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**PROTECTING COPYRIGHT IN THE DIGITAL AGE: CHALLENGES AND
OPPORTUNITIES FOR KENYA //**

A project paper presented by **Michael M Murungi** in part fulfilment of the requirements for the award of the Master of Laws Degree of the University of Nairobi, 2005.

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List of Abbreviations & Acronyms

CCK - Communications Commission of Kenya

ICT - Information and Communications Technology

IT - Information Technology

LAN - Local Area Network

PC - Personal Computer

TPS - Technical Protection Services

TRIPs - The WTO Agreement on Trade Related Aspects of Intellectual Property Rights

UK - United Kingdom

UN - United Nations

UNDP - United Nations Development Programme

UNESCO - United Nations Educational, Scientific and Cultural Organization

USA - United States of America

WAN - Wide Area Network

WTO - World Trade Organization

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**PROTECTING COPYRIGHT IN THE INFORMATION AGE:
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CHAPTER 1

1. INTRODUCTION

"Efficient and cost effective information and communication technology [ICT] has become essential to economic growth and development" - this was one out five references to ICT contained in the budget speech for the fiscal year 2004/2005 delivered by Kenya's Minister for Finance on 10th June, 2004¹. These words were preceded by the announcement that the Kenyan government had consulted with stakeholders in the preparation of an ICT policy to 'provide guidelines on [the] use of internet and other forms of telecommunications while increasing access to ICT at much lower costs'.² These comments and a host of other initiatives already undertaken in the public sector underscore the Kenya Government's appreciation of the latent benefits of ICT.

Recently, government policy has moved to prioritize economic development in the belief that economic growth will automatically result into significant social development. A key example is that the government, in pursuit of attaining Newly Industrialized Country status by the year 2020, the country's "engine of growth" and thus putting in place major policy frameworks for enabling enhanced private sector participation in the economic growth of the country. The Economic Recovery Strategy (ERS) has been the buzzword coming out of the 2003-2007 Economic Recovery Strategy For Wealth and Employment Creation aimed at spurring growth, including creation of job opportunities and wealth.

Analysts have however criticized the government for looking at ICT as a sector, instead of a development enabler. Nevertheless, the role of information products and services in the modern economy is vast and still growing rapidly. The widespread use of computer networks and the global reach of the World Wide Web have added

¹ <http://www.treasury.go.ke> accessed on January 29, 2005 at 1134 Hrs

² *ibid*

substantially to the information sector's production of an abundance of information in digital form, as well as offering unprecedented ease of access to it. Creating, publishing, distributing, using, and reusing information have become many times easier and faster in the past decade. The good news is the enrichment that this explosive growth in information brings to society as a whole. The bad news is the enrichment that it can also bring to those who take advantage of the properties of digital information and the World Wide Web to copy, distribute, and use information illegally to the detriment of both information creators and consumers.

The traditional tool for dealing with use and misuse of information is intellectual property law, the constellation of statutes and case law that govern copyrights, patents, and trade secrets. Part of the case for granting rights in intellectual property is the belief that it promotes the development of new products and services, and that erosion of those rights could threaten the economic performance of the information sector and curtail the major benefits it has brought. This work will show that with the new abundance of information and the ease with which it can be accessed, reproduced, and distributed have come problems that must be seen in all of their complexity, including related economic, social, technical, and philosophical concerns, as well as the accompanying legal and policy challenges. Debates over these issues matter because the outcome will have a significant impact on today's information sector companies and will help determine the character of the digital economy of the future.

1.1 Statement of the Problem

Kenya is an active member of the World Trade Organization (WTO) and has bound itself by the terms of WTO's agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs). It has also undertaken other international legal obligations in intellectual property under various conventions, including the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention) and the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations (Rome Convention).

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Both its own initiative and out of the need to comply with these international obligations'. Kenya has enacted statutes which, together with a rich body of received English Common law, comprise its municipal law on intellectual property. The statutes include the Copyright Act⁴ and the Industrial Property Act⁵. Kenyan law therefore affords various forms of protection to intellectual property.

The task of copyright protection has always been difficult, attempting as it does to achieve a finely tuned balance: providing authors and publishers enough control over their work so that they are motivated to create and disseminate, while seeking to limit that control so that society as a whole benefits from access to the work. Copyright and patent law have had an instrumental role in the promotion and creation of a vast array of informational works, resulting in vibrant markets for intellectual property. But copyright and patent laws have also defined limits on protection in order to facilitate the public interest in and benefit from shared information. Over time, compromises have evolved to balance the interests of the creators and consumers of intellectual work, fulfilling a number of important public policy objectives. Patents give temporary protection to technological inventions and design rights to the appearance of mass-produced goods; copyright gives longer-lasting but ultimately extinguishable rights in, for instance, literary, artistic and musical creations; and trademarks are protected against imitation so long at least as they continue to be employed in trade.

But the carefully crafted balance may be in danger of being upset. Intellectual property rights have traditionally been destabilized by technological advance. Patent law, evolving primarily around machines and chemical processes, has had to absorb the emergence of electrical engineering, computer construction, atomic energy, microbial production techniques and more recently, bio- and nanotechnology⁶. Copyright, initially a

Odek. Otieno., *Towards Trips Compliance: Kenya's Experience and Legislative Reforms* Paper presented on the Eastern and Southern Africa Multi-Stakeholder Dialogue on Trade, Intellectual Property Rights and Biological Resources in Eastern and Southern Africa. Nairobi-Kenya, 30-31 July, 2001.

⁴ Act No. 12 of 2001

⁵ Act No. 3 of 2001

⁶ Cornish, W.R. (2001) \ *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights* New Delhi: Universal Publishing Co, 3rd Edn (First Indian Reprint) para 1-34

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rather belated response to the printing press, had then to address the performance of plays and music, photography, sound recording, film and broadcasting. Now, a novel threat has materialized. The emergence in the past ten years of a new information infrastructure marked by the proliferation of personal computers, networks that connect them, and the World Wide Web has led to radical changes in how informational works are created and distributed, offering both enormous new opportunities and substantial challenges to the current model of intellectual property (IP).

Copyright laws become obsolete when technology renders the assumptions on which they were based outmoded. Inevitably, new developments change the pitch of the playing field. Industries affected by copyright find that the application of old legal language to new contexts yields unanticipated results. They find themselves to be beneficiaries of new advantages and the victims of new disadvantages and their response, quite naturally, is to attempt to regain old benefits while retaining the new ones⁷. From early eighteenth century England when the notion that an author should have an exclusive "copyright" in his creation took firm shape, and later with the enactment of the Statute of Anne⁸, hailed as the first substantial enactment on copyright, the law has burgeoned and progressively accommodated various kinds of "works" and "authors" - stationers in 1710, engravers in 1734⁹, sculptures in 1798 and paintings, drawings and photographs in 1862¹⁰. Much later into the twentieth century, those who contributed to the production of recordings, films and broadcasts were brought on board.

Most of these concessions of copyright law have stemmed from the emergence of novel technologies and the inability to accommodate them into the existing notions of copyright. The challenge today is for intellectual property lawmakers to examine the question of how the law needs to be redesigned to accommodate this novel phenomenon referred to as information technology. For instance, recent years have seen the exploration of many technical mechanisms (such as cryptography, passwords and user

⁷ Litman, J (2001) *Digital Copyright* New York: Prometheus Books p. 22

⁸ The English Copyright Act of 1710 enacted in the reign of Queen Anne

⁹ The English Engraving Acts, 1734 and 1766

¹⁰ The English Fine Arts Copyright Act 1862

privilege systems built into operating software) intended to protect intellectual property in digital form, along with attempts to develop commercial products and services based on those mechanisms. These mechanisms bring with them certain consequences relating to fair use and the distribution of and public access to intellectual property.

Problems arise from two primary sources: changes in technology; and the availability of the digital information infrastructure as a routine part of everyday life. Three technological changes in particular - the increased use of information in digital form, the rapid growth of computer networks, and the creation of the World Wide Web - have fundamentally altered the landscape and lie at the heart of many of the issues presented by the evolving information infrastructure. These changes, coupled with the emergence of the information infrastructure as a part of daily life, present significant legal, social, economic, and policy challenges.

1.2. Justification for the Study

There is a healthy ferment of experimentation and debate going on in attempts to realize the promise of the digital age. Kenya recently¹ held a national ICT convention aimed at bringing together a wide group of stakeholders to discuss Kenya's ICT policy and most importantly work towards an implementation strategy. The convention was organized by the Kenya ICT Federation (KIF), a body incorporating many private sector organizations involved in the sector, e.g. the Kenya Private Sector Alliance (KEPSA) and the Kenya ICT Board that was recently formed to try and incorporate all the main actors including civil society organizations.

The convention was held in Nairobi, Kenya, over a three-day period and was funded by Canada's International Development Research Centre (IDRC). It had received endorsement from the highest office in the country, with a minister from the Office of the President presiding over the opening ceremony. A presentation of a "confidential" version of the national ICT policy illuminated delegates on important questions regarding the current ICT policy and thereby forming the basis for next steps - strategies for

¹ At the end of March, 2004

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implementation. The salient features of ICT policy framework were presented at the opening of the conference by Mike Eldon who also serves as the Chairman of KIF:

- Kenya's key policy documents fail to incorporate the role of ICT as an enabler of various goals included in government plans to transform the country into a Newly Industrialized Country (NIC) by the year 2020, and as an enabler of national programs to reduce poverty and promote economic recovery;
- The Kenyan government has been slow to formulate and implement ICT policy and it is only recently that the government announced an e-government strategy;
- The ICT policy formulation and implementation strategies vacuum has been filled by efforts from the private sector and civil society actors;
- The current policy defines the role of government as the principal policy-making authority while the role of the private sector is relegated to one of operator and civil society is somewhat lost in the middle; and
- The current policy framework defines the main policy issues in terms of economic impact, liberalization of certain key sectors, e-commerce, e-government and human resource development.¹²

This study seeks to contribute towards the on-going debate on the development of a national ICT policy, at least as far as copyright is concerned, by explaining and demystifying the underlying technology trends, exploring the range of technological and business tools that may be useful, and recommending a variety of actions that can be taken to help ensure that the benefits of the information infrastructure are realized for copyright holders and society as a whole.

This study builds on recent previous studies in the area of intellectual property and digital technology. Perhaps the most visible effort was undertaken by Dr B. Sihanya¹³. This study does not duplicate the detailed analyses which characterizes government sponsored ICT initiatives. Instead, it offers a framework for the evaluation and

<http://africa.riuhst.apc.org/newsletter.shtml> Accessed on January 30, 2005 at 0200 Hrs

¹³ Sihanya, B (2003) *Constructing Copyright and Creativity in Kenya: Cultural Politics and the Political Economy of Intellectual Property* Ph. D. Thesis, Stanford University.

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construction of public policy, as well as a variety of specific conclusions and recommendations designed to help legislators, courts, administrators, and the public to understand what is at issue, to formulate questions clearly, and to assess alternatives. The focus on copyright derives from the observation that copyright protects a large variety of the intellectual property frequently encountered by the public and has the highest visibility in the debates over the information infrastructure.

1.3. Objectives

The objectives of this study are:

1. To examine the challenges posed to the protection of intellectual property especially copyright by the emergence of the digital age;
2. To demonstrate the latent inability of the Kenya's copyright legal regime to surmount those challenges;
3. To inquire into the opportunities or benefits that may be realized by the surmounting of those challenges; and
4. To make recommendations on a variety of actions that can be taken to surmount those challenges.

