

**INFORMATION AND COMMUNICATION TECHNOLOGIES AND
COPYRIGHT PROTECTION AT KENYATTA UNIVERSITY**

**BY
CHRISTINE KEMUNTO ANGWENYI
D61/70085/2008**



**SUPERVISED BY
KATE LITONDO**


**A MANAGEMENT RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF
BUSINESS ADMINISTRATION (MBA), UNIVERSITY OF NAIROBI**

OCTOBER 2011

DECLARATION

STUDENT

I declare that this research project is my original work and that it has not been presented for any other award of degree in any other university.

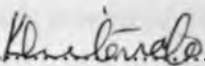
Signature..........

Date.....10/11/2011.....

Christine Kemunto Angwenyi
Registration Number: D61/70085/2008

SUPERVISOR

This research project has been submitted for examination with my approval as the University Supervisor.

Signature........

Date.....10/11/2011.....

Dr. Kate Litondo
Department of Management Science

ACKNOWLEDGEMENTS

The special thank goes to my helpful supervisor, Dr. Kate Litondo. The supervision and support that she gave truly helped the progression and smoothness of the research project. The co-operation is much indeed appreciated. For all the lecturers in the Department of Management Science, I wish to thank you for your contribution.

My grateful thanks also go to my soul mate and mentor Prof. Nyakundi and my precious children. A big contribution and support from all of you during my study was is very great indeed. You created a comfortable working environment and I always felt at peace working for my project close to you. My project work would be nothing without the enthusiasm and co-operation from you. This research project made me realize the value of being together as a family and the challenges we had to go through together during my whole study period. Not to forget, great appreciations go my best friend Rose and her daughter and the help you gave me from time to time during the project. The whole program really brought us together to appreciate the true value of family and friendship and respect of each other.

My sincere gratitude goes to the almighty God for giving me good health, energy willpower and the finances to undertake this Masters programme.

DEDICATION

This work is dedicated to my husband, Abel Nyakundi, without whose caring support it would not have been possible, and to my two children Hansel and Leticia for the time I had to miss out on your childhood to undertake my study.

ABSTRACT

Information Communication Technologies (ICTs) present an opportunity to, create, produce and distribute new expertise. The implementation of IPR has become quite challenging due to the emerging trends in ICT. The electronic media has largely contributed to movement of large amounts of intellectual property in the internet. Issues of intellectual property protection for the material available on and through the Internet are growing in importance. Most people are unaware about intellectual property rights and in particular copyrights. Very often they become impeached of plagiarism and piracy. This is sometimes due to unawareness of the copyright laws or ignorance caused either intentionally or unintentionally. This study was seeking to identify the impact of ICT on Copyrights protection at Kenyatta University.

The study adopted a descriptive research design and the target population was all the academic staff and students of Kenyatta University Nairobi town Campus. Primary and secondary data was used in this study. The primary data was collected using structured research questionnaires. Data analysis was being conducted using SPSS package which was used to analyze the relationship between ICT advancement and copyrights Protection to measure the strength of the association between the variables.

From the study, the students at Kenyatta University are well vast with ICT. In line with previous findings and the research conducted at Kenyatta University, it is clear that there is a high degree to which copyright laws have been highly violated in Kenyatta University. It was also noted that the students at Kenyatta University are engaged in infringement of copyrights through the use of advanced technology brought about by ICT. Basically there is no response mechanisms put in place in reaction to violation of copyright using ICTs. These research findings would be used to identify measures to be taken to promote copyright protection and for future studies to identify how ICT can be used to implement copyright protection at Kenyatta University thereby promoting protection of Intellectual Property in the University.

TABLE OF CONTENTS

DECLARATION	ii
ACKNOWLEDGEMENTS	iii
DEDICATION	iv
ABSTRACT.....	v
LIST OF TABLES.....	ix
LIST OF FIGURES	x
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the study	1
1.1.1 The Concepts of Copyrights.....	3
1.1.2 ICT and Copyright Protection	4
1.1.3 Copyright Protection at Kenyatta University	5
1.2 Statement of the problem	6
1.3 Objectives of the study.....	8
1.4 Value of the study	8
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1 Introduction	10
2.2 Copyright Protection in the Digital Environment.....	10
2.3 Impact of ICT on Copyrights	12
2.3.1 Introduction	12
2.3.2 The Internet.....	12
2.3.3 Photocopiers (Xerox machine).....	13
2.3.4 Scanners and Facsimiles.....	14
2.4 Copyright Protection Measures.....	15

2.4.1	ICTs	15
2.4.2	Kenya Copyrights Board (KECOBO)	16
2.4.3	Copyrights and Fair Use	17
2.5	Conceptual Framework	18
2.6	Chapter Summary	19
CHAPTER THREE: RESEARCH METHODOLOGY		20
3.1	Introduction	20
3.2	Research Design	20
3.3	Population	20
3.4	Sample design	21
3.5	Data Collection	21
3.6	Data Analysis	22
CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSION		23
4.1	Introduction	23
4.2	Background information of the respondents	23
4.2.1	Designation / Position of the respondents	23
4.2.2	Gender of the respondents	24
4.2.3	Age of the respondents	24
4.2.4	Education level of the respondents	25
4.2.5	Duration of stay at the University	26
4.3	ICTs used	27
4.3.1	Access to ICT	27
4.3.2	What respondents access ICT for	27
4.4	Copyright infringement	28

4.4.1	Extent to which the respondents downloaded or photocopied notes, book pages etc	28
4.4.2	Use of original materials and books compared to copied books.....	30
4.4.3	Amount of original work copied	30
4.5	Measure taken by the University on copyright protection.....	31
4.5.1	Availability of formal policy outlining the principles of access to ICT.....	31
4.5.2	Measure taken by the university in order to react against copyright infringement	32
4.5.3	Response the University has taken against violation of copyright	33
4.6	Discussion of research findings	35
4.6.1	Ways through which students at Kenyatta University have infringed on the copyrights.....	35
4.6.2	Establish the impact that ICTs have on copyright protection	37
CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS		40
5.1	Conclusion	40
5.2	Recommendations.....	41
5.3	Limitations of the study	42
4.0	References.....	43
Appendix I: Questionnaire.....		46

LIST OF TABLES

Table 4.1 Gender of the respondents	24
Table 4.2 Gender of the respondents	25
Table 4.3 Education level of the respondents	26
Table 4.4 Duration of stay at the university	26
Table 4.5 Respondents access to ICT	27
Table 4.6 What respondents access ICT for	28
Table 4.7 Extent to which the respondents downloaded or photocopied notes, book pages	29
Table 4.8 Use of original materials and books compared to copied books	30
Table 4.9 Amount of original work copied	31
Table 4.10 Availability of formal policy outlining the principles of access to ICT	32
Table 4.11 Measure taken by the university on copyright infringement	33
Table 4.12 Response the University has taken against violation of copyright	34

LIST OF FIGURES

Figure 2.5: Conceptual framework	19
Figure 4.1	29
Figure 4.2	29
Figure 4.3	29
Figure 4.4	29
Figure 4.5	34
Figure 4.6	34
Figure 4.7	34
Figure 4.8	34

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

ICTs present an opportunity to, create, produce and distribute new expertise (such as locally-produced software), innovative educational materials and services, and distinctive artistic products (such as music and 'cultural heritage on-line' services) (Copyright Law of the United States of America, 2009). The innovation and creation offers benefits for domestic industries and opportunities for access into the worldwide markets. The creation and ownership of knowledge products are of increasing importance in today's information age and copyright in particular has emerged as a central instrument for the knowledge industries of the twenty-first century. Copyright is an essential element in the business model of publishers, television, film and record producers and software developers. ICTs, particularly the Internet, offer enormous opportunities for the creative industries; yet they also allow unauthorized creation of indefinite numbers of perfect copies of protected works, and present great challenges to copyright law (Samuels, 2007).

