon (2001) view of ICT focuses on technologies used by people to share, distribute, and gather information to communicate through computer networks. In the United Nations Economic Commission (ECA) report, Adeya (2002) demonstrates a more broadly thought of ICT. He sees it as comprising varieties of devices which included internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, network-based information services, and other related information and communication activities.

### **2.2.2 Ownership of mobile phones**

Mobile phone has become the most widely-used telecommunication tool in the world and has been spreading around the world faster than any telecommunication technology (Castells *et al.*, 2004). Studies show that the increasing global diffusion of mobile telecommunication has contributed to narrowing the gap in mobile phones usage between developed and less developed countries (Geser, 2004). Ghana has benefited from this global diffusion of mobile telecommunication, when in 1992 mobitel was the only telecommunication company to initiate the first cellular phone service in the country. In that year alone, about 19,000 Ghanaians owned mobile phones. In 1999 the number of mobile phone users in the country increased from 19000 to 68,000 (Ghana Web, 2013). Since 2003, Ayensu (2003) reports that mobile phone is the primary means of communication for social and business activities for the majority of Ghanaians. The 2010 Population and Housing Census (PHC) reports about 48 percent of the population 12 years and older use cellular phones. The highest proportion of mobile phone owners lived in the Greater Accra Region followed by Ashanti region. The two regions accounts for a little more than half of mobile phone owners in the country. Mobile phone users formed less than one-tenth (10%) in Western, Central, Brong Ahafo and Volta Regions (GSS, 2013) (See Figure 2.1).



**Figure 2.1: Mobile users by regions**

Source: Compiled from the 2010 PHC (GSS, 2013).

The Northern, Upper East, and Upper West Regions reported substantially low proportions of 4.2 percent, 2.1 percent and 1.2 percent, respectively. This may be due to the concentration of mobile phone network providers in the southern part of the country.

The use of mobile phones can be said to be influenced by certain factors such as age, sex, economic activities among others. Central to these factors is the level or status of education. The 2010 Population and Housing Census (PHC) reports that only one-fourth (25%) of the population (12 years and over) had no education. Majority of mobile phone users have or are in tertiary education. Mobile phone users' increases with level of education as depicted in Figure

2.2. It must therefore be emphasised that the use of mobile phones is prominent among literates (those who can read and write) and while students form into this category, it is presumed that they will appreciate publication of books on the internet. (Young, 2009). From the above discussions a hypothesis can be formulated as follows:

Hypothesis 1:

Null Hypothesis ( $H_0$ ): There is no relationship between the use of technological devices and marital status.

Alternative Hypothesis ( $H_1$ ): There is a relationship between the use of technological devices and marital status.

Hypothesis 2:

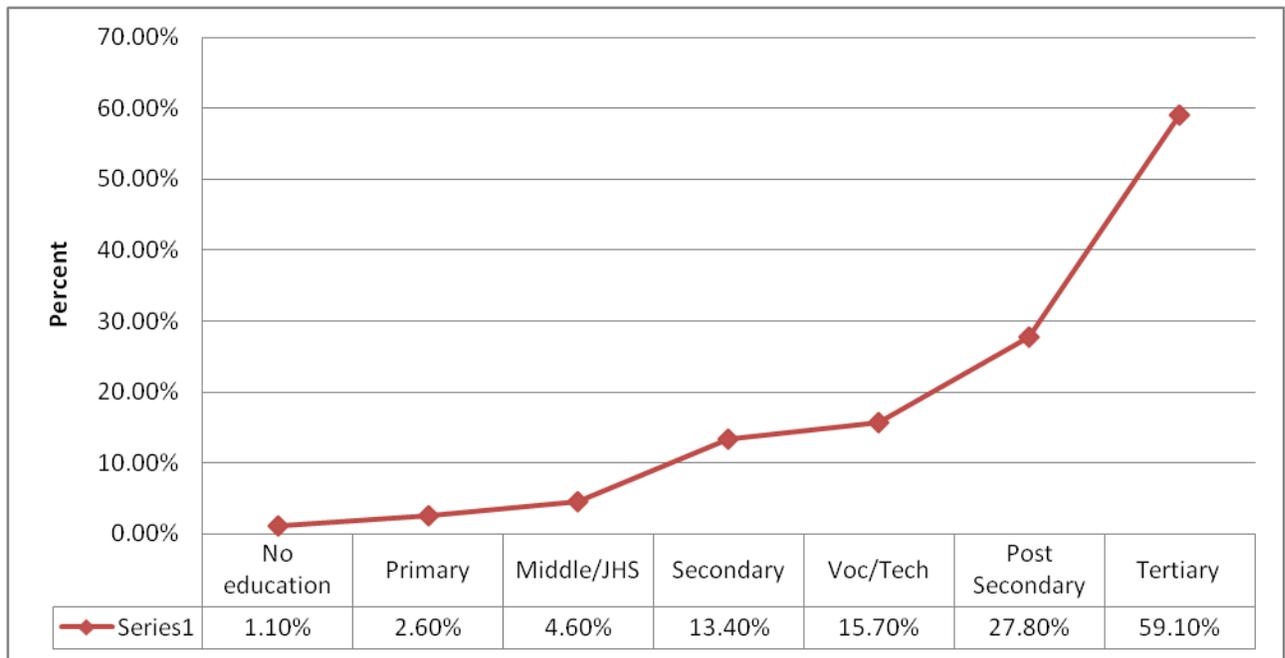
Null Hypothesis ( $H_0$ ): There is no relationship between the use of technological devices and access to the internet.

Alternative Hypothesis ( $H_1$ ): There is a relationship between the use of technological devices and access to the internet.

Hypothesis 3:

Null Hypothesis ( $H_0$ ): There is no relationship between the use of technological devices and visits to the internet.

Alternative Hypothesis ( $H_1$ ): There is a relationship between the use of technological devices and visits to the internet.

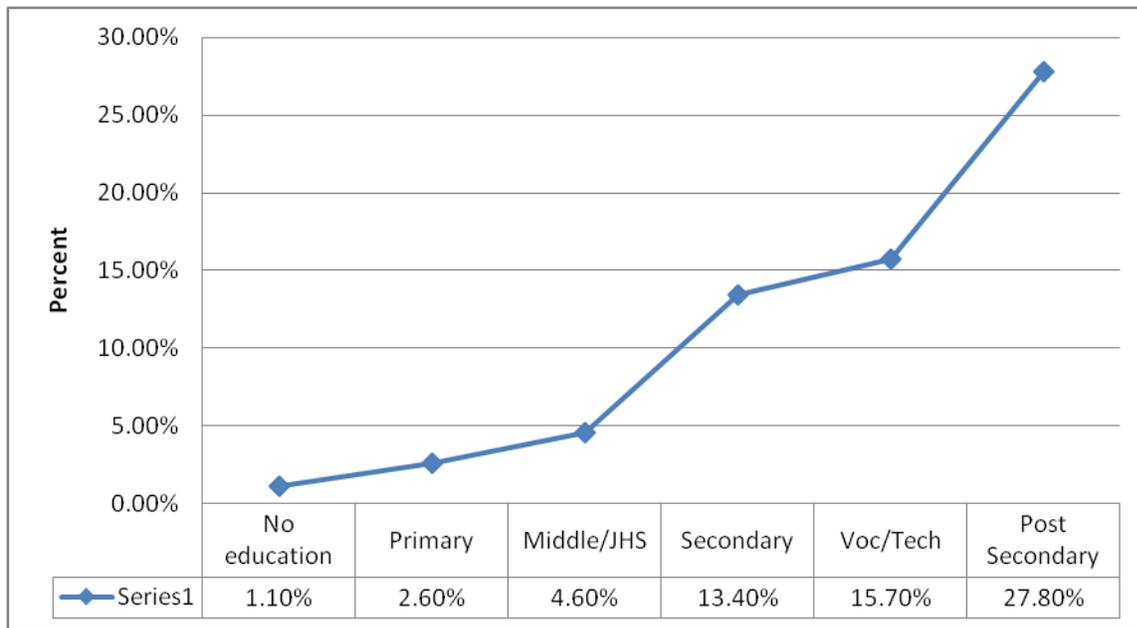


**Figure 2.2: Mobile phone users and educational level** Source:

Compiled from the 2010 PHC (GSS, 2013).