1.4. Hypotheses

The study will be premised on the following hypotheses:

1. In the information age, the Internet and digital media will account for more than 50% of the media by which intellectual property will be stored, distributed and transacted;
2. Copyright is the most endangered species of intellectual property rights in the information age;
3. Developments in the information age and particularly in the Internet and the digital media in the rest of the world will be replicated in Kenya; or at the very least, due to the trans-boundary nature of these developments, Kenya will be affected by them notwithstanding its willingness or incapacity to embrace them;
4. Kenya is faced with both legal and socio-economic barriers in securing the benefits of the information age for the proprietors of copyright and society as a whole; and

5. These legal and socio-economic barriers can and should be overcome.

1.5. Research Questions

The study will venture to answer the following fundamental questions:

1. What does the Information Age involve and how does it upset the traditional notions of copyright?
2. How is Kenya situated in dealing with the challenges posed by the onset of the Information Age to the protection of copyright?
3. What are the means by which these challenges can be overcome?

1.6. Research Methodology

The study will utilize both primary and secondary sources of data. Primary sources will include international instruments, statutes, subsidiary legislation, government policy papers and gazette notices. Secondary sources will include textbooks, dictionaries, encyclopaedia, newspapers and magazines, periodicals, journals, law reports and Internet publications.

1.7. Literature Review

There exists a wealth of literature on a variety of specialized aspects of intellectual property. Several authors have attempted to look at the challenges that the information age poses to the protection of intellectual property and the proposed research will benefit from their works. However, as the following review of literature will show, there is scarcely any work that specially or broadly discusses the opportunities and challenges of protecting copyright with a particular emphasis on Kenya as a case study.

1. Bainbridge, D.I. (1999) *Intellectual Property* London: Pitman Publishing 4th Edn
2. Cornish W.R. (1996) *Intellectual Property* London: Sweet & Maxwell 3rd Edn

David Bainbridge and W. Cornish are renowned authors in the field of intellectual property law. Their works give a thorough coverage of the origin, evolution and substance of intellectual property and the socio-economic theories that inform this branch of law. The relevance of their works to Kenya arises from the Common-law underpinnings of their analysis and their comparative studies of European Union

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intellectual property law. The point of departure, however, has to do with the brevity with which the authors cover the effect of the information age on intellectual property though, in all fairness, it may be a subject which they needed not cover in much breadth to confine themselves within the scopes of their analysis. Be that as it may, Bainbridge's and Cornish's works do not broach the subject of the effects of the information age on intellectual property protection with particular clarity, and more importantly, they do not broach the subject of how Kenya is situated in dealing with those effects.

3. Litman, Jessica (2001) *Digital Copyright* New York:Prometheus Books

Litman's work questions whether copyright laws crafted by lawyers and their lobbyists really make sense for the rest of the society. She poses the question: Should every interaction between ordinary consumers and copyright-protected works be governed by laws drafted without ordinary consumers in mind? Litman embarks on an expository discourse that criticizes America's Digital Millenium Copyright Act of 1998 copyright law as incoherent and argues for commonsense reforms that reflect the way people actually behave in their daily digital interactions. Litman gives a thorough diagnosis of the American Congress' approach towards copyright in the information age. However, neither the shortcomings in American copyright legislation nor the solutions to them can be perfectly transplanted to the circumstances of Kenya. The proposed research paper will no doubt benefit from Litman's analysis. But beyond that, it will investigate the interface between the information age and the climate of copyright law prevailing in Kenya.

4. Radin. M.J.. *et al* (2004) *Intellectual Property and the Internet: Cases and Materials* New York:Foundation Press

This text is a compendium of groundbreaking American case-law on the subject of intellectual property and the Internet interspersed with editorial commentaries and notes. The cases included in the text trace the evolution of the Internet from its humble beginnings as a military installation to the World Wide Web and the impact of this

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evolution on the intellectual property law, particularly copyright. The text imparts a good grasp of the American understandings of intellectual property in the information age. The authors do not venture to give a comparative study of other jurisdictions.

5. Lessig, Lawrence (1999) *Code and other Laws of Cyberspace* New York: Penguin Press

Lawrence Lessig has become one of the most celebrated authors on the interface between the government/regulation and society on the one hand and information technology on the other. This work retraces the emergence of a cybersociety and makes projections on the future state of cyberspace and its interaction with a spectrum of factors: societal norms, enacted laws, moral values and individual conduct. Lessig's approach provides a good template for the analysis of the impact of cyberspace on intellectual property. His deduction that code (software) will be the single most important means of regulation in cyberspace obliges his non-American readers to consider the meaning of that proposition for their respective jurisdictions.

5. *The Digital Dilemma: Intellectual Property in the Information Age* (2000), a report produced by the U.S.A.'s National Research Council's Computer Science & Telecommunications Board¹⁴

This report provides what is arguably one of the most comprehensive and authoritative evaluations of the challenges posed to the protection of intellectual property generally and copyright in particular by the emergence of the information age. The project leading up to the publication of the report grew out of a long history of the Computer Science and Telecommunications Board's (CSTB) interest in the legal issues related to computer technology and to intellectual property. CSTB empanelled the Committee on Intellectual Property Rights and the Emerging Information Infrastructure (involving experts from the areas of law, computer science, technology, library science, and publishing) at the end of 1997. The course of this project reflected the circumstances of the time in which it was

¹⁴ www.nap.edu/html/digital_dilemma/preface.html

undertaken: the climate in the late 1990s for thinking about intellectual property policy reflected the early and mid-1990s history of public debates associated with attention to national and global information infrastructure, a period in which information policy (which includes intellectual property, privacy, and free speech issues) began to inspire unusually vigorous public-interest-group and commercial advocacy activity.

CSTB's project was designed to assess issues and derive research topics and policy recommendations related to the nature, evolution, and use of the Internet and other networks, and to the generation, distribution, and protection of content accessed through networks. The Committee's Report, presented in 2000, deals with its subject matter with such a wide scope of analysis and depth of examination that it would be imprudent for any subsequent research on the subject not to avail itself of its benefit. This work will bear the debt of the Committee's Report particularly with regard to its articulation of the challenges posed to copyright by the novel technologies of the information age.

1.8. Chapter Breakdown

The study comprises four chapters. Chapter one has provided an introduction of the study, stating its justifications, objectives, scope and methodology. Chapter two will examine the challenges posed to the protection of copyright by the emergence of the digital age while chapter three will demonstrate the latent inability of Kenya to surmount the challenges identified in the preceding chapter. The concluding fourth chapter will make recommendations on a variety of actions that can be taken to surmount those challenges based on a comparative study of developments occurring in other jurisdictions.

CHAPTER 2

WHY COPYRIGHT IS HARDER TO PROTECT IN THE DIGITAL AGE

INTRODUCTION

Given the successful growth and adaptation of intellectual property law over the years, any claim that the established balance of copyright (providing authors and publishers enough control over their work so that they are motivated to create and disseminate, while seeking to limit that control so that society as a whole benefits from access to the work) is in danger of being upset must be clear and convincing about the origins of that danger.

As discussed in the previous chapter, advances in technology have often posed challenges for intellectual property law. The United States Congress, for instance, periodically amended copyright law to regulate new technology products such as photographs, motion pictures, sound recordings and cable television or new uses of works made possible by advances in technology". In addition, new technologies have given to contentious copyright litigations, such as those involving photocopying of scientific articles and home videotaping¹⁶. It should therefore be hardly surprising that the advent of digital technologies and networks would bring about an upheaval in intellectual property law.

There are three problems arising from two sources: changes in technology and the availability of the digital information infrastructure as a routine part of everyday life. Three technological changes in particular - the increased use of information in digital form, the rapid growth of computer networks, and the creation of the World Wide Web - have fundamentally altered the landscape and lie at the heart of many of the issues presented by the evolving information infrastructure. These changes, coupled with the

¹⁷ The United States' Copyright Act of 1909 which named specific types of protectable subject matter had to be amended to extend its application when new technologies produced new categories of works.

¹⁶ *Williams & Witkins v National Institute of Health* 487 F. 2d. 1345 (1973); *American Geophysical Union v Texaco* 60 F. 3d 913 (1996); *Sony Corporation of America v Universal City Studios Inc* 464 U.S. 417 (1984)

emergence of the information infrastructure as a part of daily life, present significant legal, social, economic, and policy challenges.

The following is a detailed analysis of the challenges posed by each of the three technological changes.

2.1. Increased Use of Information in Digital Form

Presenting information in digital form, as opposed to the more traditional analogue form, means using numbers to capture and convey the information. Music offers a clear example of the difference between the two. Capturing musical sounds requires describing the shape of the vibrations in air that are the sound. Records capture that information in the shape of the groove in the vinyl. Compact discs (CDs), by contrast, capture the same information as a large collection of numbers¹⁷. Digital information has a remarkable breadth of descriptive ability, including text, audio, video, software, and even shape (e.g., in computer-aided design).

A baseline study was done to find out whether there have been attempts to apply the new technologies for scholarly publishing and sharing research findings, identify the challenges and successes in this area and establish possibilities for possible networking¹⁸. The study found that there were various organizations involved in online journal publishing in Kenya, with about five journals being published online covering such fields as biotechnology, medicine, insect science, food technology and nutrition¹⁹. For instance, *The African Journal on Food, Agriculture, Nutrition and Development* has struggled to publish on both print and online. It was established in Kenya to provide a platform from which issues and scientific information concerning Africa could be effectively addressed and shared²⁰.

¹⁷ *How things Work: Digital Technology/Digital Media* Microsoft Encarta Encyclopaedia (CD-ROM), 1995

¹⁸ <http://www.nap.cdu/litml/opcnaccess/146-149.pdf> accessed on October 12, 2005

¹⁹ ^d

²⁰ ^d

The use of digital information presents difficulties for copyright protection largely because of the following issues²¹:

(a) Access is by Copying.

When information is represented digitally, access inevitably means making a copy, even if only an ephemeral copy. This copying action is deeply rooted in the way computers work: even an action as simple as examining a document stored on one's own disk means copying it, in this case twice - from the disk to the computer's memory and then again onto the video display. Before one can view a page from the World Wide Web, the remote computer must first send one's computer a copy of the page. That copy is kept on the hard disk, copied again into memory, and then displayed on the screen. In addition, intermediate copies of the page may have been made by other computers as the page is transported over the network from the remote computer to the requesting computer.

Such copying occurs with all digital information. When one uses his computer to read a book, look at a picture, watch a movie, or listen to a song, one inevitably makes one or more copies. Contrast this with the use of traditional media: reading a book does not involve making a copy of it, nor does watching a movie or listening to a song.

This intimate connection between access and copying has considerable significance in the context of IP protection. One of the essential elements of copyright—the right to control reproduction - works as expected in the world of traditional media, where there is an obvious distinction between access and reproduction and where the copyright owner's control of reproduction provides just that. But in the digital world, where no access is possible except by copying, complete control of copying would mean control of access as well. This intimate connection has consequences for all parties in the digital world. Rights holders may seek to control access to digital information, because access involves reproduction. Readers may find their traditional access to information susceptible to

²¹ See generally, the Report of the USA's National Research Council's Computer Science & Telecommunications Board, *ibid* 13

control in unprecedented ways. Policymakers, meanwhile, must consider how to maintain the appropriate balance between control and dissemination.

(b) Economics, Character, and Speed of Digital Reproduction.

Digital representation changes both the economics and the character of reproduction. Copying digital information, even on a home computer, is easy and inexpensive: A standard (1.44 megabyte) floppy disk, which holds the equivalent of about 500 pages of text, takes no more than a minute to duplicate and is treated as if it were a piece of paper - it can be routinely given away and carried around. A compact disc (CD), which holds 650 megabytes (the equivalent of about 220,000 pages, or 44 cartons of paper²³), can be copied in 15 minutes to another blank disk using equipment now widely available for personal computers²⁴.