Information Communication Technologies (ICTs) includes information technology and any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information. The term electronic and information technology includes, but is not limited to, telecommunications products (such as telephones), information kiosks and transaction machines, the internet, multimedia, and office equipment such as copiers, scanners and fax machines (Winn & Wright, 2001).

Intellectual property rights allow the originator of certain ideas, inventions and expressions to exclude others without permission from those ideas and expressions. As a form of Intellectual Property, Copyrights is the exclusive legal right, given to an originator or an assignee to print, publish, perform, film, or record literary, artistic, or musical material, and to authorize others to do the same. Copyright protection is an important intellectual property tool. By using copyright protection, you can create and produce materials without worrying about them being swiped even when exposed. (KU IP Policy, 2010)The changing technology has threatened Intellectual property rights (IPRs). The biggest challenge facing copyright today is the advent of the digital age. The underlying purposes sought to be accomplished through copyright have not changed. Rather, it is the means of accessing and sharing information that have.

Following the emergence of ICT most of the work produced by expertise has been made available in the electronic media and internet, such information involves; publications, music, software, novels, screenplays, graphics, pictures, novels, poems and plays, films, drawings and audiovisual works. Most of this information is transmitted through the network therefore making copyright an issue (Stallman, 1993). Due to the ease of access of information multiple illegal copies could be produced from the internet, this has made it to be described as the largest threat to copyright since its inception. In this new information age Technology has become an enemy of integrity and creativity and innovativeness has really declined. There is a rising concern on how to use the new technology to curb plagiarism and piracy so as to promote ingenuity (Bouchoux, 2001).

1.1.1 The Concepts of Copyrights

Copyright refers to laws that regulate the use of works of a creator. It is a law that grants the exclusive right to copy sell and perform a work of original authorship that has been fixed in a tangible form. Copyright was created as a policy to balance the interest of authors, readers and publishers. It also acts as a legal safeguard necessary for creativity to thrive. Authors are assured that their rights are protected and enforced (Kenya copyright board). Copyright comprise of a number of rights, which include the exclusive right to make copies, to authorize others to make copies, create derivative works such as translations and displays in other media, sell the work, perform the work and petition in court in case of infringement of one's rights (Vaidhyanathan, 2003).

Information that can be copyrighted should be expressed in tangible original form. This means, for example, that a verbal presentation that is not recorded or written down cannot be copyrighted. However, anything that is tangible can be copyrighted. I tangible form we mean that the information provided should be in a physical form; either a book, tape, or any other medium that can be used to express information. According to the United States Copyright Office (2008), there are three fundamental requirements for something to be copyrighted; first it is Fixation: This means that the item must be fixed in some way. The manner of fixation may be just about anything. For example, fixation occurs if something is written on a piece of paper, posted online, or stored on a computer or phone, or on an audio or video device. Secondly it is originality, which means the work must be original. Originality includes a novel or a student's e-mail message to a professor. Both are considered examples of original expression. It is not necessary for the work to be

completely original. Works may be combined, adapted, or transformed in new ways that would make them eligible for copyright protection. Lastly it is minimal creativity, where the work must include something that is above and beyond the original. Verbatim use is not considered original. Reference to the original work that is used to discuss a new concept would be considered original. However creativity need only be extremely slight for the work to be eligible for protection (Black, 2002).

Works in the public domain which include ideas in the public domain, facts that are in the public domain, words, names, slogans or other sort phrases cannot be copyrighted. This also includes blank forms, government works, which include: Judicial opinions, Public ordinances, and Administrative rulings. works created by federal government employees as part of their official responsibility and works for which copyright was not obtained or copyright has expired.

Copyright provides authors fairly substantial control over their work. The four basic protections are: the right to make copies of the work, the right to sell or otherwise distribute copies of the work, the right to prepare new works based on the protected work and the right to perform the protected work (such as a stage play or painting) in public (U.S. Copyright Office, 2008).

1.1.2 ICT and Copyright Protection

ICT and especially the electronic media through digitization have made the process of copying, publishing and distributing digital copies very easy. New forms of media have been created, raising new questions of copyright law. The rapid spread of the internet, has

made nearly everyone with a computer a potential publisher. The growth of the internet has had major implications for the treatment and protection of copyright materials and other related Intellectual Property rights that are published electronically (Mambi, 2010). Technological advancements have made copyright material easier to access and reproduce and more difficult to protect. More recently with the adoption of the two WIPO internet treaties in 1996, many changes have taken place in the copyright field, as a result of digital technology, opening new horizons for composers, artists, writers and others to use the internet with confidence to create distribute and use the internet with confidence to create, distribute and control the use of their works within the digital environment (WIPO report).

1.1.3 Copyright Protection at Kenyatta University

Copyright laws have been highly violated in academic institutions. In Kenyatta University both students and academic staff are engaged in infringement of copyrights through the use of advanced technology brought about by ICT. This is seen in the form of illegal photocopying of books without authors permission, printing of online materials and handouts, scanning of books. All these are made possible through the availability of advanced technology. Implementation of Copyrights at the University is done through Intellectual Property Rights Unit which executes its mandate following the KU IP Policy of 2010. The University offers the copyright services directly through Kenya Copyright Board. Both staff and Students are encouraged to register with Kenya Copyright Board so as to have their works protected. Sensitization workshops are held continuously to

educate staff and students on Intellectual Property Rights issues. Implementation of the IP Policy has also been done through ensuring signing of the IP agreement forms.

1.2 Statement of the problem

Three previous, large-scale studies were conducted investigating the rights of university professors as they relate to the creation and ownership of intellectual work. Lape (1992) and Packard (2002) reviewed the intellectual property policies of 70 research universities in the United States. More recently, Kromrey et al. (2005) used a similar framework to investigate the online policies of 42 research-intensive universities. In 1992, 77% of the universities had a written policy (Lape, 1992). Less than 10 years later, Packard (2001) studied the same sample of universities and found that all but one (98.5%) had adopted a policy. The 2005 study (Kromrey et al.) revealed that 100% of the universities had a formal policy, and they were all available online to guide in the access of online materials.

Invention of the printing press, scanner, facsimile and photocopy machines has drastically changed the publishing industry and this has at times violated agreements between publishers and consumers of printed works due to unauthorized production. Suddenly ordinary people can copy others' works with incredible ease, become publishers and use others' works as the basis for new works, incorporating a few ideas here and there. These potential creators or publishers work in our Universities and therefore it is important that they understand copyright law. The copyrights issue should be carefully addressed since our community is loosing a lot if our interests are not

considered in the resolution of the problems presented by new technologies (Mambi, 2010).

The biggest challenge facing copyright today is the advent of the digital age which has changed the means of accessing and sharing of information. The evolution in technology and the internet have led to several ways to unauthorized use of information. The copyrights laws seek to balance between the rights of the copyright owner and the general members of the public who use the work. They are meant to facilitate controlled sharing of copyrighted work (Baratsits, 2005).

Books, Journals and other academic materials have become readily available through the internet, thus making them readily available for duplication. ICT technology has made it possible to produce multiple copies of a document with ease. This can be seen through the use of internet, photocopiers, scanners and facsimile machine. A lot of the original works have found their way into the cyber for photocopying and scanning. Authors have not been able to enjoy exclusive rights since technology has made it easier for students to access and make multiple illegal copies of the author's original work. There was need to identify the technology advancement brought about by ICT and how they can be used to help implement copyright laws within the University so as to ensure that authors and original creators can benefit from their original works. The study sought to address the following questions: whether the students had violated the copyright laws at Kenyatta University, and How ICTs have influenced copyrights protection.