### **2.2.3 Ownership of computers**

Aside using mobile phones to access information from the internet, the computer also plays a crucial role likewise. Young (2009) confirms that students use laptops for reading their e-textbooks. According to the 2010 Population and Housing Census (PHC) about eight percent of households owned a computer (either desktop or laptop). The highest proportions of households with a computer were those in the age grouping 20-24 (10.4%) and 25-29 (10.2%) where most of them are students. Similar to peoples' access to mobile phones and educational status, the proportion of households with computers increased with increasing level of education. Households with tertiary education who use computers constituted of about 59 percent while those with no formal education constituted of only one percent as shown in Figure 2.3



**Figure 2.3: Computer users and educational level**

Source: Compiled from the 2010 PHC (GSS, 2013).

#### **2.2.4 Utilisation of internet facilities**

The above discussion on mobile phone and computer usage are the conduit from which people can have access to the internet. People use the internet to access information, conduct business transactions, social networking and shopping among others. The study is primarily focused on the utilisation of the internet to access information. Internet usage is growing at the fastest rate across the world. For example, in 2003, the United Nation Conference on Trade and Development (UNCTAD, 2004) reported that, about 67 million people had access to the internet globally. To support this argument, the International Telecommunication Union (2012) reports that about 2.3 billion people across the world used the internet in 2011 which constitutes 70 percent in the developed countries and 30 percent in the developing countries. The estimated global population of Internet users in June, 2010 was 1.97 billion (Calandro, 2012).

Internet usage is higher in some countries than the others. The usage also varies among continents. For example, internet usage in North America was 9.5 percent; 26.3 percent was Europe; 39.5 percent was Asia; 3.5 percent was Africa; 2.9 percent was Middle East and 9.5 percent was Northern America and Caribbean was 2007 (Internet World Stats, 2008). In Ghana, the World Bank Statistical report on internet usage for all Countries indicates that internet usage has increased from 0.2 users per 100 people in 2000 to 4.3 users per 100 people in 2008 (World Bank, 2010).

In appreciating the proportion of people who use internet facilities, it also becomes important to look at the device through which they can use to access the internet. A study conducted by Calandro (2012) in ten African countries in the late 2011 and beginning of 2012 indicate that South Africa has the highest (51%) proportion of people (15 years and older) who browse using the mobile phones. This is followed by 31 percent in Namibia, 30 percent in Botswana, 29 percent in Ghana, 23 percent in Nigeria, 19 percent in Tanzania and Rwanda, 15 percent in Uganda and Cameroon and finally 7 percent in Ethiopia (Calandro, 2012).

From the above analysis, hypotheses can be formulated as follows;

Null Hypothesis ( $H_0$ ): There is no relationship between visits to the internet and demographic characteristics of the person.

Alternative Hypothesis ( $H_1$ ): There is a relationship between visits to the internet and demographic characteristics of the person

## **2.3 Digital technology**

Digital technology is defined by Poole (2011) as a technology that allows information to be processed and store in digital form with the possibility of distribution over electronic networks. Digital technology is defined in this study as the technology that allows information to be stored and disseminated to people through the use of the internet. Information used in the definition denotes reading materials in electronic form.

### **2.3.1 Electronic Publishing**

#### *Some Definitions*

Electronic Publishing according to Koganuramath, Jange, and Angadi (n.d) is the process for production of typeset quality documents containing text, graphics, pictures, tables, and equations. Kist (1989) defined electronic publishing as "the application by publishers of a computer aided process, by which they find, capture, shape, store, and update information content in order to disseminate it to a chosen audience" (p. 600 ). Kist's definition does not draw a clear line between the manufacturing process and the disseminating process. Brownrigg and Lynch (1985) definition makes a clear distinction between electronic production and distribution of information. Ciolek (1997) also define electronic publishing as set of activities aimed at processing and delivering large chunk of scholarly and factual information in electronic format to users or buyers. A working definition of electronic publishing is given as the transformation of information in an electronic form and making it available to the public through the internet. Ciolek further sees electronic publishing as commercial activity- ability to buy and sell online.

### ***Classification of electronic publishing***

Electronic publishing according to Zhang (2010) is classified into self-publishing by individual, publishing by network companies, self-publishing by e-book publishers, instant publishing (print on demand), and Microsoft Model.

#### ***Self-publishing by individual***

Zhang (2010) defines self-publishing as publishing which is done by an individual (an author). The author becomes the publisher or the advertiser of his/her book. The author does not need to consult a publishing company to publish the book. What the author needs is to know and understand the process of publishing. This type of electronic publishing is the commonest, most convenient and personal compared with the others.

#### ***Publishing by network companies***

Zhang (2010) sees this type of electronic publishing as publishing done by many companies depending on their capability to take advantage of the other. When a particular company is fortunate to get the opportunity, it is able to post the content online, provides download services when readers are able to pay. With this type of publishing, the copyright belongs to the network company.

#### ***Self-publishing by e-book publisher***

Zhang (2010) sees this category of electronic publishing as a cost reduction activity. He suggests that publishers, acknowledging the incumbent advantage from e-book publishing, and also in order to reduce huge cost, self-publishing by e-book publishers is a new model which is trying to get rid

of network companies (p. 22). With this type of publishing, the copyright belongs to the publishers themselves. *Instant publishing*

Zhang (2010) referred to instant publishing as the type of electronic publishing on demand. Instant publishing happens when printed books become scarce in the market. In such a situation, the electronic publishers quickly provide electronic versions to meet demand. In other words, there is no plan for e-book production

### ***Microsoft Model***

This model allows advertisers to take advantage of advertising profit and pay the bills for readers. It was created by the Microsoft Company. It gives readers the opportunity to download books online at no cost (freely). Before Windows NT 3.1 was released, users had to obtain the TCP/IP protocol suite from a third party, and then install it. The Microsoft model modularly defines hardware and software; and the actual connections between NT 3.1 and TCP/IP that enable networking. The Microsoft model provides a standard platform for application developers and programmers that enable developers to use standard interfaces that provide specific functionality which they can use to develop applications.

### **2.3.2 E-reader Market**

In a report conducted by the analysts of DIGITIMES Research, Kuo & Chan (2010) indicate that electronic reader delivery were 700,000 units in 2008 globally. From 2008 to 2010, the trend has changed tremendously. For example, in 2009, 1,620,000 units were sold (a growth rate of 445%). Global sale of e-reader was estimated to be 9,300,000 units in 2010 (Kuo & Chan, 2010). Ereader market has become one of the greatest commercial opportunities for the publishing industry to make huge profits (Zhang, 2010). There are quite a number of e-reader devices such as mobile

phones and computer among others. However, Amazon Kindle and iPad are the best in terms of its performance in the market (Zhang, 2010).

### *Amazon Kindle*

The Amazon Kindle started from 2007. It is an electronic book reader which aims at providing users with a convenient reading experience. It assists readers to wirelessly download books, magazines and newspapers (Zhang, 2010). According to Radcliffe (2009) about 1.49 million of Amazon Kindle (representing 60% of market share) was sold which makes the device the best representative of the e-reader. The size of the device is as same as most magazines and is similar to the physical book. It uses 2-4GB wireless network to access the internet, download books or read blogs from Amazon's website without a computer connection. The device is capable of storing about 3,500 books with built-in-memory from 2G to 4GB (Amazon.com, 2010). The devices has three members namely Kindle, Kindle 2 (replacement of Kindle), and Kindle DX (the complementary product of the Kindle) (Zhang, 2010).

### *iPad*

Ipad is another e-reader device which is used by majority of people across the continent. It was introduced in January 2010. It is a touch-pad tablet computer developed by AppleInc. For the first time of introducing iPad, more than 300,000 units were sold (Wortham, 2010). The iPad is of four kinds namely iBook, Netflix, iWork Apps and ABC. A survey conducted by Wauters, (2010) in 2010 on tweets after the arrival of the iPad indicates that the most favorite iPad application is the iBook (34%). This demonstrates that the iPad has the capability to be a satisfactory e-reader Zhang (2010). The device has a memory capacity of 16GB, 32GB and

64GB. The device has two ways to access internet. One model gets online in Wi-Fi hot spots. The other model can either use Wi-Fi or AT&T's cellular 3G network (Zhang, 2010).

### *Blog as digital technology for book publishing*

A Blog is one of the digital technologies which set the platform for book publishing and discussion. It is an abbreviated version of "weblog" used to describe websites that maintain an ongoing chronicle of information. It links to articles on other websites, usually presented as a list of entries in reverse chronological order. Aside the easy accessibility of information on blogs, it also provide forums, comments, and a platform for readers to contribute, and recommends that publishers should not ignore (Quiggin, 2006). Nelson shares a similar view with Quiggin statement when He says:

*Blogs allow publishers to monitor trends and "listen" to the conversations online about their books. Bloggers often act as filters for the information online, making it easier for agents and editors to identify the most interesting and unique new voices in the blogosphere. Bloggers who wish to be authors offer publishers ready-made platforms and opportunities to publish into established audiences (Nelson, 2006 cited in Williams, 2010).*

## **2.4 Perception of published books in electronic form**

### ***2.4.1 Students' use of electronic books***

Falc (2013) conducted a survey on College Students' Attitude towards Using an Online Etextbook in the United States of America which reveals that, although many of the students experienced some frustrations and technical difficulty, most of the students found e-books to be helpful for

assignments and studying. The study further indicates that students commonly select e-books as a way to reduce spending. Li *et al.*, (2011) also share a similar view with Falc (2013).