Copying information has always been possible, but the advent of digital information brings an extraordinary increase in the amount of information that can be easily and inexpensively reproduced. Given the widespread availability of computers, many people now have the ability to casually reproduce vast amounts of information. Consequently, the traditional physical and economic impediments to copyright infringement have been considerably undermined. Its size once meant that a 30-volume encyclopaedia could be reproduced only by those with considerable means and motive; now an encyclopaedia on a CD can be reproduced in a few minutes on what is fast becoming ordinary technology.

Piracy levels for business software in Kenya have been assessed at 78%, one of the highest piracy rates for any of the African countries surveyed by the business software industry in 2002²⁴. The report found that retail piracy is rampant in Kenya, with most computers being sold with business software installed for "free". This is what has been

²³ ^m

A blank disc and a disc writer will cost no more than shs150 and a few thousand Kenyan Shillings respectively

***International Intellectual Property Alliance, 2003 Special Report: Kenya* accessed at <http://www.iipa.com/rbc20Q3/2003SPEC301 KENYA.pdf> on October 12, 2005**

referred to as hard-disk loading piracy.²⁵ In one case, Microsoft Corporation sued a local system builder, Microskills Kenya Ltd. for illegally preloading business software on hundreds of computers. The High Court found the defendant liable to damages in the amount of Kshs. 25 Million, though it quickly invoked the law of liquidation of companies, an action which hindered Microsoft's efforts at enforcing the judgment²⁶.

The character of reproduction has changed as well. Although a photocopy often isn't as sharp as the original, a digital copy is indistinguishable from the original as are all successive digital copies. For every form of digital information, every copy is as good as the original and can therefore be the source of additional perfect copies, which greatly reduces what was once a natural impediment to copyright infringement. With the traditional form of information, the successively lower quality of each generation of copy offered a natural limitation to redistribution. With digital information there is no such limitation.

(c) Content Liberated from Medium.

Information in digital form is largely liberated from the medium that carries it. When information is sent across networks, there is no need to ship a physical substrate; the information alone flows to the recipient. The liberation of content is also evident when bits are copied across media (disk to tape to CD to floppy) with the greatest of ease. The choice of media may have consequences for the amount of storage or speed of access, but the content of the information and its properties (e.g., the ability to make exact copies) are preserved perfectly across a variety of media.

Information in traditional analogue forms (e.g. movies, paintings, sculpture) is, by contrast, far more tightly bound to the underlying physical media. It is not easily transported without the underlying medium, nor is it so easily extracted for copying. The point, of course, is comparative. Bits still need to be stored someplace, and even a sculpture can be copied, but the difference is so large - several orders of magnitude and

²⁵ *ibid*

²⁶ *Microsoft Corporation v Microskills Kenya Ltd HCC No. 323 of 1999*

constantly increasing with advancing technology - that the experience from the individual's viewpoint is qualitatively different.

The liberation of content from the medium has unsettling consequences for the protection of IP in digital form. Until very recently, intellectual works have been produced and distributed largely as analogue works embedded in a physical artefact (e.g., printed books, movies on video tape). Copyright law and practice have been worked out in the context of such artefacts, and much of our comfort with copyright law is based on the familiar properties of information closely bound to a physical substrate. Digital information changes those properties in substantial ways.

(d) New Kinds and Uses of Information.

Digital information is malleable, easily searched and indexed, and easily cross-indexed. Although a paper book is difficult to alter and hard to search even with a good index, online text can be changed easily, for instance, by adding and rearranging paragraphs. Coupled with digital transmission, plasticity of information confers, along with great advantages, the potential for fraudulent acts such as plagiarism or forgery.

In addition, although traditional documents are static - a printed book contains the same words from one moment to the next - digital documents can be dynamic, changing from moment to moment or offering different views. For example, articles posted on the Web often undergo revision in response to comments from readers. Short of making a (static) local copy, how does one cite such a thing, if it may say something different tomorrow? Even with a static local copy, who is to say what the document once said at a particular point in time, if there are at least two different versions? The plasticity of digital information could have a significant impact on the nature and value of citations and on scholarly research.

The ease of searching and indexing digital information enormously facilitates the creation of derivative works of unusual forms. Consider an online textbook. Someone knowledgeable in the field covered by the textbook may, on reading the text, decide that

there is a better order of presentation of the material and might indicate that by establishing a set of hyperlinks that effectively reorganize the book. Is the set of links a derivative work?

In a similar vein, a practice on the Web known as *framing* has raised a number of IP-related questions, particularly in the commercial context. Framing refers to one Web page presenting information from another. When both pages are the work of the same author, no issue arises. Questions arise when the framed page is the work of a different author and when the information on that page is presented in less than its entirety (e.g., without advertisements that originally appeared there, or stripped of information identifying the author). In that case has the first author's rights been infringed by the second author's adaptation?

In the music world, the ease of searching, indexing, and reproducing digital information has led to enormous growth in *sampling* - the reuse of segments of previous works - leading to questions of intellectual property infringement and fair use.

(e) Increasing Use of Licensing.

From the early days of the software market to the present, commercial distribution of digital information typically has been through the use of licenses rather than by sale. Packaged software traditionally has had a shrink-wTap license, an agreement that purportedly goes into effect upon opening the (shrink-wrapped) package. More recently, a wide variety of digital information is being marketed on the Web with what are sometimes whimsically called "**click-wrap**" licenses, an agreement presented on the screen and "agreed to" by the click of a mouse. Negotiated licenses are also used to clarify the terms governing access to large databases.

The difference between selling a work and licensing it is significant. The sale of a physical copy of a work has been the dominant model for transferring IP to the consumer for more than 200 years. Sales involve the complete transfer of ownership rights in the copy. Copyright law explicitly anticipates the sale of intellectual property products and.

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by the "first-sale rule," constrains a copyright holder's rights in copies of the work that have been sold. For example, the purchaser is free to lend, rent, or resell the purchased copy. In that sense, copyright law follows IP products into the marketplace and promotes the continued dissemination of information.

Licensing, however, constitutes a limited transfer of rights to use an item on stated terms and conditions. Licenses are governed by contract law and, as such, are essentially a private agreement between two parties. That agreement can involve a wide range of terms and conditions and need not incorporate any public policy considerations, beyond some basic limits on what constitutes an enforceable contract.

Contracting has benefits; for example, it may enable distribution of some information products that would otherwise not come to the market. But there are also drawbacks, particularly the possibility that the terms of a license may be far more restrictive than the provisions for access normally granted under copyright's first-sale doctrine. To the extent that highly restrictive licensing replaces the sale of copyrighted works, society may be the loser, especially if the public policy goals embodied in copyright law are omitted from contracts.

(f) Multiplicity of Access and Access at a Distance.

Information in digital form is accessible to thousands of people virtually simultaneously, because multiple users of a server can read the same file at their own individual pace without interfering with each other. This attribute of course makes digital information much more flexible than traditional media; a single copy of a book, for example, is not accessible to more than one or two people simultaneously.

Digital information can also be accessed remotely by, for example, using a modem that allows one computer to call another over ordinary phone lines. The ability to access information in this manner removes the need for geographical proximity, eliminating another of the familiar limitations of information in traditional forms. As a consequence,

digital information presents opportunities for access that are vastly greater than those presented by traditional media.

Its also important to note that optical fibre cable is fast being deployed as an alternative data transport media. Nevertheless the penetration of this is still low and concentrated in Nairobi and Mombasa Central Business Districts (CBDs) for example, Telkom Kenya and Kenya Data Networks have been laying fibre in Nairobi and Mombasa. **footnote ibid** <f

2.2. Computer Networks: Ease of Distribution and the Challenge of Regulation

Today, computers are routinely connected to networks that enable rapid, inexpensive distribution of information. With speeds that reach a billion characters per second on single links, computer networks are drastically changing the economics of information distribution, lowering another of the natural barriers to violation of intellectual property rights. To profit from a book or video, the publisher or (pirate) must incur the costs of reproducing it and distributing the copies. But copying digital information costs almost nothing, and networks make worldwide distribution very inexpensive and very fast. Consequently, it is easier and less expensive for a content owner to distribute a work, and significantly easier and less expensive for a pirate to engage in illegal commercial copying and distribution.

Computer networks amplify the consequences of copyright violations that were previously tolerable. It usually made little difference, in terms of lost revenue, if someone made a photocopy of a book. Photocopying an entire book is inconvenient and often more costly than buying the book, so not very many photocopies are made and distributed. Digital information has radically altered the economics involved, leading to upheavals not only in the relationships among authors, publishers, distributors, and others, but perhaps also in the disappearance of some roles and the emergence of others. The beginning of such massive change can be seen in online publication of books, in bookstores, in new forms of contracts between research libraries and publishers of scientific periodicals, and in new kinds of scholarly offerings.

Publishers are understandably concerned and cautious. They and many authors see possible loss of revenue when a single copy of a work can be widely accessed from a

digital library' at no cost to the user. How many paying subscribers to a technical journal will there be if the articles are easily available from even one online library? Although professional periodicals published on paper seem likely to persist indefinitely, it is not clear how many subscriptions will be purchased and at what price. If the number of subscriptions drops significantly, readers may enjoy the benefits of digital distribution in the short term, only to find fewer publications available in the longer term.

The speed of digital network distribution has consequences for regulability, defined as the capacity of a government to regulate behaviour within its proper reach²⁷. When physical copies must be produced and distributed, the process is spread over time and can be interrupted. When information is disseminated by computer networks, it travels to sites around the world in moments. Temporary restraining orders are of little use in forestalling deeds done in minutes. The architecture of the Internet makes regulation difficult because those whose behaviour is sought to be controlled could be located in any place. Who someone is, where he is and whether the law can be exercised over him are all questions that a government must answer before it can impose its will. These questions are made extremely difficult because of the architecture of the Internet.²⁸

2.3. The Effect of the World Wide Web: Worldwide Publishing Medium.

The World Wide Web is a vast collection of electronic documents formatted using special languages (e.g., Hypertext Markup Language (HTML)). Documents formatted in these languages have a number of properties, the most important of which are that they contain multimedia (text, graphics, audio, video) and they link to other documents (or other digital information, including databases) in a way that makes it effortless for readers to access other information. This vast collection of interconnections is what gives the Web its name and much of its interesting character.

The Internet makes it possible for computers to exchange information, while the Web provides the superstructure in which that information can be organized and published. It

Lessig. L (1999) *Code and other Laws of Cyberspace* New York: Penguin Press p 19

²⁸ *ibid*

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is. among other things, a worldwide bulletin board that can be scanned for information of interest, and on which additional information can be posted.

This superstructure is the last in the triumvirate of the impacts of digitization. Digital information radically changes the economics and character of *reproduction*, computer networks radically change the economics and character of *distribution*, and the Web radically changes the economics and character of *publication*. Reproduction and distribution put information in the hands of those who know they want it, but publication makes people aware of available information. The Web, as a publicly accessible resource, functions as a publication medium for all who have access to the Internet, allowing people to make known the existence of their work and perhaps link it to other relevant works. The Web also makes the mechanics of replication and distribution accessible to the user, who has only to click on a document to have the content delivered to his or her own computer.

One consequence is that anyone can be a publisher, and indeed the astonishing variety of documents, opinions, articles, and works of all sorts on the Web demonstrates that millions of people worldwide are making use of that capability. The ability of everyone to publish in turn leads to the possibility of "*disintermediation*," the reduction of the role of the intermediary, as authors and consumers gain the ability to connect more directly, without traditional intermediaries such as publishers. The ability of everyone to publish may also shift the publishing bottleneck: Previously the difficulty was in getting work published; in the future, the difficulty may be in getting noticed amid the profusion of works available.