1.3 Objectives of the study

The general objective of the study was to find the effect of ICT on Copyrights Protection at Kenyatta University. Specifically, the study sought to: (a) determine the ways through which students at Kenyatta University have infringed on the copyrights (b) establish the ICTs used on copyright infringement.

1.4 Value of the study

There was great need to identify the current technological trends and their effects on copyrights protection. The study also outlined the various ways in which the electronic media has contributed to unauthorized reproduction of information thus violating copyrights. In addition the study sought to establish how other Universities are dealing with infringement of copyright laws in the Electronic media.

For academicians and artists who derive their livelihood from their original expressions, they will be able to know how to use the current technology to implement their intellectual property rights and in particular copyrights. This will promote proper use of Information technology by the innovators hence they will appreciate the challenges brought by the use of computers. It will consecutively benefit them on the measures they can take to counter copyrights' infringement through the use of Information Communication Technology (ICT).

These findings can help to uphold copyrights laws in the University among students, researchers and academicians.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This Chapter serves as the foundation for the development of the study. It includes the background, objectives, scope, significance, and the organization of the study. It also includes the definition of copyright, the importance of copyright, the challenges of copyright, and the need for copyright law. It also includes the definition of copyright, the importance of copyright, the challenges of copyright, and the need for copyright law.

2.2 Copyright Protection in the Digital Environment

The digital environment has created a new set of challenges for copyright law. The ease with which digital content can be copied and distributed has led to a significant increase in piracy and infringement. This has led to a loss of revenue for creators and publishers, and has also led to a loss of control over their work. The digital environment has also led to a loss of control over the distribution of content, and has led to a loss of revenue for creators and publishers. The digital environment has also led to a loss of control over the distribution of content, and has led to a loss of revenue for creators and publishers.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This Chapter serves as the foundation for the development of the study. It discusses the literature related to the copyrights and the use of ICT focusing predominantly on the theoretical review and the past studies that have focused on the subject of copyright protection and the influence that ICT has on its implementation. The chapter capitalizes on the various ways in which ICT and the digital world has contributed to violation of copyright laws. These include: plagiarism, photocopy.

2.2 Copyright Protection in the Digital Environment

The copyright system has traditionally maintained a balance between protecting creators' property rights and the exclusive right to control use of copies of their work, and the public good in fair access to and use of such materials. Copyright laws permit exceptions to copyright, in order to maintain this balance. In the United States, for example, this balance has been enshrined in the principle of 'fair use' limitations on the rights of authors, while in other countries such as Australia and the United Kingdom, the concept is recognized by way of statutory exceptions to copyright infringement for 'fair dealing' (Copyright Law of the United States, 2009). This balance is now in question because of digital technologies, and the way in which they have changed how we access and use information.

In the physical world, we can access copyright materials without infringing copyright, by borrowing a book from a library, for example. Online, each access to such material involves an act of copying, where the simple act of viewing a website requires the computer to make temporary local copies of the data in our computers' random access memory (RAM). In addition, increasingly, copyright works are not sold, in the way that a book or videocassette was sold in the past, but are licensed under certain terms and conditions of use. Our access to copyright works is increasingly governed by contract, which may impact on the application of exceptions and limitations, the traditional checks and balances of the copyright system, aimed at preserving the rights of consumers and the public interest (Lahore 2000).

According to Garrote (2002), the software that underlies the operation of the Internet allows information to be 'hyperlinked' or 'hypertext reference linked' within and between sites. Such linking typically occurs when the creator of one website provides a reference to another website, usually indicated in colored text or icons, using software that allows the user to click on the reference and view the content on the linked website. While enabling users to surf fluidly from one website to another, this practice also raises copyright issues.

According to a WIPO report (2002), one issue of some concern in the intellectual property and Internet communities is the question of who should be liable for copyright infringement that takes place online. This issue is raised by the very nature of digital networks. When a work is transmitted from one point to another, or made available for the public to access, numerous parties are involved in the transmission. These include entities that provide Internet access or online services ('ISPs' or 'OSPs').

2.3 Impact of ICT on Copyrights

2.3.1 Introduction

Digital technology has changed how people create, distribute and consume copyright works and how they expect to do so in future. People can create videos at home where once a studio would have been needed, share copyright works across the world in seconds with friends and family and have near-constant access to creative works through phones, computers and MP4 players. The issue for copyright is that now this capability exists, people want to use it, however many uses of technology are civil or criminal offences. Legal ways to do these things are largely unavailable to consumers and copyright infringement is common.

1.3.2 The Internet

Internet technology is rapidly changing the preexisting balance of copyright law. Internet technology presents a potentially serious threat to copyright owner incentives. The Internet enables effectively costless copying and worldwide distribution. Whereas in the past, the costs associated with making physical copies and distributing them served as a limit on the amount of copying, now these limits are effectively removed. In addition, digital copies, unlike analog copies, are perfect substitutes. Again, in the past, the imperfection of copies had some impact in limiting the amount of copying, but in the digital context, that limit, too, is removed. Thus, absent any technological or legal response, we would expect the amount of unauthorized copying to increase significantly on the Internet. A significant increase in the level of unauthorized copying might well result in a decrease in copyright owner incentives. If unauthorized copies of copyrighted

works can be easily and costlessly distributed around the world, then this would have the effect of increasing the amount of unauthorized copying and reducing the amount authors could recoup from sales of authorized copies. Moreover, this potential impact would not be limited to copies issued in digital form, since even physical or analog copies can be easily and cheaply converted into digital form (Farber et al., 2008).

Using the Internet to copy and paste information out of online works and into word-processed research papers has become known as “cyber-plagiarism” (Lathrop and Foss 2000). A 2003 study conducted at 23 college campuses by the Center for Academic Integrity, found that 38 percent of undergraduate students had used the Internet for plagiarizing work in one or more instances in the past year (Rimer 2008).

1.3.3 Photocopiers (Xerox machine)

The photocopier (Xerox machine) came into prominence in 1959, and the new development indicated the beginning of a series of revisions on the copyright laws. The photocopiers made it significantly easier for people to make copies of printed materials. The ease of photocopying created anxiety in different industries’ definition of “fair use”. Xerox machine triggered many copyright issues, and the conflicts between publishers and libraries in particular built up to a reexamination of copyright laws, prompting the society to make corrective measures (Samuels, 2002). The photocopiers in the academic institutions have great effects on the publishers. More often than not, Librarians and educators always argue that that they should be allowed to photocopy anything, while authors and publishers are agitated about their works being pirated.

Interestingly, in the past photocopy machines had not been a threat to copyrights in books. Enormous photocopying was mainly in the publishers of scholarly journals. Since the cost of making copies was much cheaper, scholars who would previously subscribe to journals began to photocopy articles from these journals in libraries instead. As a result subscriptions to these already specialized journals dropped. Copyright holders of scholarly journals claimed that the libraries had violated their copyrights and therefore should be charged for each photocopy they make. However, the libraries claimed that the photocopies were for research purposes and their rights to copy were protected by “fair use” (Crews, 1993). This issue had been abundantly controversial and therefore needed further investigation, thus the onset of the revision of the Copyright Act.

1.3.4 Scanners and Facsimiles

The scanner has jolted the world of print copyright. Virtually any image can now be transformed into bits and bytes for incorporation into graphics packages, desktop publishing documents and multimedia presentations. As mentioned earlier, a copyright holder maintains the rights of reproduction, adaptation and display, scanning a copyrighted illustration may be a copyright violation. A student may use a scanned copyrighted image in a report, but the student retains the ownership of the report (Simpson, Weiser, 2008).