They report that students' search tasks are quite efficient using e-books which are very accessible online (Li *et al.*, 2011).

Young (2009) is of a different view concerning students' perception on reading from books in electronic form. His survey which covered undergraduate students at a public university shows that 40 percent of the students mention that they study less with e-books because it is difficult accessing it from the internet. The survey further reveals that only 17 percent of the students supported that e-books help them to study more. Li *et al.*, (2011) sharing a similar view with Young states that Libraries report from the University of California indicates that e-book have limited footnote tools and limited downloading and printing. However, there are numerous studies to show that students' appreciate reading books in digitized form. For example, Simon (2001) report from his survey that about half of students' used bookmarking and highlighting functions available on an e-reader which makes them appreciate e-books.

#### ***2.4.2 Students' attitude towards books in electronic form***

Reports from studies at tertiary institutions and electronic book publishers indicate that many undergraduate students are interested in using electronic textbooks. Simon's (2001) pilot study of college students' attitude towards e-books reveals that, all of them said they would recommend electronic books to their friends. Moreover, a survey conducted by the e-Publisher CourseSmart shows that students are looking for cost savings, convenience, flexibility to copy/paste text into notes and they think e-books is a panacea (Lyman, 2008; see also Pei, Yan and Siew, 2009).

In contrast to the above arguments, other studies reveal that students have neutral attitudes towards electronic books (See for example, McFall, 2005; Buzzetto-More et al., 2007). Buzzetto-More et al.'s (2007) report that —the vast majority of respondents lacked e-book experience and that the majority of students prefer traditional paper-based text (p. 244). This point out the negative bias some students have towards the electronic format of books. There are more studies to show that students have dissimilar attitude towards e-books. In a study of undergraduate students on their use of e-book in a psychology course Woody, Daniel, and Baker (2010) report that majority of the students prefer print books to e-books. Li *et al.*, (2011) survey also shows that majority of the undergraduate students stated that they preferred print books ( 58% of undergraduate students indicate preference for print books while 27% preferred e-books) .Young (2009) added that majority of students who accessed e-books using Sony e-book readers had some difficulty due to text layout differences between print and e-book copies. This made most of them switched to using e-books on laptops and with that 40 percent of them complained that they study less because —the e-textbook makes studying more difficult (p.18). Again, some students complained that they need training on how to use the e-books (ibid). Vernon's study on graduate students about the use of e-books in a social work course show that majority of students are not satisfied using e-books due to concerns such as eyes train and headaches. This statement is supported by Li *et al.*, (2011) when they mention that students had difficulty —learning, retaining, and concentrating while in front of a computer (p.5). In other words, reading from electronic reader devices has significant effects on health and therefore it may call for further research.

Positive attitudes towards the use of electronic books are found among people of high educational background. Li *et al.*, (2011) posit that the highest preference for using electronic books is postdoctoral researchers, graduate students, and faculty, especially when using the ebooks for

discovery and search tasks. These attitudinal studies indicate that, there are some undergraduate students who are willing and interested in adopting e-books for use in their coursework, it is uncommon to find tremendously positive attitudes towards e-books (Falc, 2013).

The discussion above have shown two schools of thought concerning students' perception about reading books in electronic format or printed materials. Studies like Falc (2013), Li *et al*, (2011), and Simon (2001) report that students' appreciate electronic books. However, studies like More *et al* (2007), Woody *et al* (2010) report that students' do not appreciate electronic books. It must be emphasised that there is dissimilar views concerning the subject.

It can be deciphered that findings from the above studies depend on the specific area or school in which the study was conducted. And the aim of this study was to examine how Ghanaian university students would appreciate reading from electronic books. The findings from this study would support the findings of any of the studies discussed above. On the view of researchers whose findings showed students' positive perception towards electronic books it is important for the publishing industry to take advantage of this and move from the traditional form of publishing to electronic publishing.

## **2.5 History of publishing in Ghana**

The origin of book development and publishing in Ghana can be traced from the time of the European missionaries when traders came to settle in Gold Coast in the 15<sup>th</sup> century. Therefore, it can be argued that the evolution of book publishing partly covers the history of Christianity and the introduction of formal schooling in what became known as the 'Castle schools' in Ghana (Darko-Ampem, 2013). Early publishing activity started in 1886 by the Basel and Methodist missionaries. The first book produced was the Christaller's *Grammar and Dictionary of Asante*

and Fante language in 1875. This was followed by Cardinal's *Bibliography on the Gold Coast* in 1932 and Reindorf's *History of the Gold Coast* in 1950 (Darko-Ampem, 2013). A majority of the missionary publications were religious literature and educational books while the government published official documents.

Until the 1960s, Ghana's publishing industry was owned by a Ghanaian. With the establishment of the Ghana Publishing Corporation (GPC) in 1964, Brown argued that *"the picture in Ghana before 1965 showed an entire absence of indigenous publishing houses, and a heavy dependence on the importation of books and educational materials"* [p.114]. To address the over-dependence on importation of educational materials, the government at that time introduced the Accelerated Development Plan of Education in 1951 and the Government Free Textbook Scheme in 1961 (Darko-Ampem, 2013). These policies paved the way for the publishing industry to produce educational materials at the expense of the missionary presses and the Government printer. GPC is marked to be one of the largest state publishing house in Africa. It published 119 titles in 1973 out of 298 manuscripts it received. Oddei (1997) added that the policies have eroded any book buying culture that was left with Ghanaians after independence.

Again, to gain international recognition in the printing house, GPC cooperate with strong printing houses like Oxford University Press, Evans Brothers, Longman, and Macmillan and obtained copyright to print certain textbooks for Ghanaian market. Some critics see the activities of GPC as an agent to collapse the local publishing industry (Darko-Ampem, 2013). However, Cabutey-Adoadja (1984:141) argued that GPC has created avenues for —indigenous publishers through training opportunities and contacts with foreign publishing companies!. Brown (1975) argued with

Cabutey-Adodoadja and admitted that most agreements GPC signed with foreign companies were tilted in favour of the GPC at the expense of the local press.

To ensure sustainability of GPC through well human resource management, the Ghana Book Development Council sponsored two in-service training courses for book personnel in 1978. In addition to that, conferences and seminars were held in Accra in the 1960s and 70s to build the human resource capacity of the publishing industry. In the 1980s, the publishing industry was paramount in the country and this lead to the introduction of degree courses at the universities. Furthermore, in October 1984, the Books Collective (BDC) requested the University of Science and Technology to mount a B.A. degree course in Book Industry (Darko-Ampem, 2013). The programme is funded by the UNESCO. To facilitate the operations of the publishing industry in the country, the Ghana Book Publishers Association (GBPA) were supported in 1997 from the Canadian Organization for Development through Education (CODE) which raised its members to fifty six. Members of GBPA participated in programmes like the World Bank funded programme of the Non-Formal Education Division of the Ministry of Education for the publication of post-literacy materials in fifteen local languages (Darko-Ampem, 2013).

Later on, the GBPA had confrontations with the Curriculum Research and Development Division (CRDD) of the Ministry of Education. The CRDD was engaged in writing school textbooks which the GBPA saw to be their work. The GBPA believes that the division should concern itself only with writing syllabuses, and leave the writing and production of books in the hands of publishing professionals because it had implications on stifling local publishing industry (Darko-Ampem, 2013). To resolve the issue, a new policy dubbed —the book policyl was introduced in December 2001. The resolution lead to the establishment of some local publishing firms such as Afram,

Sedco, Halco's Educational Press, Adwinsa, and Illen which have all been in business for more than fifteen years (Darko-Ampem, 2013). The operations of these local firms are constrained with some issues like finance. High interest rates on loans denied publishers from accessing credit facilities from the financial institutions in Ghana. This affected the production, marketing and training of staff in the industry. Despite this seemingly long list of obstacles the local publisher survives, because local publishing capacity in terms of trained personnel and raw materials are being addressed as publishing houses are acquiring desktop publishing facilities for in-house typesetting (Darko-Ampem, 2013: 95).