The consequences for traditional publishers are still being worked out. There is both opportunity and upheaval inherent in the new technology. The opportunity comes as publishers use the Web as another medium to advertise and, in some cases, distribute their works. The upheaval comes from the difficulties of publishing information electronically without also losing control over reproduction and distribution (e.g., from copies made by those viewing the information) and from the possibility of fundamental

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changes in the role of publishers if authors find they can reach their audiences via **Web with** considerably less assistance from publishers.

CHAPTER 3

HOW DIGITAL COPYRIGHT PROTECTION POSES CHALLENGES FOR KENYA

INTRODUCTION

The stakes involved in ICT are high, both economically and in social terms. Decisions made now and in the near future will determine who will benefit from the technology and who will have access to what information and on what terms - a foundational element of copyright law and Kenya's future as an information society. To ensure that Kenya is able to construct the kind of digital copyright regime and information society it wants to have, it needs, as a society, to ask whether the existing mechanisms still work, and if not, what should be done. The options that exist for accomplishing the important goals of copyright law and policy in the digital age revolve around the need for Kenya to deal with three major issues:

- i. The Digital Divide;
- ii. Conceiving and implementing a regulatory paradigm for Copyright as a regulatory tool for Cyberspace; and
- iii. Preparing a comprehensive National ICT Policy.

3.1. The Digital Divide

The digital divide refers to the vast differential in the extent, quality and versatility of information and communications infrastructure and networking capacity between the industrial world and the developing world. This differential exists not only between but also within regions and countries and even within cities and local communities. It mirrors, approximately, the patterns of wealth in society, and the correlative distinctions of demand, affordability and political, social and economic clout required to inspire the drive from demand for information services to access. The term digital divide also refers to gaps that exist between groups regarding their ability to use Information and Communications Technologies (ICTs) effectively, due to differing levels of literacy and technical skills, as well as the gap between those groups that have access to quality,

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useful digital content and those that do not. The term became popular among concerned parties, such as scholars, policy makers, and advocacy groups, in the late 1990s.

Broadly speaking, the difference is not necessarily determined merely by access to the Internet, but any ICTs and media that different segments of society can use. With regard to the Internet, access is only one aspect, but the quality of connection and auxiliary services, processing speed and other capabilities of the computer used, and other factors could also be part of the issue. The problem is often discussed in an international context, indicating certain countries such as the United States of America (US) as being more equipped than other developing countries to exploit the benefits from the rapidly expanding Internet.

International organizations have sounded the alarm. The Organization for Economic Co-operation and Development (OECD) warned that affluent states have reinforced their lead in the new knowledge economy but so far the benefits of the Internet have not yet trickled down far to Southern, Central and Eastern Europe, let alone the poorest areas in Sub-Saharan Africa, Latin America and South East Asia²⁹. The United Nations Development Report argues that productivity gains from information technologies may widen the chasm between the most affluent nations and those that lack the skills, resources and infrastructure to invest in the information society³⁰. Echoing these concerns, United Nations Educational, Scientific and Cultural Organization (UNESCO) has emphasized that most of the world's population lacks basic access to a telephone, let alone a computer, producing societies increasingly marginalized at the periphery of communications networks³¹. Leaders in the World Bank, European Union and G-8 have also highlighted the problems of exclusion from the knowledge economy, where know-how replaces land and capital as the basic building blocks of growth³².

²⁹ OECD. 1999. *Communications Outlook 1999*. Paris: OECD pp 85-89. Also available on www.oecd.org

³⁰ UNDP. 1999. *Human Development Report 1999* NY:UNDP/Oxford p. 63

³¹ UNESCO, 1998. *World Communication Report The Media and Challenges of the New Technologies*. Paris: UNESCO

³² See, for example, the G-8 *Okinawa Charter on Global Information Society* July 23, 2000 <http://www.g8kyushu-okinawa.go.jp/w/documents/itl.html>

3.1.2 Kenya and the Digital Divide

Kenya, a developing country, has a population of 30 million people of which more than half are under 25 years. Almost 80 percent of the population lives in rural areas and 5 percent of Kenyans possess 95 percent of the wealth. On average 300 US dollars are earned per person annually. The telecommunications infrastructure consists of 2.5 million cell phones and 0.3 million fixed lines and one personal computer (PC) per 100 inhabitants'. As observed by Kenya's Minister of Finance, "we still have much ground to cover before achieving a reasonable level of connectivity and cost effectiveness in telecommunication services. We urgently need to increase the stock of fixed lines, and make them reliable and cost effective"³⁴.

The Kenyan economy has performed poorly over the last two decades leading to deterioration in the quality of life of Kenyans. Among the reasons for this poor performance include poor implementation of economic policies, mismanagement, and weak institutions of governance. After making initial gains soon after independence, the economy started a downward trend during the late 1980s and this deteriorated by late 1990s. Reforms of the 1980s and 1990s that sought to deal with structural problems appear to only have had limited success in stimulating economic growth. This is particularly so because little progress was made in improving economic governance. Resulting from that poor economic performance is chronic poverty, declining social and economic infrastructure, unemployment, high domestic and foreign debt, crime, deterioration in health status, declining school enrolments and generally a marked decline in the quality of life³⁵.

Recognizing that efficient and cost effective information and communication technology has become essential to economic growth and development, the Kenyan Government consulted with stakeholders and began to prepare an ICT policy which would provide

³³ ACTeN. 2005 Content Market Monitor Newsletter 17: *Kenya Faces Digital Divide*

<http://www.acten.net/cgi-bin/WebGUI/www/index.pl/newsletter17> Accessed on April 10, 2005

³⁴ Budget Speech delivered to Kenya's National Assembly, on 10th June, 2004, By Hon. David Mwiraria, MP, Minister For Finance when presenting The Budget for the Fiscal Year 2004/2005

³⁵ Government of Kenya, 2003 *Economic Recovery Strategy for Wealth and Employment Creation 2003-2007* June 2003, Ministry of Planning and National Development. Preamble.

guidelines on the use of internet and other forms of telecommunications while increasing access to ICT at much lower costs⁶⁶. That the country has only recently seen the need for an ICT policy justifies the presupposition that the incorporation of information technologies into the community in order to promote education and improve the quality of life, referred to as digital inclusion, is yet to be realized.

The digital divide is not actually a clear single gap that divides a society into two groups. There are various dimensions of the divide that present challenges to Kenya. Disadvantage can take such forms as lower-performance computer, lower-quality or high price connection (i.e. narrowband or dialup connection), difficulty of obtaining technical assistance, and less access to subscription-based contents.

The cost of service may differ depending on location. Rural areas typically pay more for Internet access yet often receive poor quality service, comparatively. This truism serves as an effective illustration of the essence of the digital divide as a continuous, rather than binary, problem. The inequality between cost paid and benefit received from the Internet amongst various social groups is the essence of the digital divide as a social problem in Kenya and throughout much of the developing world.

In these early days of digital divide analysis in Kenya, the availability of Internet access at an affordable cost might be the key issue. Later, social penetration of the Internet and technological advances might render this distinction as the chief concern of the digital divide obsolete. As Internet connectivity becomes popular, sufficient broadband connection will become an issue and the discussion of the divide will shift to an analysis of the people who have broadband connections and those who have narrowband.

3.1.3 What the Digital Divide Means for Copyright Protection in Kenya: Information and Knowledge Divide

An offshoot of the digital divide is what may be referred to as information and cultural imperialism by the digitally advantaged countries. Looking at either side of the divide,

⁶⁶ *ibid* p. 24

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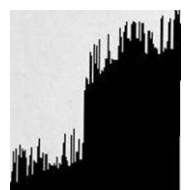
there is a vast differential not only in the access to information and data, but in the ability to put a spin on both and post them on the global tableau as the predominant information and interpretation of facts and events. There is therefore a differential in the access to, mastery of and the capacity to meaningfully deploy knowledge systems. The disproportionate ability by one sector of the world to post myopic information, invariably vested with self-interested interpretation, poses a serious threat to the value of information in the global arena and blanks out information from a major proportion of human society. ⁷ The inability of the digitally disadvantaged to tell their own story to the jury of the world creates an intense sense of injustice and deprivation and unyieldingness as a generalized protection against the machinations of the digitally advantaged.

An illustration of this asymmetry is the manner in which current intellectual property systems ignore the contribution of traditional knowledge and the hostility that African and other developing countries have experienced in attempting to secure intellectual property protection for such knowledge. The United States, for instance, has been opposed to the inclusion of the traditional knowledge agenda in the agreement on Trade Related Aspects of Intellectual Property (TRIPs) Council. The root of the problem is the clash of paradigms between African and Western concepts of intellectual property. For instance, the idea of private ownership of knowledge was alien to traditional African communities as there was a continuous sharing, transmittal and exchange of resources and information⁸. One of the defining characteristics of local African societies is the predominantly communal nature of knowledge systems. Communities largely organized themselves to produce for and cater for their members. By and large, generosity and reciprocity were core values of most local cultures and people generally shared knowledge (the raw material for copyright) and resources. Generally, 'ownership' was

⁷ Okpaku, OJ (2001) *Ownership of Problems. Intellectual Property and the Digital Divide: The Enabling Challenge of Solutions*

<http://unpan1.un.org/intradoc/groups/public/documents/CAFRAD/UNPANO10505.pdf>

⁸ Nnadozie, Kent (2004) *African Perspectives on Genetic Resources: Integrating African Perspectives and Priorities into Genetic Resource Regulations: A Resource Guide for Policymakers* Environmental Law Institute p. 9



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not absolute but was usually linked to usage and resource management with attendant rights to benefit from knowledge and innovation based on needs and equity³⁹.

Already, many of these African traditional concepts have been subordinated to the more "contemporary" Western concepts. Many oral traditions, which constitute a powerful cultural force and spiritual resource for many African and other developing world communities, have stagnated because they have become fixed in folklore copyright while authors prefer to hoard the ownership of their works by invoking Western-based forms of legal protection, such as literary and artistic works, audio visual works, broadcasts, etc. Orality has almost fully conceded its role to literacy and other modernized forms of rendering a work.

Cultural and knowledge imperialism is not just an attribute of the digital divide. It is in a much broader sense an implicit component of the thrust of globalization. Addressing the needs of the poor is an intrinsically decentralised exercise that requires innovative and distributed financing. A systematic understanding of the poor, their social and political context and the placed on them due to lack of ICTs. Identify innovative approach making provisions for those who cannot afford access to them and reduce expenditure, by avoiding transplanting applications that worked in countries to the context of the poor regions. Financial mechanisms for the information society from a global perspective.

3.2. The Difficulty of Conceiving and Implementing a Regulatory Paradigm for Cyberspace

Global computer-based communications cut across territorial borders, creating a new realm of human activity and undermining the feasibility and legitimacy of laws based on geographic boundaries.

3.2.1 When Geographic Boundaries for Law Make Sense

Physical borders are not, of course, arbitrary creations. Although they may be based on historical accident, geographic borders for law make sense in the real world. Their logical

³⁹ *ibid*

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relationship to the development and enforcement of legal rules is based on a number of related considerations:

Power. Control over physical space and the people and things located in that space, is a defining attribute of sovereignty and statehood. Law-making requires some mechanism for law enforcement, which in turn depends on the ability to exercise physical control over, and impose coercive sanctions on law violators. For instance, the Kenyan government does not impose its copyright law on a Ugandan business operating in Uganda. Such an assertion of control would conflict with the Ugandan government's recognized monopoly on the use of force over its citizens.