1.4 Copyright Protection Measures

2.4.1 ICTs

The Internet is the world's biggest copy machine, but only for certain goods. The most valuable forms of copyrighted goods are unavailable in on the Internet. Producers of these goods are rightfully worried that they will fail to receive compensation for their goods if they were to put them on the Internet. Stefik (1997), explains the situation well when he states, the root of the problem is that authors and publishers cannot make a living giving away their work. It now takes only a few keystrokes to copy a paragraph, an entire magazine, a book or even a life's work. Unless the intellectual-property rights of publishers are respected and enforced, many desirable items may never be made digitally available, free or at any price. The major developers of digital copyright management systems refer to their projects as "trusted systems" because the copyright holders trust the systems to follow a basic set of rules to protect their rights.

Trusted systems are a complex intermingling of state of the art technologies. The heart of trusted systems is encryption, which keeps the digital information safe during transmission through insecure channels such as the Internet. Many trusted systems will interact using a protocol such as the Digital Protection Rights Language (DPRL). The DPRL allows producers to specify the availability and price of the rights to their goods and allows different trusted systems to interact using a standard language. Trusted viewers keep users from exercising unavailable rights when accessing digital works. If a digital work should escape the clutches of the copyright management system, digital watermarking provides a method for tracking the source of the information. Repository

access services will store digital works for purchase and keep transaction and use records. Digital signatures will ensure that use is restricted a person or a group, not just certain access terminals.

Although there are many ways to maintain security in a trusted system, most systems currently in development protect digital works by using encryption coupled with a challenge-response. There are ways to liberate copyrighted works from copyright management systems. Digital watermarks provide a method to make copyrighted works identifiable to trusted systems independent of their source. Digital media such as audio and video consist of millions of bits. Watermarking software can change several bits without a noticeable change to the user (Kahn, Wilensky 1996). Rights protection software can recognize identifying information in the watermark, such as serial number or a copy control bit. With sophisticated watermarking, the watermark is traceable even if someone uses a camcorder and records video from the computer screen or records audio from the speakers. If the copy control bit is set, a trusted viewer can prevent copying. Adobe Photoshop, the most popular image manipulation software, currently employs such a copy protection scheme. In the future, entire operating systems may perform this function, virtually eliminating the illegal copying of video and audio.

2.4.2 Kenya Copyrights Board (KECOBO)

The Kenya Copyright Board was created as a statutory body by the Copyright Act No. 12 of 2001. The Board is mandated to administer and enforce copyright and related rights in Kenya. In line with its mandate Kenya Copyright Board Provides services that include; Directing, coordinating and oversee the implementation of laws, international treaties to

which Kenya is party to, licensing and supervising all activities related to copyright, carrying out training and sensitization programs on copyright and related rights in Kenya, Updating of the copyright legislation, Liaising with national regional and international organization on matters of copyright and related rights, advising the government on matters of copyright and related right, Maintaining effective database on copyright and related rights in Kenya and Facilitating the implementation of the antipiracy security device (APSD) (Copyright Act, 2001).

According to the Copyright Act of 2001 the law, the following shall be provided to ensure copyrights are protected, one is the appointment of copyright inspectors who will investigate criminal and infringement of copyright and institute the cases in court, another is to provide for the appointment of copyright prosecutors to deal specifically with copyright infringement cases in court, the anti piracy security device shall be availed which will be used to help in the identification of genuine music and films from the pirated copies, there is also a clear introduction of Moral rights for performers as well as enhanced criminal sanctions by increasing the maximum fine payable as well as the maximum jail term.

2.4.3 Copyrights and Fair Use

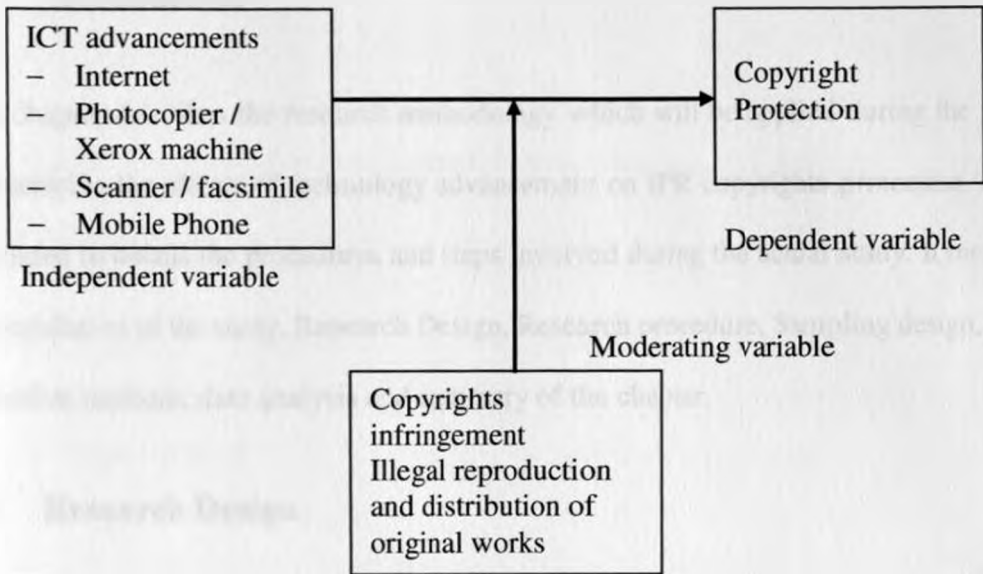
There are no explicit, predefined, legal specifications of how much and when one can copy, but there are guidelines for fair use. Each case of copying must be evaluated according to four factors: One is the purpose and nature of the use. If the copy is used for teaching at a non-profit institution, distributed without charge, and made by a teacher or students acting individually, then the copy is more likely to be considered as fair use

(Crews, 1993). In addition, an interpretation of fair use is more likely if the copy was made spontaneously, for temporary use, not as part of an "anthology" and not as an institutional requirement or suggestion. Another is the nature of the copyrighted work. For example, an article from a newspaper would be considered differently than a workbook made for instruction. With multimedia material there are different standards and permissions for different media: a digitized photo from a National Geographic, a video clip from Jaws, and an audio selection from Peter Gabriel's CD would be treated differently--the selections are not treated as equivalent chunks of digital data. There is also the nature and substantiality of the material used. In general, when other criteria are met, the copying of extracts that are "not substantial in length" when compared to the whole of which they are part may be considered fair use. There is also the effect of use on the potential market for or value of the work. In general, a work that supplants the normal market is considered an infringement, but a work does not have to have an effect on the market to be an infringement.

1.5 Conceptual Framework

The author had developed a conceptual framework and had developed three types of variables. The independent variable in this study was the ICT advancements that included the internet, Photocopier and scanners. Infringement of copyrights through multiple reproductions of illegal copies of the original document was the study's moderating variables, while the copyrights law was the dependent variable. The relationship is illustrated in the figure below:

Figure 2.5: Conceptual framework



Source: Author

1.6 Chapter Summary

Intellectual Property Protection is very important to any originator in protecting his/her ideas so that no illegal copying of such work be it an artistic work, Literary works; or Musical works cannot be made without their authorization. This chapter has listed a number of past writings related to the research objectives; it has dealt with the specific research questions as answered by other authors.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology which will be applied during the study to determine the effects of technology advancement on IPR copyrights protection. It has stipulated in details the procedures and steps involved during the actual study. It includes the population of the study, Research Design, Research procedure, Sampling design, Data collection methods, data analysis and summary of the chapter.

3.2 Research Design

The study adopted a descriptive research design. A descriptive research explains who, what, where and how of situation (Saunders, 2003). Descriptive statistics discover and measure cause and effect relationships among variables (Cooper & Schindler, 2000). To answer research questions, a survey technique helps in collecting data that is relevant for the study. A structured questionnaire was used to collect primary data.