## **2.6 Future of electronic book publishing**

A lot has been discussed on how the publishing industry was introduced in Ghana. It must be noted that since independence, the publishing industry has not fully adopted electronic publishing. The industry dealt with printed books for internal consumption. However, in the twenty first century things have changed. Publishing houses have started appreciating and venturing into electronic publishing.

Lyman (2008) posits that Publishers of today have now developed interest in electronic books. They are currently providing more electronic textbooks as digital copies of the print versions. A good example of such industry is the CourseSmart Company in the United States of America. The company provides e-textbook format on a common platform with a common location for reviewing and purchasing e-textbooks (Lyman, 2008). CourseSmart Company produces about 12,000 electronic books in 2011 and it offered over 90 percent of e-books in 2012 (CourseSmart, 2013).

Wortham (2009) also posits that the publishing industry have realised the need to take advantage of digital technology such as this to improve their markets and profit. In New York for instance, Tozzi (2007) reports that books like —*I Can Has Cheezburger?*”, “*This is Why you’re Fat*”, “*Love Mom*”, and “*Cake Wrecks*” among others on blogs have been turned into books by publishers. He further observed that, —*I Can Has Cheezburger?*” for example received about 500,000 page views a day in 2007, and was picked up by Gotham Books for publication with a sale volume of more than 100,000 (Wortham 2009).

Hunt (2012) reports that over 80 percent of Chinese publishing houses are into e-book versions. One of such houses, founded in 2003 has become the largest website company. According to statistics from the official website, Zhang (2010) reports that there are about 5,000,000 registered users, 3,000,000 registered writers and over 5,000 writers who have registered with the company. Also, more than 30 recognised publishing houses in China have joined the company for business transaction. These publishing houses include Author Publishing House, Chang Jiang Press, Spring Literature Publishing House etc. Currently, daily visit to the site is more than 40,000,000, ranking top 1000 globally and top 100 among Chinese websites (Zhang, 2010).

However, in developing countries, printed books form the economic basis of the entire publishing industry, and without this market publishers would find it difficult to survive. Undeniably, books published for schools and other educational institutions constitute the majority of the books published (El-Naggar, 2000). In a similar view of Hunt (2012), electronic books are less produced in Africa. For example, South Africa and other countries like Ghana and Nigeria are lagging way behind in embracing electronic publishing. Mobile phone access to ebooks in Africa is largely an urban phenomenon. About 80 percent of internet connections in Africa rest in the urban areas

(Hunt, 2012). However, in 2011, there was more than one-fifth (21.9%) total increase in revenue that translated to 636.8 percent gain in e-books and 17.1% in print (Hunt, 2012). The pilot study aimed at giving Ghana public school students access to books through e-reader technology, using Kindles supplied by Amazon. Ten Ghanaian publishers participated in the pilot project by having a range of their books digitized and made available on the Kindle. They were mostly books for children and young people (Zel, 2013).

Aside the publishing industry in developing countries which are still holding on to printed book, developed countries like France experience low sales of e-books. To buttress this statement, Gaymard (2009) cited in Simon and de Prato (2012) posits that internet sales of books formed less than 10 percent of total sales. The remaining proportion of books is sold through superstores.

In the United Kingdom, sales of electronic books formed just 1.5 percent of the total market (Poort Akker, van Eijk, van der Sloot, Rutten, 2012). The digital publishing industry value chain is made up of the authors, online editors, digitized publishing firms, digital distribution (internet, digital reading devices, wireless) and readers. ). A significant interference that occurs in the value chain with digitization is the possibility to eliminate intermediaries. The publisher sells directly to the reader without a wholesaler or retailer in the distribution channel which results to cost savings on the part of the publishing house. This is so because trade discounts (both wholesales and retails) (Rojers, 2010) account for as high as 55 percent of the selling price

## **2.7 Challenges electronic publishing is facing**

A lot has been discussed on how the publishing industry was introduced in Ghana. It must be noted that since independence, the publishing industry has not fully adopted electronic publishing. The industry dealt with printed books for internal consumption. However, in the twenty first century

things have changed. Publishing houses have started appreciating and introducing electronic publishing.

The decision of the book publishing industry to move from the traditional form of publishing to electronic printing is confronted with some challenges. Prominent among them include pricing, copyright protection, piracy and the lack of technical and legal solutions to address these issues (Hunt, 2012). Zhang (2010:20) states that piracy, unstable content and profits distributing conflicts are the drawbacks of most publishing houses in adopting electronic publishing

Taking the discussion further, Zhang (2010) mentions two problems that exist in e-publishing industry. These are the Digital Right Management (DRM) and the poor quality of electronic books. The DRM is a software which is beneficial to electronic publishers. This is due to the fact that it protects and monitors authors' intellectual property rights. It is also used to supervise online information exchange. The problem Zhang (2010) has is that, there is lack of integrated regulation of DRM, directly leading to frequent conflicts happening in digital world. He stresses more importantly on the fact that the protection of online copyright is more concerned with moral question and social common judgment rather than only focusing on technological standards. He cited an example where in USA in 2010, Amazon announced that some publishers and e-book authors downloaded e-book resources without the regulation of DRM (Lardinois, 2010). Thus, D'Andrade (2009) made the statement:

*“Imagine if, in addition to having control over what inventory they carry, [the big box stores] also carried your books in such a way that they could only be shelved on WalMart shelves, they could only be read in WalMart lamps, running WalMart light bulbs.*

*Imagine the lock-in to your customers and the lack of control over your destiny that you*

*have signed up with if this is the path you pursue. Well this is in fact what you get when you sell DRM'd eBooks or DRM'd music — in order to play back that DRM format, you have to license the DRM. The company that controls licensing for the DRM controls your business to the extent that your business is reliant on this” (Cited in Riley, 2010: 39).*

In sum to the above statement, Doctorow argues that the industry benefits of DRM are limited because by locking a consumer into a proprietary platform, that business is actually locking itself into a DRM platform as well (cited in Riley, 2010:39). And this sometimes results in avoiding people from using the DRM systems to download e-books illegally (Riley, 2010). However, since digitized books are not old in the system, majority of people do not take delight in downloading e-books illegally. Dykstra (2002) posit that: Technology is going to surpass, and outwit management strategies. But most people are not interested in looking for a way to cheat— they are looking for ways to comply with reasonable business practices and pricing models.

McGann cited in Zhang (2010) comments that due to the uncertainty in the distribution of profit some publishing houses still have it in mind to focus on printed-books. Zhang (2010) appears to observe that the poor content quality and editing level associated with electronic book production cannot be the same as printed book due to the special producing process.

## CHAPTER THREE

### METHODOLOGY

#### 3.1 Introduction

This chapter presents the logical processes, techniques and tools the study adopted to achieve its objectives. The chapter thus includes the study approach and design, sampling, research instrumentation, data collection and analysis.

#### 3.2 Research design

The study used the Cross-sectional Survey design. It aided in gathering data from sampled students of tertiary institutions in the Kumasi Metropolis to seek the perception they have towards reading books in electronic form. The survey design helped the researcher to collect data from a larger population using a sample to make room for inferences about the characteristics of the population. It is also economical and ensures easy and quick collection and analyses of data.

##### 3.2.1 Research approach

The three common approaches to conducting a research are quantitative, qualitative, and mixed methods (Williams, 2007). The adoption of one or more of these approaches in research depends on the data needed to respond to the research question. Researchers select the quantitative approach to respond to research questions requiring numerical data, the qualitative approach for research questions requiring textual data, and the mixed methods approach for research questions requiring both numerical and textual data (Williams, 2007). The statement of research objectives posed in Chapter One requires the use of the mixed method approach (both qualitative and quantitative approach). The mixed method is mostly used in a study since according to Johnson and

Onwuegbuzie (2004), —mixed methods approach to research provides researchers with an alternative to believing that the quantitative and qualitative research approaches are incompatible and, in turn, their associated methods —cannot and should not be mixed [p.14]. In a similar view, Babbie (1995) explained that —each research method has particular strengths and weaknesses and if only one method is used, —there is always a danger that research findings will reflect, at least in part, the method of inquiry (p. 106).

From the explanations given by the researchers, it is obvious that the use of mixed method approach closes the deficiency gap of one another and, therefore, the margin of error becomes minimal. This statement is buttressed by Johnson & Onwuegbuzie (2004), who maintain that the goal of researchers using the mixed methods approach to research is to draw from the strengths and minimize the weaknesses of the quantitative and qualitative research approaches. Thus, the use of mixed method approach in any study invariably leads to data reliability and validity.