Effects. There is a deeply rooted relationship between physical proximity and the effects of any particular behaviour. That is, Kenya's criminal law largely governs criminal acts committed within Kenya because the act has a more direct impact on persons and things within Kenya than anywhere else.

Legitimacy. It is a generally accepted notion that the persons within a geographically defined border are the ultimate source of law-making authority for activities within that border. The consent of the governed implies that those subject to a set of laws must have a role in their promulgation.

Notice. Physical boundaries are also appropriate for the delineation of "law space" in the physical world because they can give notice that the rules change when the boundaries are crossed.

3.2.2 The Absence of Territorial Borders in Cyberspace

Cyberspace radically undermines the relationship between legally significant (online) phenomena and physical location. The rise of the global computer network is destroying the link between geographical location and:

- (a) The *power* of the local government to assert control over online behaviour;
- (b) The *effects* of online behaviour on individuals or things;
- (c) The *legitimacy* of a local sovereign's efforts to regulate global phenomena; and

(d) The *ability* of physical location to give notice of which sets of rules apply.

Cyberspace has no territorially based boundaries, because the cost and speed of message transmission on the Internet is almost entirely independent of physical location. Messages can be transmitted from one physical location to another without degradation, decay or substantial delay and without any physical cues or barriers that might otherwise keep certain geographically remote places and people separate from one another. The Internet is indifferent to the physical location of the individual computers accessing it and there is no necessary connection between an Internet address or web page and a physical location.

Some governments' first response to electronic communications crossing their territorial borders is to try to stop or regulate that flow of information - to map local regulation and physical boundaries into Cyberspace. China, for instance, embarked on such a regulatory initiative to prevent "detrimental information" from entering its territory via the Internet⁴⁰. But the dilemma for Kenya, and other countries which hope to participate in global commerce, is that such measures might not only be futile but also counterproductive. Individual electrons can easily, and without any realistic prospect of detection, "enter" any sovereign's territory. The volume of electronic communications crossing territorial boundaries is just too great in relation to the resources available to government authorities. For instance, the United States' customs officials have generally given up. They assert jurisdiction only over the physical goods that cross the geographic borders they guard and claim no right to force declarations of the value of materials transmitted by modems.⁴¹

In 1998, the Kenyan Parliament enacted the Kenya Communications Act, which set out a new framework for the development of telecommunications in a liberalized environment. The Act repealed the Kenya Posts and Telecommunications Act of 1977 under which the Kenya Posts and Telecommunications Corporation (KPTC) managed the country's telecommunications services. The reform from KPTC's monopolistic stronghold was

⁴⁰ Lewis. P H. *Limiting a Medium Without Boundaries* New York Times, January 15, 1996 at D1.

⁴¹ Radin. JM *et al* (2002) *Internet Commerce: The Emerging Legal Framework* Foundation Press: New York p. 5

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inspired by global trends in the industry (towards liberalization and privatization), the inability of KPTC to satisfy demand and demand for advanced services, such as the Internet. KPTC was split into three legal entities, namely Telkom Kenya Limited (TELKOM)- established as a public telecommunications operator; Postal Corporation of Kenya - the public postal licensee; and the Communications Commission of Kenya (CCK) - the regulatory body for the sector. The overall government objective for the sector was "...to optimize its contribution to the development of the Kenyan economy as a whole by ensuring the availability of efficient, reliable and affordable communication services throughout the country.."⁴². This is the objective that has informed the CCK's regulatory mandate. The CCK is content to take its place as the vanguard of a modern regulatory regime suitable for a multi-operator environment necessary to support the revitalization of the telecommunications and postal sectors. It is concerned with providing for the rights and obligations of licensees and service consumers as well as setting out the principles on interconnection, public service obligations and fair competition which will ensure protection of consumers and investors interests⁴³. It therefore makes no pretensions about regulating what goes on in Cyberspace.

The rise of an electronic medium that disregards geographical boundaries throws the law into disarray by creating entirely new phenomena that need to become subject to clear legal rules but that cannot be governed, at least satisfactorily, by any current territorially based sovereign. The dilemma for Kenya, and many other jurisdictions which seek to enforce copyright law over the Internet, is intractable. Because events on the Internet occur everywhere but nowhere in particular, are engaged in by online personae who are both "real" (able to affect the citizens of Kenya) and "intangible" (not traceably tied to any particular person in the physical sense) and concern "things" (messages, databases, etc) that are not necessarily separated from one another by any physical boundaries, Kenya cannot claim to have a more or even less compelling right to regulate online activity than any other jurisdiction. This has serious implications on the future of copyright protection for works existing in digital form.

⁴² Government of Kenya. *Telecommunications and Postal Sector Statement*, December 2001
" See generally. The Kenya Communications Act, 1998

3.2.3. *Jurisdictional Issues*

The fact that information in digital form can be made accessible to thousands or millions of people virtually simultaneously reduces the impact of geography as a natural barrier to information and as a consequence, digital information presents opportunities for access that are vastly greater than those presented by traditional media.

Yet geography is a pertinent aspect of the authority of the courts of law. i.e. jurisdiction. For a court to adjudicate a case, it must have subject-matter jurisdiction over the matter in controversy and personal jurisdiction over the parties before it. Subject-matter and personal jurisdiction are inextricably related to geography - they relate to a particular thing or person doing a particular thing in a particular place at a particular point in the continuum of time. In that regard, the laws of Kenya apply within the defined geographical space that comprises its territory and they apply to Kenya's subjects (being citizens of Kenya and corporate bodies incorporated under the laws of Kenya) or to other persons who either consensually submit to the authority of Kenyan law or whose nature of contact with the subjects or the territory of Kenya necessarily makes them amenable to its laws⁴⁴.

Several provisions of Kenyan laws amplify the relevance of territory to the reach of the law:

i. The Constitution:

"This Constitution shall have the force of law *throughout Kenya..*"⁴⁵

ii. The principal enactment on criminal law which lays down the principles of criminal liability and prescribes a range of punishments for various criminal offences:

"[T]he jurisdiction of the courts of Kenya....*extends to every place* including territorial waters"⁴⁶.

iii. The statute that enacts the norms of practice and procedure in criminal courts:

⁴⁴ Subject to certain exceptions relating to persons and geographical spaces accorded diplomatic immunity.

⁴⁵ Section 3

⁴⁶ Penal Code (chapter 63 of the laws of Kenya) Section 5

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"Every court has authority to cause to be brought before it any person who is within the local limits of its jurisdiction and is charged with an offence committed *within Kenya*, or which according to law may be dealt with as if it had been committed *within Kenya*, and to deal with the accused person according to its jurisdiction"⁴⁷.

(Emphasis supplied).

The fluid nature of digital communications has created difficulties for courts when they have been called to apply the rules of personal jurisdiction. It can reasonably be anticipated that the Kenyan courts will also soon have to embrace these difficulties. First, because websites, newsgroups and Internet mailing lists are accessible with equal ease from any location where there is Internet access, courts must navigate between the equally unpalatable options of holding that because no single state can claim territorial jurisdiction to enforce copyright law on the Internet, online activity subjects a person to jurisdiction in every country or that online activity is not a basis for jurisdiction at all. Second, it is often difficult to determine where an online violation of copyright should be deemed to take place. Since jurisdictional issues depend crucially on the location of the acts that give rise to a dispute, difficulty in locating actions causes difficulty in resolving jurisdictional issues.

3.2.4. The North American Approach

Courts in the United States of America have dealt with so many cases of this nature and they have begun to evolve a set of principles. However, the law of personal jurisdiction over the Internet remains in its infancy. The approach seems to be that the likelihood that personal jurisdiction can be constitutionally exercised is directly proportionate to the nature and quality of commercial activity that an entity conducts over the Internet.⁴⁸ This sliding scale appears to be consistent with well-developed traditional personal jurisdiction principles. At one end of the spectrum are situations where a person clearly does business over the Internet. If he enters into contracts with the residents of a foreign jurisdiction

⁴⁷ Criminal Procedure Act (chapter 75 of the laws of Kenya) section 66

⁴⁸ Radin. *ibid*, p . 472

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that involve the knowing and repeated transmission of computer files over the Internet, personal jurisdiction is proper⁴⁹. At the opposite end are situations where a person has simply posted information on an Internet website which is accessible to users in foreign jurisdictions. A passive web site that does little more than make information available to those who are interested in it is not a ground for the exercise of personal jurisdiction⁵⁰. The middle ground is occupied by interactive websites where a user can exchange information with the host computer. In these cases, the exercise of jurisdiction is determined by examining the level of interactivity and commercial nature of the exchange of information that occurs on the website⁵¹.

3.2.5. The Kenyan and Common Law Approach

The courts of Kenya are yet to have the opportunity to determine a jurisdictional question arising from the use of the Internet, newsgroups and the like. When this opportunity comes, perhaps they will draw jurisprudential analogies with a case in which a company had contracted a Kenyan citizen incorporated in Uganda under a contract of employment that did not state which law (whether Kenyan or Ugandan) was to govern it." The contract was signed in Uganda but the employee was based in the company's Kenya office. The Court applied well settled principles of English contract law to determine the issue: where the contract is silent on the applicable law,

"...the court will infer the law which the parties ought to have intended to apply from the terms of the contract itself and the circumstances surrounding it... The presumption in favour of *lex loci contractus* (the law of the place where a contract is made) comes into operation if the place where the contract is made coincides with the place where it is to be performed. The plaintiff has rebutted this presumption by a stronger presumption of *lex loci solutionis*, the place where the contract is to be performed....the proper law is that with which the transaction has

⁴⁹ See for example: *CompuServe Inc. v. Patterson* 89 F 3d. 1257 (6th Cir. 1996)

See for example: *Bensusan Restaurant Corp. v. King* 937 F. Supp. 295 (SDNY 1996)

⁵⁰ See for example: *Maritz Inc. v. CybergoldInc.* 947 F. Supp. 1328 (E.D. Mo. 1996)

Radia v Transocean (Uganda) Ltd [1985] KLR 300

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its closest and most real connexion...the parties intended the contract to be governed by the law of Kenya"".

While not all jurisdictional disputes will arise from a contractual relationship between the parties, this decision and perhaps the trends set by the American courts may serve as pointers to the general direction that the Kenyan courts will look when the issue of exercising jurisdiction for acts performed over the Internet or across international digital networks comes up before them.

However, that is far from saying that the fundamental questions on Internet jurisdiction are settled with clarity. Is Cyberspace a place capable of being regulated or merely a medium of communication? If Kenya can assert personal jurisdiction over a foreigner on account of the contact that his online activity has on Kenya's interests, what, with regard to communications of an electronic nature, is sufficient contact? Is it an email, an online contact, an interactive website or a bulletin board, for example? How can Internet jurisdiction be exercised without violating the sovereignty of another state?

3.2.6. The Challenge and Opportunity for Kenya's Regulators and Authors: Treating Cyberspace as a Distinct Place and Establishing Trusted Sources of Quality Content

Taking Cyberspace seriously could clarify the current intense debate about how to apply copyright law principles in the digital age. In the absence of global agreement on applicable copyright principles, the jurisdictional problems inherent in any attempt to apply territorially based copyright regimes to electronic works simultaneously available everywhere on the globe are profound.

As Jane Ginsburg posed: Should the rights in a work be determined by a multiplicity of inconsistent legal regimes when the work is simultaneously communicated to scores of countries? Simply taking into account one country's laws, the complexity of placing works in a digital network is already daunting; should the task be further burdened by an

'' Ibid Per Sheridan J at p. 307

obligation to assess the impact of the laws of every country where the work might be received? Put more bluntly, for works on the global information infrastructure, there will be no physical territoriality. Without physical territoriality, can legal territoriality persist?⁵⁴

But treating Cyberspace as a distinct place for purposes of legal analysis does more than resolve the conflicting claims of different jurisdictions: It also allows the development of new doctrines that take into account the special characteristics of the online "place."