3.3 Population

A population is the total collection of people or items of which inferences are made on, (Cooper & Schindler, 2000). The target population was all the students of Kenyatta University Nairobi town Campus. The total students' population was 2,000. The following formula was used to draw the sample.

$$SS = \frac{Z^2 (P) * (1-P)}{C^2}$$

Z = Z value e.g. 1.96 for 95% confidence level

P = Percentage picking a choice expressed as decimal e.g. 0.5 used for sample size needed

C = Confidence Interval expressed as decimal e.g. 0.04 = ± 4

3.4 Sample design

The research used purposive sampling to sufficiently understand the various human behaviors and perceptions on ICT and issues related to copyrights. Purposive sampling is efficient in that it provides adequate data for analyzing the sub-populations increases the sample's statistical efficiency (Cooper and Schindler, 2001).

The sample population was 200. The researcher issued 250 questionnaires out of which 216 were filled and returned.

3.5 Data Collection

Primary and secondary data was used in this study. Data was collected using structured research questionnaires. The respondents were directed by the research assistant to ensure that they understood them in order to respond as expected. The questionnaire had four different parts; the first section was to search for demographic information about the respondents, the second part was to search for information on ICTs used in the

organization, the third section was to seek for information on copyright infringement and the last section was to look for measures taken against infringement of copyrights.

3.6 Data Analysis

SPSS package was used for the data analysis to analyze the relationship between ICT advancement and copyrights protection and to measure the strength of the association between the two variables. Copyrights were considered the dependent variable, while ICTs and Copyright infringement were considered the independent (predictor) variables. The following equation was applied:

$$CP = a + a_1ICTs + a_2CI + e$$

CP – copyright protection

a – constant

ICTs – Information Communication Technologies

CI – Computer infringement

e – Error term

CHAPTER FOUR: DATA ANALYSIS RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis and discussion of the findings. It is imperative to note that this chapter relies mainly on the investigative questions that are depicted from the research questions as highlighted in chapter one of this project. The general objective of the study is to find the effect of ICT on Copyrights Protection at Kenyatta University. Specifically, the study came up with two key objectives that is to determine the ways through which students at Kenyatta University have used ICT to infringe on the copyrights and second is to establish the impact that ICTs have on copyright protection.

4.2 Background information of the respondents

The study focused on all the students Kenyatta University CBD campus. Out of the 250 questionnaires distributed, 216 were filled and returned. This was a response rate of 86.4%. Unusable questionnaires included missing sections and some failed to return their questionnaires.

4.2.1 Designation / Position of the respondents

The survey sought to know the respondents belonged to which department. Majority of the respondents were in the departments of pure and applied science, electrical and electronics, economics, environmental sciences, special education, food nutrition and dietetics, linguistics and literature, plant and microbial sciences, biochemistry, geography, physics and mathematics, educational foundation, library and information

science, chemistry, agribusiness management, medical laboratory science, computer science, zoological science, business studies and social needs.

4.2.2 Gender of the respondents

The survey sought to investigate the gender of the respondents as illustrated in table 4.1. Majority of the respondents were males 51.9% while as 43.5% were females. The results show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 82.33, $df=2$, $p=0.000$). The p value is less than 0.05

Table 4.1 Gender of the respondents (n=216)

Variable (%)	Frequency	Percentage
No response	10	4.6
Female	94	43.5
Males	112	51.9

4.2.3 Age of the respondents

The survey sought to investigate the age of the respondents as illustrated in table 4.2. From the findings, 46.3% of the respondents indicated that their age brackets ranged between 21 years to 25 years, 26.9% of the respondents were between 26 years to 30 years, 13.0% were between 31 years to 40 years, 6.5% were between 16 years to 20 years, 4.6% between 41 years and 50 years and none was above 50 years. The results

show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 186.22, $df=5$, $p=0.000$). The p value is less than 0.05

Table 4.2 Gender of the respondents (n=216)

Variable (%)	Frequency	Percentage
No response	6	2.8
16 to 20 years	14	6.5
21 to 25 years	100	46.3
26 to 30 years	58	26.9
31 to 40 years	28	13.0
41 to 50 years	10	4.6
Over 50 years	0	0

4.2.4 Education level of the respondents

On the level of education of the respondents as illustrated on table 4.3, 43.5% of the respondents indicated that their highest level of education was an undergraduate degree, 28.2% college education, 16.2% secondary education, 9.7% masters' degree and none had a doctorate degree. The results show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 113.82, $df=4$, $p=0.000$). The p value is less than 0.05

Table 4.3 Education level of the respondents (n=216)

Variable (%)	Frequency	Percentage
No response	5	2.3
Secondary	35	16.2
College	61	28.2
Undergraduate	94	43.5
Masters	21	9.7
Doctorate	0	0

4.2.5 Duration of stay at the University

The respondents were asked how long they had been in the university studying. 50.5% of the respondents indicated that they had been in the university for less than 2 years, 45.8% had been in the university for two to five years and none had been there for more than 6 years. The results show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 86.03, $df=2$, $p=0.000$). The p value is less than 0.05

Table 4.4 Duration of stay at the university (n=216)

Variable (%)	Frequency	Percentage
No response	8	3.7
Less than 2 years	109	50.5
Two years to 5 year	99	45.8
6 years and above	0	0

4.3 ICTs used

4.3.1 Access to ICT

The respondents were asked if they had access to ICT and 60.6% of the respondents said yes while as 39.4% said no as illustrated in table 4.5. The results show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 9.80, $df=1$, $p=0.002$). The p value is less than 0.05.

Table 4.5 Respondents access to ICT (n=216)

Variable (%)	Frequency	Percentage
Yes	131	60.6
No	85	39.4

4.3.2 What respondents access ICT for

The respondents were asked what they accessed ICT for and 41.9% of them said that they used ICT for research work, 30.0% for class notes and 28.1% for communication as illustrated in table 4.6 below. According to Lathrop and Foss (2000) it is evident that the students engage a lot in cyber-plagiarism.

Table 4.6 What respondents access ICT for (n=216)

Variable* (%)	Frequency	Percentage
Research Work	137	41.9
Class notes	98	30.0
Communication	92	28.1

*Multiple responses expressed in absolute numbers

4.4 Copyright infringement

4.4.1 Extent to which the respondents downloaded or photocopied notes, book pages etc

Respondents were asked to what extent they had downloaded or photocopied lecture notes, book pages etc using the internet, photocopier, scanner/facsimile and mobile using a likert scale of 1 to 5 where 1 was very low, 2 – low, 3 – average, 4 – high, 5 – very high. The results are shown on table 4.7 and figures 4.1, 4.2, 4.3 and 4.4. They indicated that the respondents' use of internet services was very high as indicated by 25.9% of the respondents. It also had a mean score of 2.98 and a standard deviation of 1.528 implying a wide variation among the respondents. As for the photocopier, 28.2% of the respondents indicated that there was high use of photocopier services and it recorded a mean score of 3.01 and standard deviation of 1.671 also implying a wide variation among respondents. Scanner/Facsimile was averagely used as 38.0% of the respondents indicated they averagely used it, recorded a mean of 1.98 and a standard deviation of 1.528 implying a wide variation among the respondents. Mobile usage was very high

with 50.9% of the respondents indicating so, the mean was 3.28 and standard deviation was 0.928 implying there was a minimal variation among the respondents.