### **3.3 Population of the study**

Population refers to the complete set of cases or group members. It is a complete set of individuals (subjects), or events with uniform observable features in which the researcher is paying so much attention to in studying and is not possible to study the entire population, considering the cost, time, energy, volume of data to be gathered, etc (Nyanjui, 2012).

The population of the study is tertiary students from the Kwame Nkrumah University of Science and Technology.

### 3.4 Sample and Sampling Techniques

Multiple sampling techniques were used to select the sample for the study. Multistage sampling was used to select students from the Kwame Nkrumah University of Science and Technology. Students were selected from the six (6) colleges in the university. The colleges include the College of Agriculture and Natural Resources, College of Art and Built Environment, College of Arts and Humanities, College of Engineering, College of Health Sciences and College of Sciences. Students from each of the colleges were purposively selected using the proportional stratified random sampling and multistage random sampling techniques. The stratified random sampling techniques was used due to the fact that sampling from identifiable groups (strata), has the ability to ensure that specific groups are represented, even proportionally, in the sample(s) (Black, 1999). Again, the reason for the choice of multistage sampling is that it offers a strategy for grouping population members for sampling to be easy.

In all, 235 students were selected from all the colleges in the university. Students from each of the colleges were determined using the proportional sampling as indicated in Table 3.1. The proportion was done based on the number of departments in each of the colleges.

**Table 3.1: Proportion of students sampled from colleges**

College	Number of students	Number of students
College of Agriculture and Natural Resources	15%	35
College of Art and Built Environment	12%	28
College of Engineering	12%	28
College of Arts and Humanities	21%	49
College of Health Sciences	30%	71
College of Sciences	10%	24
Total	100%	235

Source: Authors Construct, 2014

### **3.5 Source of data for the study**

The study used two main sources of data. These were primary and secondary sources. With secondary data journals, publication and books were consulted to get enough data for the study. The primary source of data was obtained from respondents in the field (survey data). Despite the high cost involved in collecting primary data, reliability, accuracy and relevance are achieved (Kotler & Keller, 2006).

### **3.6 Data Collection Methods**

Primary data is gathered to respond to specific research problem through the use of questionnaires, interviews and observations (Neumann, 2006). The study used questionnaires to collect relevant data (See Appendix I). (The researcher designed questionnaires to collect data from respondents). The questionnaires contained close ended and open-ended questions. The close-ended questions were designed to collect numerical or quantitative data while the openended questions were used to collect qualitative data. The questionnaires also contain likert scale which helped to collect students' views on electronic books. The Likert scale was used to collect a range of responses to a range of questions. The researcher distributed the questionnaires to students in the lecture hall and guided them to answer the questions. The questionnaires were collected the same day by the researcher. This approach helped the researcher to collect data easily without facing major difficulties.

In all 235 questionnaires were administrated without replacement and 120 was received representing a response rate of 51.1percent. During data collection, ethical issue was considered and that helped the researcher to collect data without encountering difficulties. The consent of every participant was sought before interviews were conducted. The researcher showed her

introductory letter and Identification Card to the participants to make them understand that the data would be used purely for academic purpose.

### **3.7 Method of Data Presentation and Analysis**

The data collected from the field was collated and coded. Questionnaires were thoroughly examined to check whether all the questions had been answered to ensure accuracy, consistency, uniformity, appropriateness, completeness of the responses and also to enhance comprehensive analyses. The Statistical Package for Social Sciences (SPSS) software was used to code the questions in the questionnaires. Data entries were made into graphs, charts and frequency tables by the use of the Microsoft Excel and Statistical Package for Social Sciences (SPSS) software.



## **CHAPTER FOUR**

## RESULTS AND DISCUSSIONS

### 4.1 Overview

In this chapter, the collected data from the field have been analysed and discussed. Tables and Figures have been provided to organise the data. This chapter covers areas such as the perception of university students on digitized books and the challenges in using digitized books.

### 4.2 Demographic Characteristics of Respondents

#### 4.2.1 Sex of Respondents

Table 4.1 shows the demographic characteristic of the students in the Kwame Nkrumah University of Science and Technology (KNUST). It was found that, more than half that is 66 of the respondent representing 55 percent were males. The remaining 45 respondents (45 percent) were female students. It can therefore be said that, there were more males than females in the various colleges

**Table 4.1: Demographic Characteristics of Respondents**

Characteristics	Frequency	Percent
<b>Sex</b> Male	66	55.0
Female	45	45.0
Total	120	100.0
<b>Age</b> 18-23	15	15.0
24-29	86	71.7
30-35	16	13.3
Total	120	100.0

Level		
200	59	49.2
300	39	32.5
400	22	18.3
Total	120	100

Source: Field survey, 2016

#### 4.2.2 Age of Respondents

The age distribution for the respondents was categorized into 18-23, 24-29, 30-35 and 35 above. As indicated in Table 4.1, The 24-29 age group was the largest group representing 86 (71.7 percent) of the total number of respondents followed by the 30-35 age group 16 (13.3 percent) and lastly the 18-23 age group representing 15 (15 percent). None of the respondents was 35 years and above.

#### 4.2.3 Level at School

As shown in Table 4.1, a total of 59 respondents (49.2 percent) were at level 200. This means that the students were in the second year of their education in the University. The remaining 61 respondents (50.8 percent) were at level 300 and level 400 representing 39 (32.5 percent) and 22 (18.3 percent) respectively. It can therefore be deduced from this result that, the students at the completion stage of their education was small.

## 4.3 TYPES OF ELECTRONIC DEVICE USE TO ACCESS THE INTERNET

### 4.3.1 Students Usage of Smart Phones with internet connectivity

From Table 4.2, 117 respondents representing (97.5 percent) used smart phones in the University. Only 2.5percent representing 3 respondents did not use mobile phones at the time of the study.

**Table 4.2: Students' Usage of Smart Phones**

		internet on phone		Total
		yes	no	
use of smart phone	Yes	99 (84.6%)	18 (15.4%)	117 (97.5%)
Total		99	18	117

Source: Field survey, 2016

Out of the 117 respondents (97.5 percent) who used mobile phones, 99 respondents (84.5 percent) had internet on their phones. The remaining 18 respondents (15.4 percent) did not have internet connectivity on their smart phones.

### 4.3.2 Students Usage of other electronic devices

Since the use of the smart phone is not the only medium through which the internet can be accessed, students were asked if they use other electronic devices to access the internet. As indicated in Table 4.3, out of the 117 students who used smart phones, 41 of the students representing 35 percent used laptop computers and 17 students representing 14.5 percent used Ipad.

**Table 4.3: What Students use apart from Smart Phones**

Other electronic devices	Frequency	Percent
Laptop computer	41	35.0

Ipad	17	14.5
None	59	50.4
Total	117	100.0

Source: Field Survey, 2016

The remaining 59 students representing 50 percent neither use laptop computers nor Ipad apart from the smart phones to access nor read electronic books.

#### 4.4 ACTIVITIES STUDENTS ENGAGE IN WHEN THEY VISIT THE INTERNET

##### 4.4.1 Number of times Students visited the Internet with their smart phones in a Week

When respondents were asked to indicate how often they visited the internet with their smart phones, table 4.4 below revealed that, more than half of the respondents visited the internet daily. That is 64 respondents representing 54.7percent

Table 4.4: Number of Times Students Visited the Internet with their Smart Phones

Number of Times	Frequency	Percent
Daily	64	54.7
1-3 times a week	19	24.8
3-5	22	18.8
Once	12	10.3
Total	117	100.0

Source: Field Survey, 2016

Furthermore, 19 respondents representing 24.8 percent indicated that they visited the internet 1-3 times in a week whereas 22 respondents representing 18.8 percent visited the internet 3-5 times

in a week. The percentage of respondents who visited the internet once in a week was 10.3 (12 respondents).

4.4.2 *What Students look up for when they visit the internet with their Smart Phones?* When respondents were asked to indicate what they engage in when they visit the internet with their smart phones, more than half of the respondents 58 representing 49.6 percent indicated that, they read and download books and articles from the internet. Social media activities such as facebook and whatsapp represent 20.5 percent that is 24 respondents and 35 respondents (29.9 percent). This is evident from Table 4.5.

Table 4.5: Response to Activities Respondent Engage in on the Internet

Use of Mobile Phones	Frequency	Percent
Browsing on the Internet	35	29.9
Social media activities	24	20.5
Read and download books and articles	58	49.6
Total	117	100.0

Source: Field survey, 2016

As indicated in Table 4.6, the Spearman Rank Order Correlation analysis was performed to assess the strength and relationship between the number of times students visited the internet to download and read books and their demographic characteristics.