The basic justification for copyright protection is that bestowing an exclusive property right to control the reproduction and distribution of works on authors will increase the supply of such works by offering authors a financial incentive to engage in the effort required for their creation. But even in the "real world," much creative expression is entirely independent of this incentive structure, because the author's primary reward has more to do with acceptance in a community and the accumulation of reputational capital through wide dissemination than it does with the licensing and sale of individual copies of works.⁵⁵ And that may be more generally true of authorship in Cyberspace; because authors can now, for the first time in history, deliver copies of their creations instantaneously and at virtually no cost anywhere in the world, one might expect authors to devise new modes of operation that take advantage of, rather than work counter to, this fundamental characteristics of the new environment.

Much chargeable value will be in certification of authenticity and reliability, not in the content. Brand name, identity, and other marks of value will be important; so will security of supply. Customers will pay for a stream of information and content from a trusted source. For example, the umbrella of *The New York Times* sanctifies the words of

Ginsburg, J.C. (1995) *Global Use/Territorial Rights: Private International Law questions of the Global Information Infrastructure* J. COPY. SOC. 318, 319-320.

" For example, the creative output of lawyers and law professors - law review articles, briefs and the like - may well be determined largely not by the availability or unavailability of copyright protection for those works but because that category of authors generally obtains reputational benefits from wide dissemination that far outweigh the benefits that could be obtained from licensing individual copies.

its reporters. The content churned out by *Times* reporters is valuable because the reporters undergo quality control and because others believe them.

The trick is for an author to control not the copies of his work but instead a relationship with the customers - subscriptions or membership. That's often what the customers want, because they see it as an assurance of a continuing supply of reliable, timely content.

A profound shift of this kind in regard to authorial incentives fundamentally alters the applicable balance between the costs and benefits of copyright protection in Cyberspace, calling for a reappraisal of long-standing principles. So, too, do other unique characteristics of Cyberspace severely challenge traditional copyright concepts? The very ubiquity of file "copying" - the fact that one cannot access any information whatsoever in a computer-mediated environment without making a "copy" of that information - implies that any simple-minded attempt to map traditional notions of "copying" onto Cyberspace transactions will have perverse results.

The application of the "first sale" doctrine (allowing the purchaser of a copyrighted work to freely resell the copy he purchased) is problematic when the transfer of a lawfully owned copy technically involves the making of a new copy before the old one is eliminated, as is defining "fair use" when a work's size is indeterminate, ranging from (1) an individual paragraph sold separately on demand in response to searches to (2) the entire database from which the paragraph originates, something never sold as a whole unit.

Treating Cyberspace as a distinct location allows for the development of new forms of intellectual property law, applicable only on the Internet, that would properly focus attention on these unique characteristics of this new, distinct place while preserving doctrines that apply to works embodied in physical collections (like books) or displayed

Liiman, Jessica (1995) The Exclusive Right to Read. 13 Cardozo Arts & Ent. L.J. 29, 40-42 (noting that under a view that "one reproduces a work every time one reads it into a computer's random access memory ... any act of reading or viewing [a digital] work would require the use of a computer and would, under this interpretation, involve an actionable reproduction".

in legally significant physical places (like theatres). Current debates about applying copyright law to the Internet often do, implicitly, treat it as a distinct space, at least insofar as commercial copyright owners somewhat inaccurately refer to it as a "lawless" place. The civility of the debate might improve if everyone assumed the Internet should have an appropriately different law, including a special law for unauthorized transfers of works from one realm to the other; it would be possible, in other words, regulate the smuggling of works created in the physical world, by treating the unauthorized uploading of a copy of such works to the Internet as infringement. This new approach would help promoters of electronic commerce to focus on developing incentive-producing rules to encourage authorized transfers into Cyberspace of works not available now, while also reassuring owners of existing copyrights to valuable works that changes in the copyright law for the Internet would not require changing laws applicable to distributing physical works. It would also permit the development of new doctrines of implied license and fair use that, as to works first created on the Internet or imported with the author's permission, appropriately allow the transmission and copying necessary to facilitate their use within the electronic realm¹.

3.3. The Lack of an ICT Policy

3.3.1. ICT Policy Framework

The term "information policy" has been used to refer to policy initiatives that promote the use of tools and concepts associated with the "global information society", with a view to realising their potential in achieving national, social and economic development goals. In many cases, integration of the national economy with the global knowledge-based economy is one of these goals.

There is no such thing as a single information policy but rather those policies address specific issues, and that effective compromises have to be made between competing interests. Policies should be flexible, dynamic and responsive to changing circumstances.

For example, we could adopt rules that make the "caching" of web pages presumptively permissible, whether there is no explicit agreement, rather than adopting the standard copyright doctrine to the contrary (Caching involves copying Web pages to a hard drive so that future trips to the site take less time to complete). Because making "cached" copies in computer memory is essential to speed up the operation of the Web, and because respecting express limits or retractions on any implied license allowing caching would clog up the free flow of information, we should adopt a rule favouring browsing.

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Information policy is also not just about information technology. Good policy with regard to the building of the Information Society must rely not only on sufficient technical and material resources (the networks) and skills, but also be coherent with other societal policies.

Three hierarchical levels for information policy can be identified:

Infrastructural Policies would deal with the development of national (or more recently, also regional) infrastructures required to support an information society. The absence of infrastructural policies and implementation strategies would make it virtually impossible to deliver on any other vertical or horizontal ICT-related policies. It is thus a prerequisite for progress in other areas; *Vertical Information Policies* would include sectoral policies such as education, tourism, manufacturing, health, etc and *Horizontal Information Policies* would be those policies that impact on broad aspects of society, e.g. policies relating to freedom of information, tariffs and pricing, and the use of ICTs by government internally and in its relationships with citizens, business, labour, academia, etc.

The need for integrating national ICT strategies overlaps with four well-established policy fields: technology, industry, telecommunications and media. Sectoral policies such as education, employment, health, and welfare increasingly have to address issues relating to ICTs and the growing interdependence between the development of ICT policies and sectoral policies. Experience to date has shown that, in the absence of an existing national ICT policy, the tendency is towards the creation of sector-dependent policy that addresses only its own ICT needs. These policies become firmly entrenched within the sector and later attempts to integrate them into a broad all-encompassing ICT policy become difficult

Countries intent on pursuing the development of an integrated ICT policy will have to develop mechanisms for ensuring that there is a high level of collaboration from all relevant government departments, and from the much larger group of stakeholders impacted by, and impacting on ICT policy.

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Anyone scanning ICT news across Africa will find that many countries are currently undergoing government-led, internationally backed reforms geared to reducing poverty in response to the widely publicised United Nations Millennium Development Goals . Many countries are going through national ICT policy formulation processes (sometimes referred to as national "e-strategies") intended to assist countries to deploy, harness and exploit ICTs for socio-economic development at the local, national and sub-regional levels; and to enable citizens' access to affordable telephones, broadcasting, computers and internet services.

3.3.2. The Place of Copyright in ICT Policy

As observed in the previous chapters, copyright has always been at war with technology. Before the printing press, copying was so expensive that that there was not much need to protect an author's copyright - nature itself protected that right. But as the cost of copying decreased, the threat to the author's control increased. As each generation has delivered a technology better than the last, from the printing press to desktop publishing, the ability of the copyright holder to protect his intellectual property has been weakened.

Up to now, the law could respond to an increased threat to copyright by advances in technology quite easily. If photocopying machines in libraries posed a new threat to the right, then the law could be modified to better deal with photocopying machines. If videotape allowed television viewers to tape a show to view at a different time, the law could be modified to deal with time shifting/" Now, Cyberspace has changed not only the technology of copying but also the power of the law to protect against illegal copying. It does both simultaneously and extremely quickly. Not only does the Internet promise perfect copies of digital originals at practically no costs, but it also imposes difficulties on law enforcers in tracing and punishing copyright infringement. This is evident from the previous discussion on the difficulties of conceiving a regulatory paradigm for Cyberspace and the territoriality/jurisdictional dilemma. The threat posed by technology is maximal, while the protection promised by law is minimal. As Lessig puts it:

hop:// www.un.org/millenniumgoals/.

' See *Sony Corporation of America v Universal City Studios Inc.* 464 US 417, 421 (1984)

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"For the holder of the copyright, Cyberspace appears to be the worst of both worlds - a place where the ability to copy could not be better, and where the protection of law could not be worse".⁶⁰

When such a fundamental threat is posed to the law, it is time for a paradigm change. A time to seek alternatives to copyright legislation in an era of rapid technological change. And where does the paradigm of the law lie? It is in policy.

In the United States, a White Paper produced by the Commerce Department in 1995⁶¹ was released after soliciting comments for more than two years about how Cyberspace threatened copyright. One of the paper's proposals went far beyond the traditional means of proposing changes in the law. It proposed increased educational efforts, both in the schools and among the general public, about the nature of intellectual property and the importance of protecting it. In addition, the United States government went into financial and legal support for the development of copyright management schemes - software that would make it easier to control access to and use of copyrighted material.

This highlights a fundamental change in the global information infrastructure - the role of software, or code, as Lessig calls it, in the protection of copyright.

"Code can and increasingly will, displace law as the primary defence of intellectual property in Cyberspace. Private fences, not public law"⁶².

Policy and regulation that govern public access and dissemination of public information should consider not merely the strengthening of the existing legal regime for the protection of copyright but even more importantly, the role of software in ensuring that protection. For instance, one of the declared aims of Bangladesh's ICT policy is to

⁶⁰ Lessig, p 125

Information Infrastructure Task Force. Working Group on Intellectual Property Rights. (1995). *Intellectual property and the National Information Infrastructure*. Washington. DC: Department of Commerce

⁶² Lessig, p 127

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"Establish legislative and regulatory framework for ICT issues like Intellectual Property Rights, data security and protection, digital signature, e-Commerce. ICT education...."⁶³

3.3.3. The Inadequacy of Kenya's ICT Policy Initiative

Kenya's 2003-2007 Economic Recovery Strategy For Wealth and Employment Creation (ERS) contains the Economic Recovery Action Plan, which is the blueprint that has been guiding the Government's economic policies. The central focus of the Plan is job creation through sound macroeconomic policies, improved governance, efficient public service delivery, an enabling environment for the private sector to do business, and through public investments and policies that reduce the cost of doing business. The Plan also includes an equity and social-economic agenda focusing on reducing inequalities in access to productive resources and basic goods and services.

The ERS identifies key growih sectors and an average growth per annum projection during the five-year strategy period of 5.0% in the ICT sector. In comparison, the Kenya investment programme data for the same period shows only a 0.27% planned investment into the ICT sector. From an investment point of view there is no explanation of how the 5.0% sustained growth would be achieved with an investment of a mere 0.27% of which only about half of the funds are available. This means that the actual investment could be less than 0.15% going into ICT of the overall investment expected to be injected into the Kenyan economy between 2003-2007. This indicates the inconsistencies of the government's understanding of the potential of ICT contribution to economic growth.

Even more importantly, the ERS identifies two priority objectives for telecommunications and ICT, namely, reliable, efficient and affordable communications and improved access to information. It fails to include in its workplan such important priorities such as:

- i. Reducing the Digital Divide;

**Government of the People's Republic of Bangladesh (2002) *National Information and Communication Technology (ICT) Policy* Ministry of Science and Information & Communication Technology
hup: www.bccbd.org/html/itpolicv.htmfl.0 accessed on April 25, 2005**

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- ii. Strengthening ICT capacity to support core government functions;
- iii. Supporting communications workflow processes and service delivery;
- iv. Facilitating information management and sharing; and
- v. Stimulating and supporting the nation's participation in the global economy.