Table 4.7 Extent to which the respondents downloaded or photocopied notes, book pages (n=216)

Variable	Mean	Standard Deviation
Internet	2.98	1.528
Photocopier	3.01	1.671
Scanner/Facsimile	1.98	1.528
Mobile	3.28	0.928

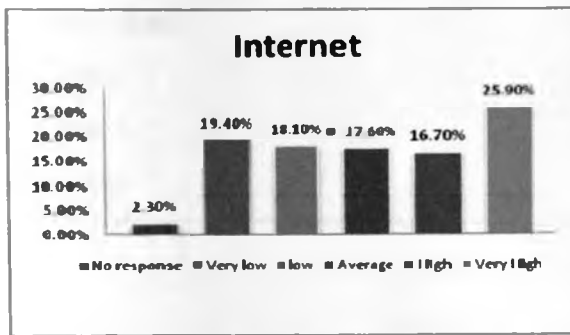


Figure 4.1

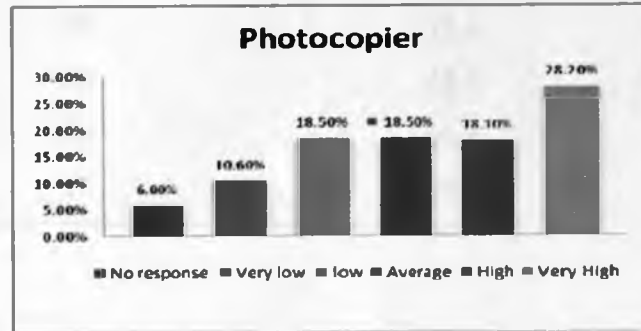


Figure 4.2

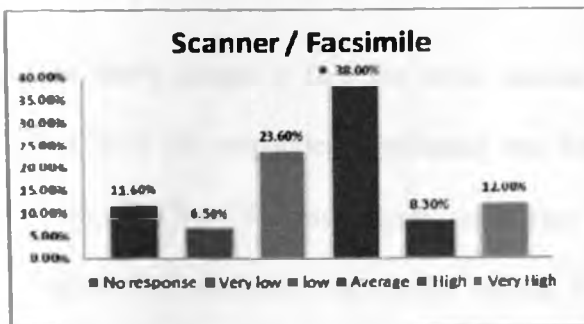


Figure 4.3

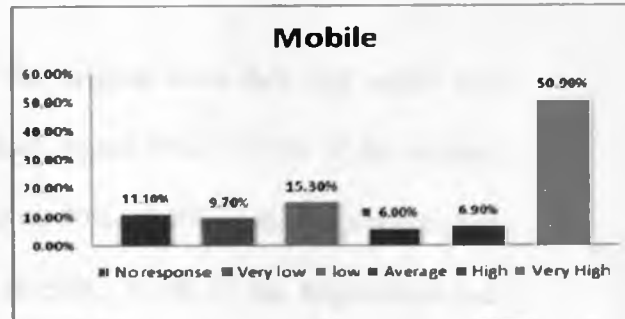


Figure 4.4

4.4.2 Use of original materials and books compared to copied books

Respondents were asked how often they used original material or original books as compared to copies of books. In their response 36.1% indicated rarely, 31.5% once, 15.3% often and 13.4% very often as illustrated in table 4.8.

Table 4.8 Use of original materials and books compared to copied books (n=216)

Variable (%)	Frequency	Percentage
No response	8	3.7
Very often	29	13.4
Often	33	15.3
Once	68	31.5
Rarely	78	36.1

4.4.3 Amount of original work copied

The study sought to find out what amount of the original work they had copied and 25.0% of the respondents indicated that they had copied 71% to 90% of the original work, 23.1% of the respondents had copied 51% to 70%, 19.0% of the respondents had copied 91% to 100%, 14.4% had copied 31% to 50%, 11.6% of the respondents had copied 10% to 30% and finally 5.6% of the respondents had copied less than 10% of the original work.

Table 4.9 Amount of original work copied (n=216)

Variable (%)	Frequency	Percentage
No response	3	1.4
Less than 10%	12	5.6
10% to 30%	25	11.6
31% to 50%	31	14.4
51% to 70%	50	23.1
71% to 90%	54	25.0
91% to 100%	41	19.0

4.5 Measure taken by the University on copyright protection

4.5.1 Availability of formal policy outlining the principles of access to ICT

The respondents were asked whether the university has a formal policy or policies outlining the principles of access to ICT based on communications within the institution. 30.1% of the respondents indicated that indeed the university had a formal policy outlining the principle of access to internet, 29.2% of the respondents said no while as 27.3% of the respondents said they did not know. The results show that there is a statistical significance in the opinions of the respondents given that the chi-square value is (X^2 15.78, $df=3$, $p=0.001$). P value is less than 0.05

Table 4.10 Availability of formal policy outlining the principles of access to ICT (n=216)

Variable (%)	Frequency	Percentage
No response	29	13.4
Yes	65	30.1
No	63	29.2
Don't know	59	27.3

4.5.2 Measure taken by the university in order to react against copyright infringement

The study sought to find out what measures had been undertaken in the university in order to react against copyright infringement. 29.9% of the respondents indicated that administrative procedures measures had been undertaken, 19.4% said no measures have been taken, 18.8% of the respondents indicated that judicial procedures had been undertaken, 17.3% of the respondents said arbitration measures had been taken and finally 14.6% of the respondents said that measure to contact with local association that is Kenya copyrights board had been undertaken.

Table 4.11 Measure taken by the university on copyright infringement (n=216)

Variable* (%)	Frequency	Percentage
Administrative procedure	100	29.9
Judicial procedure	63	18.8
Arbitration	58	17.3
Contact with local association	49	14.6
None	65	19.4

*Multiple responses expressed in absolute numbers

4.5.3 Response the University has taken against violation of copyright

Respondents were asked to describe the response of the university to the initiatives undertaken in reaction against the violation of your copyrights using a likert scale of 1 to 5 where 1 was very poor, 2 – poor, 3 – average, 4 – good, 5 – very good. The results are shown on table 4.11 and figures 4.5, 4.6, 4.7 and 4.8. 32.9% of the respondents indicated the ease of access of information on copyright was poor; it had a mean of 2.31 and standard deviation of 1.464 implying a wide variation among the respondents, 35.2% of the respondents indicated that availability/commitment to treat the requests by the university was also very poor; its mean was 1.577 and standard deviation of 1.577 implying a wide variation among the respondents. Length of their reaction to the requests, 30.1% of the respondents said it was poor and scored a mean of 2.39 and had a standard deviation of 1.497. On effectiveness of the measures adopted by the university, 23.3% of the respondents said the response was poor, recording a mean of 2.45 and a standard deviation of 1.653 implying a wide variation among the respondents.

Table 4.12 Response the universty has taken against violation of copyright (n=216)

Variable	Mean	Standard Deviation
Ease of access of information on copyright	2.31	1.464
Availability of commitment to treat the requests	2.42	1.577
Length of their reaction to the requests	2.39	1.497
Effectiveness of the measures adopted	2.45	1.653