Visit to the internet	marital status	age	sex	level	Other Tech Device
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Visit to the internet	Correlation	1.000	-.034	.219*	.056	-.007	.338**
	Coefficient						
	Sig. (2-tailed)	.	.738	.027	.573	.946	.001
	N	102	102	102	102	102	102
marital status	Correlation	-.034	1.000	.045	-.153	-.125	-.113
	Coefficient						
	Sig. (2-tailed)	.738	.	.623	.095	.174	.225
	N	102	120	120	120	120	117
age	Correlation	.219*	.045	1.000	.004	.006	-.098
	Coefficient						
	Sig. (2-tailed)	.027	.623	.	.968	.948	.292
	N	102	120	120	120	120	117
sex	Correlation	.056	-.153	.004	1.000	.307**	-.042
	Coefficient						
	Sig. (2-tailed)	.573	.095	.968	.	.001	.656
	N	102	120	120	120	120	117
level	Correlation	-.007	-.125	.006	.307**	1.000	.057
	Coefficient						
	Sig. (2-tailed)	.946	.174	.948	.001	.	.543
	N	102	120	120	120	120	117

**Table 4.6: Relationship between Visits to the Internet and Demographic Characteristics of Students**

Other Tech Device	Correlation	.338**	-.113	-.098	-.042	.057	1.000
	Coefficient						
	Sig. (2-tailed)	.001	.225	.292	.656	.543	.
	N	102	117	117	117	117	117

Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The number of visits to the internet was used as the dependent variable and the demographic characteristics such as age, sex, level, marital status and use of other electronic devices were used as the independent variables. As indicated in Table 4.6, the correlation results indicated that there was a positive correlation between the number of visits to the internet by students and their age as well as their use of electronic devices such as laptop computers and iPads. This implies that the null hypothesis that there was no relationship between the three variables is rejected. Other variables such as marital status, sex, and their level in the University were not statistically correlated with the number of visits to the internet. This means that there was not enough evidence that there are statistical relationships between the variables.

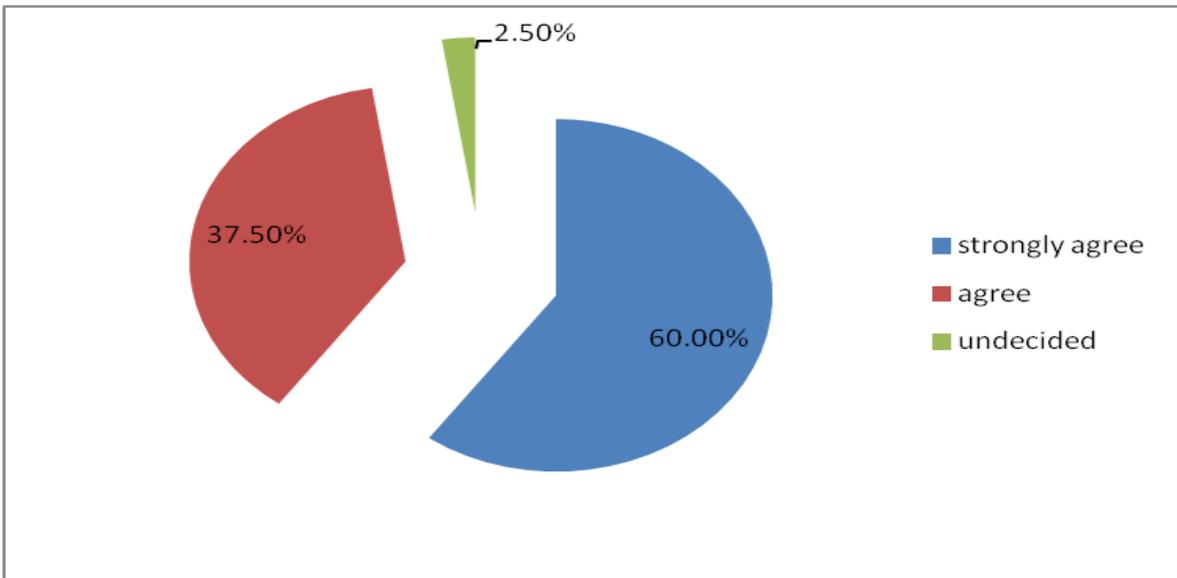
The positive correlations score of 0.219 indicate that the higher the ages of students the more they visited the internet to download and read books. Also, the more students used electronic devices such as laptop computers and iPads, the more they visited the internet. It can therefore be argued that electronic devices such as laptop computers and iPads and age influenced the students to visit the internet a number of times to download and read books and articles. From table 4.1 it was revealed that, the students were at the youthful age to embrace the use of the internet to downloading and reading books. Due to the internet connectivity in the University by the Departments, students with laptop computers and Ipad had been encouraged to visit the internet to read books. It can be analysed that students had developed the interest in adopting books in electronic format for reading.

The Cohen (1988:284) guidelines for interpreting this value for (.01=small effect; .06=moderate effect; .14=large effect) was used to assess the strength of the association. The correlation coefficient of .219 means that the relationship between the number of visits to the internet by the students and their age was very large. This implies that there was a very strong relationship between the number of visits made by students to the internet and their ages. Again, the correlation coefficient of .338 as indicated in Table 4.6 means that that the relationship between the number of visits to the internet by the students and their use of electronic devices such as phones, laptop computers and iPads were very strong.

#### **4.5 PERCEPTIONS OF STUDENTS ON HAVING BOOKS IN ELECTRONIC FORMAT**

##### *4.5.1 Books in Electronic Format could help in doing assignments easily*

When students were asked if books in electronic format could help in doing assignments easily in the University, 60 percent of the students strongly agreed to the statement while 37.5 percent agreed. However, only 2.5 percent of the students were undecided as to whether books in electronic format could help in do assignments easily. This is revealed by Figure 4.2 below. It can therefore be argued from the results that books in electronic format could help students to do their assignments easily.



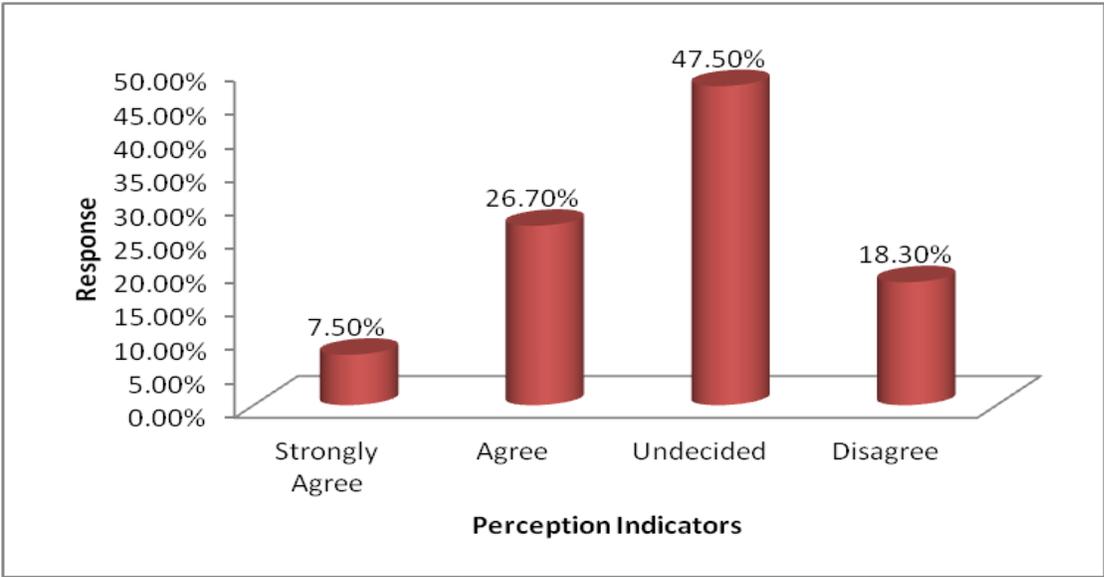
**Figure 4.2: Students Perception on Books in Electronic Format and doing of Assignments in School**

Source: Field Survey, 2016

#### *4.5.2 Books in Electronic Format may reduce spending on reading and learning materials*

As indicated in Figure 4.3, 9 (7.5 percent) of the respondents strongly agreed that books in electronic format may reduce spending on reading and learning materials. 32 (26.7 percent) and 22 (18.30 percent) agreed and disagreed respectively to the statement.

On the other hand, 57 (47.5 percent) of the respondents were indecisive. This means that, majority of the respondents could not tell whether books in electronic format may reduce spending on reading and learning materials.