Kenya does not have an ICT policy. It only released a draft national ICT policy in 2003 just prior to the World Summit on the Information Society in Geneva. In March 2004, during what was termed the National ICT Convention aimed at bringing together a wide group of stakeholders to discuss Kenya's ICT policy and at working towards an implementation strategy, the government informed participants that the draft policy had been updated and reviewed. A presentation on the draft framework of the national ICT policy illuminated conference participants on important questions regarding the current ICT policy:

- i. Kenya's key policy documents fail to incorporate the role of ICT as an enabler of various goals included in government plans to transform the country into a Newly Industrialized Country (NIC) by the year 2020, and as an enabler of national programs to reduce poverty and promote economic recovery.
- ii. The Kenyan government has been slow to formulate and implement an ICT policy and it is only recently that it announced an e-government strategy.
- iii. The ICT policy formulation and implementation strategies vacuum has been filled by efforts from the private sector and civil society actors.
- iv. The current policy defines the role of government, as the principal policy-making authority while the role of the private sector is relegated to one of operator and civil society is somewhat lost in the middle.
- v. The current policy framework defines the main policy issues in terms of economic impact, liberalization of certain key sectors, e-commerce, e-government and human resource development."⁶⁴

⁶⁴ <http://africa.rights.apc.org/newsletter.shtml?x=19018> accessed on May 2, 2005

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So the convention mirrored the problem of Kenya's ICT policy. At the heart of the matter is the government's failure to address ICT policy and strategy in a cohesive and comprehensive manner. The current draft policy apart from not being publicly available is said to be lacking in many areas and there is no clearly defined strategy. During the convention, a government representative talked about Kenya's latest initiative. An 'e-government strategy', aimed at applying ICTs to transform the efficiency, effectiveness, transparency and accountability of exchanges within government, between government and citizens and businesses locally and abroad, was released in March 2004 and was supposedly ready for implementation. The strategy outlines ambitious plans, including the delivery of all published material into the public domain through relevant government and departmental websites networking of all ministries and departments. While all this seemed well intentioned. what is thrown into relief is the government's ad-hoc approach to ICT policy and implementation strategies. Kenya is rushing into a complex e-government strategy without having first finalised a national ICT policy.

Kenya's current draft policy lacks a single vision that harmonizes the efforts of the public and private sector, civil society entities and communities. Also, some key issues such as infrastructure development, human resource capacity building and dealing with the digital divide have been poorly addressed and the government has not paid sufficient consideration as to how ICT initiatives will be funded, again corroborating economic data demonstrating the under-funding of ICT investment.

Due to the lack of an ICT policy, there is poor guidance in conceiving solutions to the challenges of protecting copyright in the information age as well as in the formulation of timely and suitable legal reforms that can create an ICT-friendly environment, such as the legal recognition of digital signatures, the "originality" of a digital copy and the introduction of computer-generated exhibits in evidence in court proceedings'. The policy and legal changes in the intellectual property regime that can inspire the realignment of business strategies by authors and business firms necessary for the

A recent amendment to section 65 of the Evidence Act (Chapter 80) (brought through Act No. 9 of 2000) allows the production in evidence of "a statement contained in a document and included in printed material produced by a computer" but the circumstances under which this can be done are too restrictive.

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development of copyright management schemes are yet to be embraced. The diagnosis therefore bleak for intellectual property in general and copyright in particular.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

INTRODUCTION

The three technological trends - the ubiquity of information in digital form, the widespread use of computer networks, and the rapid proliferation of the World Wide Web - have profound implications for the way copyright is created, distributed, and accessed by virtually every sector of society. The stakes are high in terms of both ideology and economics.

The information infrastructure offers both promise and peril: promise in the form of extraordinary ease of access to a vast array of information and emerging markets, and peril from opportunities both for information to be reproduced inappropriately and for information access to be controlled in new and problematic ways. Providing an appropriate level of access to digital copyright is central to realizing the promise of the information infrastructure. Ensuring that this appropriate level of access becomes a reality raises a number of difficult issues that in the aggregate constitute the digital dilemma. This chapter articulates these difficult issues, provides a framework for thinking about them, and offers ways of moving toward resolving the dilemma.

4.1. Bridging the Digital Divide

Public access to published works is an important goal of copyright law. The traditional model of publication - the distribution of physical copies of a work - has been effective as the fundamental enabler of public access. Enough copies of a work are usually purchased (e.g. through libraries and other institutions and by private individuals) that it becomes part of the social, cultural, and intellectual record and the work is thus accessible to sufficiently motivated members of the public. There is also a long-standing (if not always explicitly articulated) understanding that this social and cultural record will continue to accumulate, be preserved, and be available for consultation. At least since the modern era of public libraries, broad access to a college education and mass media, such information has become increasingly available.

Public access, and the social benefits that arise from it, may be an undervalued aspect of our current social processes and mechanisms. As one example, while the first-sale rule enables access that may result in loss of revenue for publishers (because some people or organizations who are able to borrow a book would have purchased it instead), the larger social benefits the doctrine of first sale rule is not restricted by copyright on resale provided that those copies were made by or with the permission of the copyright holder. An informed citizenry and the democratization of information and knowledge - can be substantial. Those benefits also have a significant and longer-term impact in encouraging the creation of new knowledge and new works. Having a well informed and educated populace ultimately contributes to a larger potential market for authors and publishers. Hence, the public access to material that is made possible in the hard-copy world by the first-sale rule can be worth more to society than the modest revenue lost to publishers. Beyond the economic issues, an informed citizenry and informed discourse are vital to the health of a free and democratic society.

Information and communications technology is also a key weapon in the war against world poverty. When used effectively, it offers huge potential to empower people in developing countries and disadvantaged communities to overcome development obstacles, address the most important social problems they face, and strengthen communities, democratic institutions, a free press, and local economies. Yet the digital divide separates those who can access and use ICT to gain these benefits, and those who do not have access to technology or cannot use it for one reason or another.

The extent and rate of ICT penetration in Kenya's rural areas and the integration of ICT support in governmental functions is in dire need of improvement. Already, commendable measures have been undertaken to reduce the cost of infrastructure¹⁶⁶ and to deliver the Internet to rural communities¹⁶⁷.

¹⁶⁶ For instance, the 2003/2004 Budget removed import duty on computers, computer accessories and a variety of other related materials "to encourage the development of Information Technology".

¹⁶⁷ In 2003, the Kenya Post Office embarked on a program to install satellite connectivity and Internet access in both rural and urban post offices nationwide.

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Installing computers and connections in underdeveloped communities is only part of what is needed to put information and communications technology to use for socio-economic development. An understanding of grassroots realities, pooling of resources, and a favourable regulatory system are among the many elements necessary in an effective approach to the digital divide. It is crucial that development efforts ensure that people have real access to ICT so they can use it effectively to improve their lives. Computers and connections are insufficient if the technology is not used effectively because it is not affordable; people do not understand how to put it to use; people are discouraged from using it; or the local economy cannot sustain its use. ICT projects will only be widely successful in a developing country such as Kenya when all of the other components necessary for the effective integration of ICT into society are in place. There are some twelve interrelated factors that determine whether people that the government needs to consider can effectively use ICT:

- i. Physical access: Is technology available and accessible to people and organizations?
- ii. Appropriate technology: Is the available technology appropriate to local needs and conditions? What is the appropriate technology according to how people need and want to put technology to use?
- iii. Affordability: Is technology affordable for people to use?
- iv. Capacity: Do people have the training and skills necessary for effective technology use? Do they understand how to use technology and its potential uses?
- v. Relevant content: Is locally relevant content available, especially in terms of language?
- vi. Integration: Is technology use a burden to peoples' lives, or is it integrated into daily routines?
- vii. Socio-cultural factors: Are people limited in their use of technology based on gender, race, or other socio-cultural factors?

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- viii. Trust: Do people have confidence in technology and understand the implications of the technology they use, for instance in terms of privacy, security, or cyber-crime?
- ix. Legal and regulatory framework: Do laws and regulations limit technology use? Are changes needed to create an environment that fosters its use?
- x. Local economic environment: Is there a local economic environment favourable to technology use? Is technology part of local economic development? What is needed to make it a part of it?
- xi. Macro-economic environment: Is technology use limited by the macro-economic environment in Kenya or the region, for example, in terms of deregulation, investment, and labour issues?
- xii. Political will: Is there political will in government to do what is needed to enable the integration of technology throughout society, and public support for government decision-making?

In the previous chapter, it was noted that there is an asymmetry of content in the products of the digital industry, which deprives the developing world of the opportunity to develop and market products and ideas from its culture and to experience the world market and, conversely, deprives most of the developed world of the wealth and versatility of the culture of a large part of the world.

4.2. Conceiving a Regulatory Paradigm for Cyberspace

The Internet is truly unique, and if its special characteristics are not fully understood by government, attempts to regulate it will fail. There may not be a definite answer in sight to the question of which regulatory approach would be appropriate for cyberspace.

Nevertheless, Kenya along with other jurisdictions should in the meantime consider the following factors:

1. Governmental entities should be cautious about imposing jurisdictional oversight and protections that will have extrajurisdictional implications;
2. A multinational Global Online Commerce Commission should be empanelled to study jurisdiction issues, subject to a specific sunset date:

3. Technology-such as intelligent electronic agents-should be employed to solve the jurisdiction issues that Internet commerce has raised. In that way, the right to enter into private contracts can play a more prominent role in creating a jurisdictional balance;
4. Dispute mechanisms will need to be responsive to the borderless, real-time features that commerce is taking on. Online dispute resolution and voluntary commercial dispute tribunals should be evaluated in both the business-to-consumer (B2C) and business-to-business (B2B) contexts; and
5. The temptation to allow the location of servers and other physical embodiments of electronic commerce to serve as a proxy for a traditional presence should be rejected, until the economic and legal impact of such positions are completely understood.

4.3. Developing a Comprehensive National ICT Policy

The inadequacies of Kenya's draft ICT policy call for not only its revision but also a reconsideration of its fundamental presumptions. The policy should be premised on the broad considerations of viewing ICT as a development enabler and not necessarily as a sector; harmonizing and rationalizing the roles of the public sector, civil society and the private sector; bridging the digital divide through infrastructure development and human resource capacity building and providing threshold funding to sustain basic ICT initiatives.

Society is still in the early stages of the ferment brought about by the information infrastructure and still has much to learn about the multiplicity of forces that affect intellectual property. Hence no one can specify with any precision all of the legal or policy actions that will be needed. However, Kenya's current situation throws into relief certain areas that are in immediate need of consideration:

4.3.1. Changing Individual Perceptions and Behaviour

It is likely that a large number of people assume that they have the right to duplicate copyrighted material and that their view of appropriate conduct is not shaped by any substantive knowledge of intellectual property law. Most individuals who photocopy

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books and journals in a library would encounter signs warning them about potential copyright infringement, but little is known about whether these signs have been seen or understood, or have resulted in a change in user behaviour. Individuals attempting to copy videotapes are confronted with similar but more threatening on-screen warnings at the beginning of a tape¹⁶, but little is known about how these warnings have affected behaviour.

Most people may not be generally informed about copyright in the context of the information infrastructure; instead, myths and misunderstandings might abound regarding what is legal and what is not. Such misunderstandings extend to contracting arrangements as well. Few people may read and understand shrink-wrap or point-and-click licenses, and whether people think they need to take them seriously is unclear.