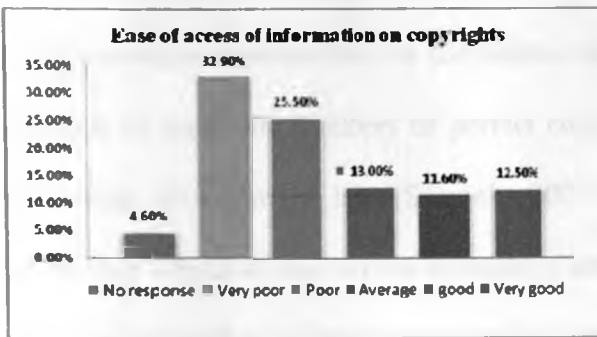


Figure 4.5

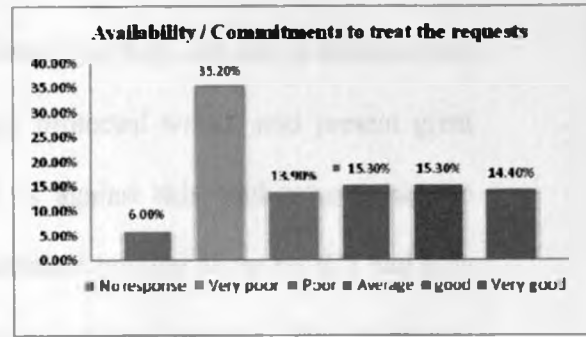


Figure 4.6

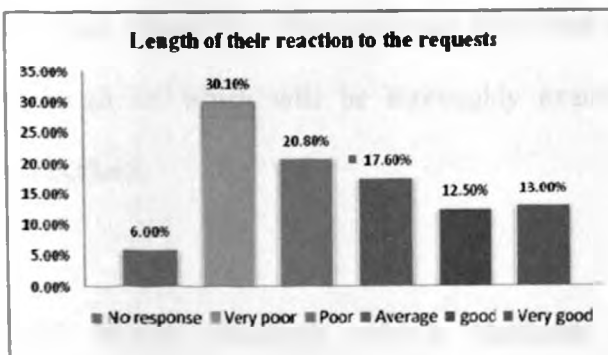


Figure 4.7

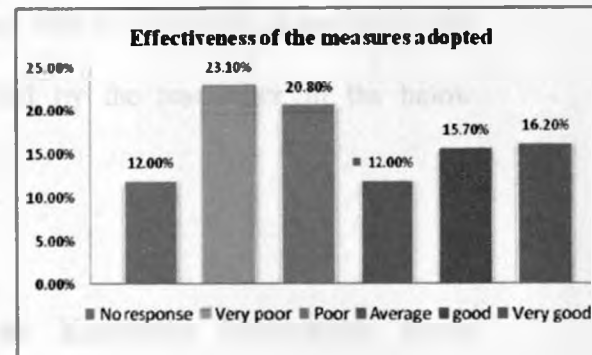


Figure 4.8

4.6 Discussion of research findings

The objective of the study was to find the effect of ICT on Copyrights Protection at Kenyatta University, CBD campus. Researchers have indicated that Copyright comprise of a number of rights, which include the exclusive right to make copies, to authorize others to make copies, create derivative works such as translations and displays in other media, sell the work, perform the work and petition in court in case of infringement of one's rights (Vaidhyanathan, 2003). At the same time, ICTs, particularly the Internet, offer enormous opportunities for the creative industries; yet they also allow unauthorized creation of indefinite numbers of perfect copies of protected works, and present great challenges to copyright law (Samuels, 2007). It is against this background that the researcher sought to find out the technology advancement brought about by ICT and how they can be used to infringe on copyright protection and their impacts. This study was based on the responses from the various respondents drawn from all departments at Kenyatta University. The researcher had come up with two specific objectives of the study all of which will be thoroughly examined by the researcher in the below subsections.

4.6.1 Ways through which students at Kenyatta University have infringed on the copyrights

In the previous readings in chapter two the researcher noted that the copyright system has traditionally maintained a balance between protecting creators' property rights and the exclusive right to control use of copies of their work, and the public good in fair access to

and use of such materials. Following the emergence of ICT most of the work produced by expertise has been made available in the electronic media and internet, such information involves; publications, music, software, novels, screenplays, graphics, pictures, novels, poems and plays, films, drawings and audiovisual works. The researcher also highlighted some ways in which individuals can access copyright materials without infringing copyright, by borrowing a book from a library, for example. At the same time online access to such material involves an act of copying, where the simple act of viewing a website requires the computer to make temporary local copies of the data in the computer.

From the study, the students at Kenyatta University are well vast with ICT, given that 60.6% of the population has access to ICT (Table 4.5) and clearly the use of ICT is exhibited in their works to a great extent in the course of their research work where 41.9% of the population uses ICT for their research work. ICT is also used by the students in doing class notes and in communication (Table 4.6). Looking at the extent to which the students had downloaded or photocopied lecture notes, books and such using the various ICT medias, the outcome illustrated that generally there was very high use of internet, photocopier services and mobile which scored highly. The high use of internet services is because it enables effectively costless copying and worldwide distribution. The photocopiers make it significantly easier for people to make copies of printed materials. As for the scanner/facsimile there was average use of it as it is mainly used in graphics packages, desktop publishing documents and multimedia presentations (Table 4.7).

The researcher asked the students how often they had used original materials or books as compared to copies of the books. It was clear that rarely did they use original material or books and if they did it was once in a while. Some of the students did indicate that they often did use the original books and materials but to such a great extent (Table 4.8). Majority of the students indicated that they had made photocopies over 50% of the original work, that is, 67.1% of the student population had made copies.

Given these findings, it is clear that it is in line with the researcher's previous readings in chapter two that there was a high degree to which copyright laws have been highly violated in academic institutions. The researcher noted that, in Kenyatta University both students and academic staff are engaged in infringement of copyrights through the use of advanced technology brought about by ICT. This is seen in the form of illegal photocopying of books without authors' permission, printing of online materials and handouts, scanning of books. All these are made possible through the availability of advanced technology.

4.6.2 Establish the impact that ICTs have on copyright protection

In chapter two the researcher looked at impacts of ICT on copyright protection given the various media of access to ICT. On the same point; however, it is evident that technological advancements have made copyright material easier to access and reproduce and more difficult to protect. At the same time, according to WIPO, many changes have taken place in the copyright field, as a result of digital technology, opening new horizons for composers, artists, writers and others to use the internet with confidence to create, distribute and control the use of their works within the digital environment (WIPO

report). Samuels (2002) notes that Xerox machine triggered many copyright issues and the conflicts between publishers and libraries in particular built up to a reexamination of copyright laws, prompting the society to make corrective measures.

Data analysis and interpretation of the questionnaire responses from the students in Kenyatta University revealed that the university, based on the response from the majority that it had a formal policy or policies outlining the principle of access to ICT based communication within the institution (Table 4.9). The implementation of Copyrights at the University is done through Intellectual Property Rights Unit which executes its mandate following the KU IP Policy of 2010. Implementation of the IP Policy has also been done through ensuring signing of the IP agreement forms. As to what measures have been taken in the university in order to react against copyright infringement, majority of the respondents indicated that administrative procedures had been put in place, judicial procedure were present, arbitration and contacts with local association that is the Kenya Copyright Board. Other respondents indicated that no measures had been undertaken by the University to react against copyright infringement. These responses are supported by the fact that not only does the University offer copyright service directly through the Kenya Copyright Board, both staff and Students are encouraged to register with Kenya Copyright Board so as to have their works protected. Sensitization workshops are held continuously to educate staff and students on Intellectual Property Rights issues. As Lahore (2000) indicated, the access to copyright work should be increasingly be governed which may impact on the application of exceptions and limitations, the traditional checks and balances of the copyright system, aimed at preserving the rights of consumers and the public interest.

The study sought to obtain views from the respondents on the response of the University to the initiatives undertaken in reaction against violation of copyright. All the four responses rated very poor (Table 4.11). There was poor access of information on copyright, availability/commitment to treat the requests, length of reaction to the requests and on the effectiveness of the measures adopted by the University. Basically there are no response mechanisms put in place in reaction to violation on copyright. This affirms that the Legal ways to do these things are largely unavailable to consumers and copyright infringement is common.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study investigated impact of information and communication technology on copyright protection at Kenyatta University. It was intended to identify the current technological trends and their effects on copyrights protection, outline the various ways in which the electronic media has contributed to unauthorized reproduction of information thus violating copyrights and establish how other Universities are dealing with infringement of copyright laws in the Electronic media. This was in relation to the technology advancement brought about by ICT and how they can be used to help implement copyright laws within the University so as to ensure that authors and original creators can benefit from their original works.