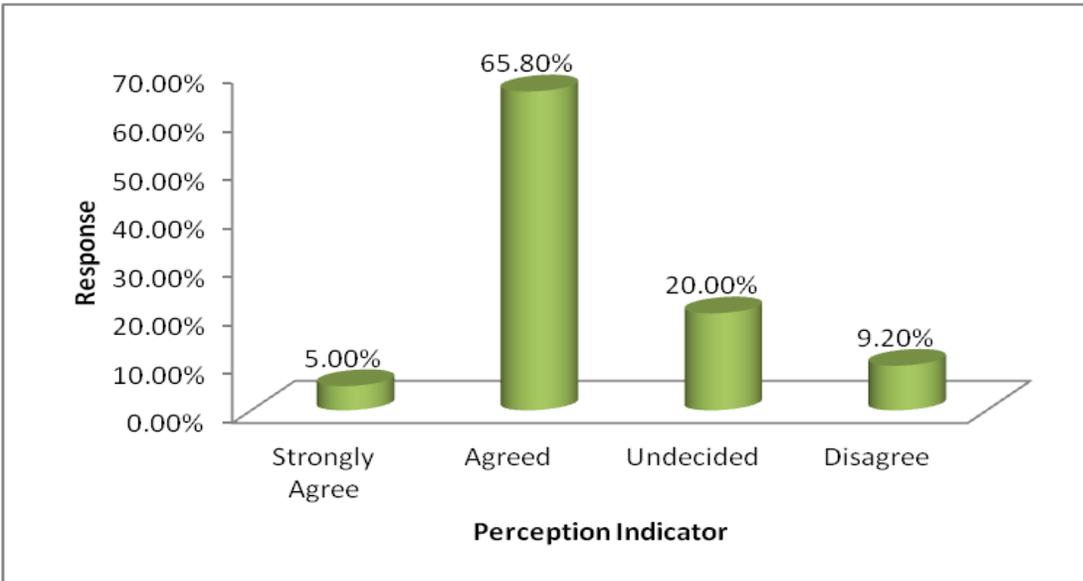


**Figure 4.3: Students Perception on Books in Electronic Format and Spending on Reading and Learning Materials**

Source: Field Survey, 2016

*4.5.3 Books in Electronic Format make Access to information easily*

The perceptions of the students were sought on how books in electronic format may improve their access to information. The Figure 4.4 below shows that, only 6 (5 percent) of the respondents strongly agreed and 79 (65.8 percent) agreed to the statement that access to information when using electronic books is easy. It was also found that 24 (20 percent) of the respondents were indecisive while 11 (9.2 percent) of the respondents disagreed to the statement. From the figure, it be said that, majority of the students agree that, books in electronic format may improve their access to information.

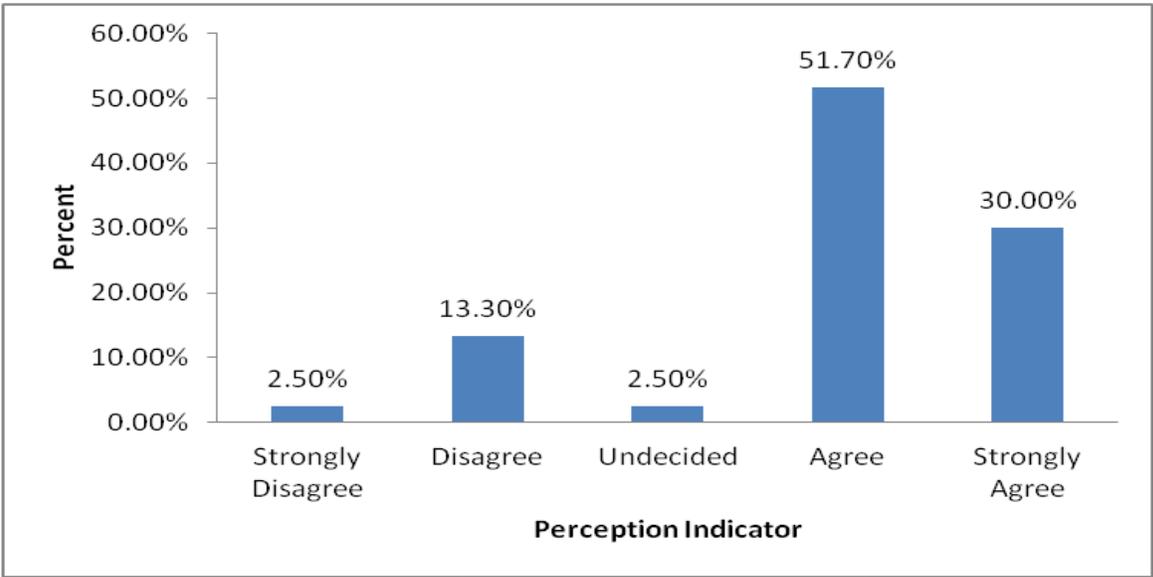


**Figure 4.4: Students Perception on easy Accessibility to information by the use of Electronic book**

Source: Field Survey, 2016

#### *4.5.4 Books in Electronic Format may Encourage Reading and Learning*

There is every indication from Figure 4.5 below that a larger percentage of the respondents agree that books in electronic format may encourage reading and learning. This explains why more than half 62 (51.70percent) agreed and 36 (30.0 percent) strongly agreed to the question as against 3 (2.5 percent) strongly disagreed and 16 (13.30 percent) disagreed. The indecisive respondents were 3 (2.5 percent).



**Figure 4.5: Students Perception on Books in Electronic Format and Encouragement in Reading and Learning**

Source: Field Survey, 2016

**4.5.5 Factors that Influenced Perceptions of Students on Electronic Books: Correlation Analysis**

The Spearman Rank Order Correlation analysis was performed to assess the strength and relationship between the perceptions of the students on the use of electronic books from the internet. The dependent variable was perception and the independent variables were the use of electronic devices, marital status, access to internet on technological devices and the number of visits to the internet per week. The result indicated that with a significant value of 0.001, it means that the number of times students visited the internet and the use of electronic devices such as mobile phones, desktop/laptop computers influenced the perceptions of students on the use of electronic books.

Table 4.7: Correlation Analysis on Factors that Influenced Perceptions of Students on the Use of Electronic Books

		Use of Tech. Devices	Marital Status	Access to internet	Visit to internet	Use of Tech. Devices use again
Perceptions	Correlation Coefficient	1.000	-.113	-.058	.338**	.329**
	Sig. (2-tailed)	.	.225	.537	.001	.001
	N	117	117	114	102	105
Marital Status	Correlation Coefficient	-.113	1.000	.112	-.034	.048
	Sig. (2-tailed)	.225	.	.228	.738	.624
	N	117	120	117	102	105
Access to internet	Correlation Coefficient	-.058	.112	1.000	.	.140
	Sig. (2-tailed)	.537	.228	.	.	.161
	N	117	117	117	99	102
Visit to internet	Correlation Coefficient	.338**	-.034	.	1.000	.220*
	Sig. (2-tailed)	.001	.738	.	.	.026
	N	117	102	99	102	102
Perceptions on Electronic Books	Correlation Coefficient	.329**	.048	.140	.220*	1.000
	Sig. (2-tailed)	.001	.624	.161	.026	.
	N	117	105	102	102	105

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The positive correlation means that the more students visited the internet and the use of technological devices, the more they became influenced to adopt electronic books instead of

printed books. Using the Cohen's (1988:284) guidelines for interpreting the correlation coefficient (.01=small effect; .06=moderate effect; .14=large effect), the correlation coefficient value of 0.329 showed that the use of technological devices such as mobile phones, laptop computers or iPads greatly influenced the perception of students on the adoption of electronic books. Likewise, the correlation coefficient of 0.220 indicated that the more students visited the internet, the more they were influenced to adopt electronic books.

#### **4.6 CHALLENGES ASSOCIATED WITH READING AND ADOPTATION OF ELECTRONIC BOOKS**

##### *4.6.1 Challenges associated with Instability of the Internet for downloading Electronic Books*

When students were asked to indicate whether instability of the internet is a challenge for the reading and adoption of electronic books, 27 of the students (22.5 percent) strongly agreed while 4 students (3.3 percent) disagreed. On the other hand, 73 of the students (60.8 percent) agreed. 16 of the students (13.3 percent) could not tell if instability of the internet is a challenge for the adoption and reading of electronic books. As indicated in Table 4.8

Table 4.8: Response on Challenges associated with Instability of the Internet

Scale	Frequency	Percent
Disagree	4	3.3
Undecided	16	13.3

Agree	73	60.8
Strongly Agree	27	22.5
Total	120	100.0

Source: Field Survey, 2016

#### 4.6.2 Challenges associated with Power Fluctuations

When the views of the students were sought concerning the challenges associated with reading and adoption of electronic books in relation with power fluctuations, none of the students disagreed that power fluctuations is not a challenge for the adaptation and reading of electronic books.