The study specifically sought to determine the ways through which academic staff and students at Kenyatta University have infringed on the copyrights and establish the impact that ICTs have on copyright protection. The study established that students at Kenyatta University were vast with the use of ICT tools mainly the internet, photocopier, scanner and mobile for research work, class note and communication. Majority of the students hardly used original materials and books and opted to make copies. The university had formal policies outlining the principle access of ICT based communication within the institution. A number of measure had been taken by the university against copyright infringement and included administrative procedures, judicial procedures, arbitration, contacts with local association while as other students felt no measures had been undertaken. The students also indicated that there was poor response to ease of access of

information on copyright, availability to treat the requests, length of reaction to requests and effective measures adopted by the university.

In view of these findings the study concludes that despite the fact that ICT technology through the use of internet, photocopiers, scanners and facsimile machine, has made it possible to produce multiple copies of a document with ease and books, journals and other academic materials have become available through the internet, thus making them readily available for duplication. At Kenyatta University the students have highly engaged in violation of copyrights. A lot of the original works have found their way into the cyber for photocopying and scanning. Authors have not been able to enjoy exclusive rights since technology has made it easier for students to access and make multiple illegal copies of the author's original work. Based on this, there is need to identify the technology advancement brought about by ICT and how they can be used to help implement copyright laws within the University so as to ensure that authors and original creators can benefit from their original works.

5.2 Recommendations

Based on the findings of the study, the researcher recommends that the University should continue to educate staff and students on Intellectual Property Rights issues, on how to provide authors fairly substantial control over their work, enforcement and respect of the intellectual-property rights of publishers and educate them on consequences of copyright infringement.

The study further recommends the use of trusted systems which keeps the digital information safe during transmission through insecure channels such as the Internet such as the Digital Protection Rights Language (DPRL) which allows different trusted systems to interact using a standard language. This will enable trusted viewers to keep users from exercising unavailable rights when accessing digital works.

The study also recommends the use of digital watermarks provide a method to make copyrighted works identifiable to trusted systems independent of their source in a bid to liberate copyrighted works from copyright management systems. The University could invest in repository access services so as to store digital works for purchase and keep transaction and use records. Use of digital signatures to ensure that use is restricted a person or a group, not just certain access terminals. The use of Policies can also be adopted so as to govern the use of electronic materials and ensure that the copyrights of individuals are protected when accessing information using ICTs.

There is need for further study on the lecturers since they engage in a lot of research in the course of their teaching and are likely to be more involved in violating of copyrights. They also do a lot of publications in form of books, journals and notes in electronic form. Further study could also be conducted identify ways in which ICT can be used for copyrights protection especially in the electronic media.

5.3 Limitations of the study

The initial study was based on both lecturers and students of the university but during data collection it was difficult to engage the lecturers to give their feedback due to their busy schedules hence the study concentrated mainly on the students.

4.0 References

A Guide to Copyright in Kenya, Kenya Copyright Board

Altbach, P. (1995) "*Copyright and Development: Inequality in the Information Age*", Bellagio Publishing Network, Boston MA; and Bgoya, W. et al (1997).

Basant, R (2004). *Intellectual Property and Innovation Changing Perspectives in the Indian IT Industry*. A paper presented at the conference on strategies for building software industries in developing countries during May 19-21, 2004, at East-West Center, University of Hawaii at Manoa, Honolulu.

Bollier, D (2002). *Silent Theft: The Private Plunder of Our Common Wealth*. HB 846.5 .B65

Bouchoux, D. E. (2001). *Protecting your company's intellectual property: a practical guide to trademarks, copyrights, patents & trade secrets* New York AMACOM.

Comarow, (2002): Flying solo. U.S. News World Rep

Cooper, D. R., & Schindler, P. S. (2008). *Business Research Methods*. New York: Tata MacGraw-Hill

Copyright Essentials for Librarians and Educators. Crews, K. et al. KF 2995 .C74 2000

Copyright Law of the United States and Related Laws Contained in Title 17 of the United States Code October 2009

Crews, K. D. (1993) - *Copyright, fair use, and the challenge for universities: promoting the progress of higher education* University of Chicago Press, 247 pages

<http://www.kopiken.org/about/index.html> 12.03 hrs 11th October 2011

- Jaffe, AB, Fogarty MS, Banks BA (1998): Evidence from patents and patent citations on the impact of NASA and other federal labs on commercial innovation. *J Industry Econ* 46:183–205,
- Litman, J. (2001). *Digital Copyright: Protecting Intellectual Property on the Internet*. KF 3030.1 .L58
- McSherry, C. (2001). *Who Owns Academic Work?: Battling for Control of Intellectual Property*. KF 2979 .M37
- Moore, A.D. (2001). *Intellectual Property and Information Control: Philosophic Foundations and Contemporary Issues*. KF 2979 .M66
- Mugenda and Mugenda O. (2003). *Research Methods: Quantitative and Qualitative approaches* Nairobi:Act Press
- Norbert, J. M. (2004). *Internet File Sharing: The Evidence So Far and What It Means for the Future*.
- Powers, J. (2003). *Copyright, Piracy and Personal Ethics*
- Rosenfeld (2000). National Research Council. *The digital dilemma: intellectual property in the information age*. KF 2979 .N37 2000 ... F 1226 .O94 .
- Samuels, J. M. (2007). *Patent, Trademark, And Copyright Laws* Bna Books, - Law - 919 pages
- Schwabach, A. (2007). *Intellectual Property: a reference handbook*
- Utterback, J. M. (1996). *Mastering the Dynamics of Innovation*, Boston, MA: Harvard Business School,

Vaidhyathan S. (2001). Copyrights and Copywrongs: the Rise of Intellectual Property and How it Threatens Creativity. Z642 .V35

Winn, J. K., Wright, B. (2001). The law of electronic commerce. Aspen Publishers,

Appendix I: Questionnaire

Kindly answer the questions by ticking or filling in the space provided.

STUDENTS' QUESTIONNAIRE

SECTION A: GENERAL INFORMATION

1. Department

.....

2. Position

Academic Staff

Student

3. What is your gender:

Female

Male

4. Tick your age bracket

16 - 20 years

31 - 40 years

21 - 25 years

41 - 50 years

26 - 30 years

Over 50 years

5. Your highest level of education

Secondary

Masters

College

Doctorate

Undergraduate

Others Specify

6. How long have you been in the University?

Less than 2 years

6 - 8 years

2 - 5 years

9 years and above

PART B. ICTS USED

7. Do you have access to ICTs

- Yes No

8. What do you access ICTs for?

- Research work
- Class Notes
- Communication
- Others Specify

PART C: COPYRIGHT INFRINGEMENT

9. To what extent have you downloaded or photocopied lecture notes, book pages etc using the following:

(Key: 1-very low, 2-low, 3-average, 4-high, 5-very high)

	1	2	3	4	5
Internet					
Photocopier					
Scanner / facsimile					
Mobile					

10. How often do you use original materials or original books as compared to copies of the book?

- Very often
- Often
- Once
- Rarely

11. What amount of the original work have you copied?

- Less than 10%
- 10% - 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 100%

PART D: MEASURES TAKEN BY THE UNIVERSITY ON COPYRIGHTS PROTECTION

12. Does the University have a formal policy or policies outlining the principles of access to ICT based communications within the institution?

- Yes No Don't Know

13. What measures have been undertaken in the University in order to react against copyrights infringements?

- Administrative procedures
- Judicial procedures (civil or criminal)
- Arbitration
- Contacts with local association (Kenya Copyrights Board)
- Other:.....

14. Describe the response of the University to the initiatives undertaken in reaction against the violation of your copyrights.

On a scale of 1 (poor) to 5 (very good) state your perception about the:

- Ease of access of information on copyrights: 1 2 3 4
5
- Availability/commitment to treat the requests: 1 2 3 4
5

- Length of their reaction to the requests: 1 2 3 4
5

- Effectiveness of the measures adopted by the University
1 2 3 4
5

Thank you for taking time to complete this questionnaire.