However, 44 of the students (36.7 percent) were indecisive and respondents who strongly agreed and agreed were 18 (15.0 percent) and 58 (48.3) respectively. This is evident from Table 4.9 Table 4.9: Response on challenges on Power Fluctuations and Reading and Adoption of Electronic Books

Scale	Frequency	Percent
Strongly Agree	18	15.0
Agree	58	48.3
Undecided	44	36.7
Total	120	100.0

Source: Field Survey, 2016

#### 4.6.3. Continuous reading of electronic books and the effect on the eye.

The views of students were sought concerning the effect on the eye from continuous reading of electronic books from their electronic devices. As shown in Table 4.10, more than half of the respondents 65 (54.2 percent) strongly agreed that, continuous reading from their electronic devices could have a negative effect on the eye. The respondents who agreed were 45 (37.5 percent)

Table 4.10: Response on Reading from Electronic Books and the effect on the Eye

Scale	Frequency	Percent
Disagree	10	8.3
Agree	45	37.5
Strongly Agree	65	54.2
Total	120	100.0

Source: Field Survey, 2016

The respondents who agreed were 45 (37.5 percent) and those who disagreed were 10 (8.3 percent). However, it was found that, 10 (8.3) percent of the students disagreed that the negative effect on the eye from continuous reading from their electronic devices would prevent or discourage them from reading electronic books.

#### 4.7 Please do you have anything to say? Indicate it in writing

1. When electronic books are downloaded from the internet, I need to print it out before reading since I find it difficult to read from my laptop top.
2. There are some books on the internet that can only be accessed after payment is made and most of the time they are expensive.
3. To minimize the rays from my laptop screen, I use screen protector

4. Books in electronic format become difficult to read offline when there is no electricity and my electronic device is off. I then have to print my electronic book before I read which comes at as an addition cost.
5. I like electronic books because of its portability. I carry and read more than one book at a time. Printed books on the other hand are too bulky.



## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

In this chapter, a summary of the results and discussions from chapter four have been given. Also, conclusions on the entire work have been given. Again, recommendations have been given to address problems associated with reading from electronic books from the internet.

#### **5.2 Summary of the whole work**

The summary of results and discussions has been given below.

The results indicated that students from the various colleges in the Kwame Nkrumah University of Science and Technology have shown much interest in the use of electronic books compared to printed books. This was due to the fact that have demonstrated the importance attached to the use of electronic devices such as smart phones, desktop and laptops computers for accessing electronic books from the internet.

The results of the analysis also shows that, more than half of the students use their electronic devices to visit the internet daily for reading and downloading books and articles. However, the mostly use electronic device by the students was the smart phone. Some of the students' also used their electronic devices for social media activities such as *whatsapp* and *facebook*. It was also found that students perceived that electronic books may encourage them to read and learn in school and this may be due to the portability of electronic books. Again, electronic books have assisted students to complete assignments on time in the University. It has also reduced spending on teaching and learning materials and improved access to information. The perceptions of students on electronic books were influenced by the number of visits to the internet by the students and the use of electronic devices.

Aside the benefits students derived from the use of electronic books, they faced some challenges in the reading and adaptation of electronic books. It was found that students faced problems with instability of the internet. They complained that the instability in the internet services restrain them from downloading electronic books. It was also found that power fluctuations affected the

adaptation electronic books. They complained that the infrequent power fluctuations affected students' adoption of electronic books. Another challenge was the negative effects on the eye from continuous reading from the screen of their electronic devices.

### **5.3 Conclusions**

From the forgoing analysis and discussion, it can be said that, students from the Kwame Nkrumah University of Science and Technology perceive that electronic books play an important role in teaching and learning since by the use of electronic books they have been able to complete their assignments on time and also reduce their spending on their reading and learning materials. It has also encouraged them to read and learn because of the portability of carrying electronic books. Access to the information has been made easy by the use of electronic books.

The perceptions of students on electronic books were influenced by the number of visits to the internet by the students and the use of electronic devices. However, students faced challenges such as power fluctuations, instability of the internet and effect of rays on the eyes by continuous use of the electronic devices.

### **5.4 Recommendations**

The following recommendations are made to address problems in the usage of books in electronic format.

#### *1. Ensuring Stability of the internet*

The Information Communication Technology (ICT) Department of the University should monitor the service providers to give their best in sustaining the internet services for students. This would enhance the use of electronic books from the internet.

## *2. Ensuring Stability in Power Fluctuations*

It is also recommended that various heads of departments in the University should mobilise funds to purchase generators or plants and solar panels to support power from the Electricity Company of Ghana (ECG). The academic board in the University can liaise with the Students Representative Council (SRC) and charge every student an amount of money to purchase the alternative source of power. This would help to improve the use of electronic books by the students. Though this has already been initiated, it is important that the University has a committee to monitor the situation. This would help to improve the use of electronic books by the students.

## *3. Provisions of Computer Laboratory in each of the Departments*

It is recommended that the University should make provisions for computer laboratory for students in each of the department. This is because it was found out that students with access to electronic devices such as mobile phones and laptop computers easily adapt to reading from electronic books. This strategy would help the students who do not have computers to make use of the internet and read books in electronic format.

## *4. Encouragement by Lecturers on the use of Electronic Books*

It is recommended that the academic board of the University should have meetings with the lecturers on the use of electronic books. The lecturers should intend encourage the

students to develop the habit of reading from electronic books from the internet. This can be done by giving them assignments and recommending books on the internet for them.

This would encourage and influence the students to read more from the internet.

KNUST

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## **APPENDIX I: SURVEY QUESTIONNAIRES**

I am conducting this research on the preparedness of Book Publishing Industries for digitized technology. Your involvement in the study is to tell me your view on reading from digitized books rather than printed books. This survey instrument is designed to seek empirical data for the conduct of the above stated purely academic exercise. Your support and co-operation is very much anticipated and your responses will be treated with maximum confidentiality.

Please do you accept to participate in answering the questions to be asked?

Yes

No  **BACKGROUND**

**DATA:**

1. Sex

1.  Male

2.  Female

2. What is your Age -group

1.  18-23 years

2.  24 – 29 years

3.  30 – 35 years

4.  35 and above

3. What is your Level of study

Level
Level 100 <input type="checkbox"/>
Level 200 <input type="checkbox"/>
Level 300 <input type="checkbox"/>
Level 400 <input type="checkbox"/>

**TYPES OF ELECTRONIC DEVICES USE TO ACCESS THE INTERNET.**

4. Do you a smart phone?

1.  Yes

2.  No

5. Does your smart phone have internet connectivity?

1.  Yes

2.  No

6. Aside the smart phones, which of the following do you have in addition?

1.  Laptop computer

2.  Ipad

3.  Others (Please specify).....

4.  None

**ACTIVITIES STUDENTS ENGAGE IN WHEN THEY VISIT THE INTERNET**

7. How *often* do you visit the internet with your smart phone in a week?

1.  Daily
2.  1-3 times a week
3.  3-5
4.  Once
5.  Others (Please specify).....

8. If you use your phone to visit the internet, what do you normally look up for?

1.  Browsing on the internet
2.  Social media activities ( *whatsapp and facebook*)
3.  Reading and Downloading books and articles
4.  Others (Please specify).....

**PERCEPTIONS OF STUDENTS ON HAVING BOOKS IN ELECTRONIC FORMAT**

Please indicate by ticking (√) your view on the following about electronic books (reading from ebooks)

No.	Perception having Books in electronic format	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
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9	Books in electronic format could help in doing assignments easily					
10	Books in electronic format may reduce spending on reading and learning materials					
11	Books in electronic format makes access to information easy					
15	Books in electronic format may encourage reading and learning					

### CHALLENGES IN THE ADOPTION AND READING OF ELECTRONIC BOOKS

Please indicate by ticking (√) your view on the following about challenges in the use of electronic books (reading from e-books)

	Challenges of adoption and reading of electronic books	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
16	Instability of the Internet for downloading electronic books					
17	Power fluctuations could make Books in electronic format not interesting to use					
18	Books in electronic format could have negative effects on the eye when reading from the laptop or the smart phone					

19 Please do you have anything to say? Indicate it in writing.

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**THANK YOU FOR YOUR TIME**