Therefore, a better understanding is needed of the public's perception and behaviour concerning digital intellectual property. When popular attitudes and practices are out of sync with laws, the enforcement of laws becomes more difficult, which may instil in people a lack of confidence in and respect for the legal system. There are also political dangers associated with criminalizing generally accepted behaviour, given the possibilities for discriminatory and selective enforcement.

As a background to policy formulation, research and data collection should be pursued to develop a better understanding of what types of digital copying people think are permissible, what they regard as infringements, and what falls into murky ill-defined areas. Such research should address how these views differ according to type of material (such as software, recorded music, online documents), how user behaviour follows user beliefs, and to what extent further knowledge about copyright law is likely to change user behaviour.

¹⁶ A simple copyright warning on textbook might read "The unauthorised reproduction or distribution of this copyrighted work is illegal". The U.S.A.'s Federation Against Copyright Theft carries a more tersely worded warning for movie goers: "It is a criminal offence to copy or attempt to copy any film, or film related article, shown or displayed in this cinema. Punishment for conviction is an unlimited fine and imprisonment up to a maximum of 10 years...."

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4.3.2. Fair Use and Private Use Copying

Fair use is an established doctrine of Kenyan copyright law⁶⁹. It is primarily intended to allow the use of copyright-protected works for commentary, parody, news report, research and education. It is a doctrine that has become especially controversial in many jurisdictions in which it is applied. One controversy concerns the extent to which private use copying of copyrighted materials can be justified as fair use. Although this issue is not unique to digital intellectual property, the ease with which digital copies can be made and distributed, especially in networked environments, makes private use copying far more extensive in the digital environment and a more significant problem for content owners. A second controversy concerns the viability of fair use and other limitations on copyright in the digital environment.

The end points on the spectrum of perspectives on this issue are that private use copying is almost always fair use as a matter of copyright law and that private use copying is never fair use. Neither position is correct, although many members of the general public might consider the former to be true. Private use copying is sometimes fair use, and it is sometimes illegal; as a separate matter, it is sometimes ethical and sometimes not. Although it may be difficult to accomplish in practice, whether a private use is a fair use should in principle be determined by considering the fair use provision of law.

There are several considerations that complicate articulating a specific position on the copying of information for private use. One difficulty is the lack of clarity about what "private" means in the context of copying (e.g. copying in one's home may be "private," but what about copying in a library or a school?). Another is the multifaceted nature of fair use determinations, which makes it difficult to articulate simple, straightforward rules that could guide the conduct of the average citizen. In addition, the private nature of such copying poses serious enforceability problems and, for some, privacy and other social values may make stricter enforcement socially unacceptable or undesirable. Nevertheless,

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See section 26 of the Copyright Act, Act No. 12 of 2001 which excludes from the author's control the use of a work for, among other purposes, scientific research, personal use, criticism, education and instruction.

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although enforcement of regulations concerning private use is clearly not easy, the difficulties of enforcing the law do not transform private uses into fair uses when other considerations suggest that they are not.

A widespread (and incorrect) belief might therefore prevail in society that private use copying is always or almost always lawful. This viewpoint is difficult to support on either legal or ethical grounds. It is important to conceive, at the policy formulation level, ways to convince the public to consider thoughtfully the legality, ethics, and economic implications of their acts of private copying.

Providing additional statutory limitations on copyright and/or additional statutory protections may be necessary over time to adapt copyright appropriately to the digital environment. The fair use doctrine may also prove useful as a flexible mechanism for adapting copyright to the digital environment.

Legal, economic, and public policy research should be undertaken to help determine the extent to which fair use and other exceptions and limitations to copyright should apply in the digital environment. As public policy research, legal developments, and the marketplace shape the scope of fair use and other limitations on copyright, and/or demonstrate a need for additional protections, any additional actions that may be needed to adapt the law, educate the public about it. or enforce the law may become clearer.

4.3.3. Copyright Education

With the expansion of the information infrastructure into everyday life and the widespread acknowledgment of the information revolution's power to transform society, the role of information looms ever larger. Yet the public may still not be well informed about intellectual property law in general and it may be labouring under misconceptions concerning copyright in particular. Because ignorance regarding copyright law, the fundamental philosophy it embodies and its intent may be a significant factor contributing to the misuse of protected material, a copyright education program may be necessary.

Promoting respect for copyright in Kenya would lay an important foundation by educating society about some of the ground rules on which an information-based society is built and help ensure that inadvertent violations of law are not commonplace events. This process would help maintain the health of the information industries (e.g. software and entertainment) and their contribution to the economy, as well as help content creators understand their rights. Respect for and enforcement of copyright law would also provide a foundation for Kenya's efforts aimed at the enforcement of international agreements on copyright and other forms of IP.

To be effective, a program of copyright education must clearly communicate that the law is, in its intent and spirit, attempting a fundamentally fair and equitable balancing of interests. The program should emphasize the core goal of IP law, namely, the improvement of society through the advancement of knowledge; should describe the difficult balance between control and dissemination; and should make clear that, in the long term, all intellectual property becomes a part of the shared intellectual heritage, available to everyone. Such a program would describe both the rights granted exclusively to creators and the limits on those rights. The program should include an introduction to fair use and other limitations on copyright law. and their role in accomplishing the larger purpose of the law.

A better understanding of the basic principles of copyright law would lead to greater respect for this law and greater willingness to abide by it, as well as produce a more informed public better able to engage in discussions about intellectual property and public policy.

4.3.4. Are "Copy" and "Publication" Still the Appropriate Foundational Concepts?

The notion of "copy" may not be an appropriate foundation for copyright law in the digital age. Where digital information is concerned, legitimate copies are made so routinely that the act of copying has lost much of its predictive power: So many non-

infringing copies are made in using a computer that noting that a copy has been made tells us little about the legitimacy of the behaviour. In the digital world, copying is also an essential action, so bound up with the way computers work that control of copying provides unexpectedly broad powers, considerably beyond those intended by copyright law.

Need has therefore arisen for exploring whether the notion of copy is an appropriate foundation for copyright law and whether a new foundation can be constructed for copyright, based on the goal of copyright law and the tactic by which it is achieved, namely, providing incentive to authors and publishers. In this framework, the question would not be whether a copy had been made, but whether a use of a work was consistent with the goal and tactic (i.e. did it contribute to the desired "progress" and was it destructive, when taken alone or aggregated with other similar copies, of an author's incentive?). This concept is similar to fair use but broader in scope, as it requires considering the range of factors by which to measure the impact of the activity on authors, publishers, and others.

The information infrastructure also blurs the distinction between publication and private distribution. The concept of publication should also be re-evaluated and clarified (or reconceptualized) by the various stakeholder groups in response to the fundamental changes caused by the information infrastructure. The public policy implications of a new concept of publication should also be determined.

These undertakings may be both difficult and controversial but, nevertheless, such investigation is likely to prove both theoretically revealing and pragmatically useful.

4.4. ADDITIONAL MECHANISMS FOR MAKING PROGRESS

Globalization and the pervasiveness of the Internet have given rise to new types of needs, rights and vulnerabilities. For secure electronic transactions to occur, an environment of trust must be established and sustained through regulatory means taking into account

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constitutional rights as well as the provisions of criminal, civil, commercial and other laws.

The challenge is for not only for the Kenyan government to establish an adequate legal framework and capacity to deal with cyber-wrongs and to establish mechanisms for international cooperation to combat cross-border crimes, but also for the owners of digital copyright to adopt various self-help techniques.

Copyright and copyright protection are primarily conceived as legal constructs, but problems arising in the interaction of copyright and the information infrastructure need to be considered in the broader context of other forces as well- markets, social norms, and technology (hardware and software). Not every problem requires a legislative solution. Technology, business models, and education can all provide the owners of copyright in Kenya with effective mechanisms and means for dealing with problems. Already, as will be seen, some Kenya authors have already taken advantage of technology and business models.

4.4.1. Technical Protection Services (TPSs)

Recent years have seen the exploration of many technical mechanisms intended to protect copyright in digital form, along with attempts to develop commercial products and services based on those mechanisms. The evolution of technology is challenging the status quo of copyright protection and management in many ways. Protection is typically conceived in legal and technical terms, determined by what the law permits and what technology can enforce.

Cryptography is a crucial enabling technology for copyright management. The goal of encryption is to scramble objects so that they are not understandable or usable until they are unscrambled. The technical terms for scrambling and unscrambling are "encrypting" and "decrypting." Encryption facilitates copyright management by protecting content against disclosure or modification both during transmission and while it is stored. If

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content is encrypted effectively, copying the files is nearly useless because there is no access to the content without the decryption key.

Some common security and integrity features of that can be used to protect digital copyright include:

- i. *Rights management languages* that express in machine-readable form the rights and responsibilities of owners, distributors, and users, enabling the computer to determine whether requested actions fall within a permitted range. These languages can be viewed as an elaboration of the languages used to express file access privileges in operating systems;
- ii. *Access encryption* allowing digital works to be scrambled so that only legitimate users can unscramble them. One variant of this is password protection - a type of technology that allows a system to assign login names and passwords to users. Files and directories are protected from unauthorized access by requiring users to enter a secret decryption word (a password) before access is allowed;
- iii. *Persistent encryption* allows the consumer to use information while the system maintains it in an encrypted form;
- iv. *Watermarking* embeds information (e.g., about ownership) into a digital work in much the same way that paper can carry a watermark. A digital watermark can help owners track copying and distribution of digital works; and
- v. *Copy prevention*. Also known as copy protection, it is any technical measure designed to prevent duplication of information¹⁰.

For effective protection, the developer of a copyright-delivery service must choose the right ingredients and attempt to weave them together into an end-to-end technical protection system. The term "end-to-end" emphasizes the maintenance of control over the content at all times; the term "protection system" emphasizes the need to combine various services so that they work together as seamlessly as possible.

Copy prevention is often hotly debated, and is sometimes thought to infringe on the customers' property rights: for example, the right to make a backup copy of a videotape one has purchased, or to install and use computer software on multiple computers.

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The National Council for Law Reporting is Kenya's official publisher of law reports. Its website¹ provides an example of a hybrid system of technical protection of copyright content. Court decisions can be accessed on the website by subscribers who are issued with unique user names and passwords (encryption) once they have paid for the service. Subscribers are given the choice of downloading and printing most of the court decisions but apparently because the Council has a market for hard-copy law reports which it needs to protect, copying is disabled for court decisions already published in book form (copy-protection).

Softlaw Limited is another player in the Kenyan legal information services market. It offers an online version of the statutes enacted by Kenya's parliament complete with subsidiary legislation and history notes.² The service is subscriber based incorporating encryption technology by the use of user names and passwords. The product is unbundled in billable access hours so that a subscriber who shares his password experiences a diminution in his purchased access time when others access the service using his profile.

Although TPSs cannot resolve legal, social, or economic issues underlying copyright, they can help to enforce agreed-upon rights, rules, constraints, and responsibilities. Technical protection for intellectual property can play a variety of roles, from helping rights holders in revenue collection, to helping safeguard user privacy and helping ensure information authenticity. However, like any security system, a TPS cannot protect perfectly. A sufficiently knowledgeable and determined adversary can compromise even state-of-the-art systems. Hence, with the exception of situations in which security is the overriding concern, TPS design always involves a trade-off between capability and cost, including the cost of the effort of the content distributor and the effort of users, who typically experience inconvenience in dealing with the system. While this trade-off often results in a distributor's choosing a TPS of only moderate strength, such a solution is frequently entirely adequate and appropriate.

¹ www.kenyalawreports.or.ke

² www.lawsokenya.com

Authors and rights holders might consider using TPSs to help manage digital intellectual property but should also bear in mind the potential for diminished public access and the costs involved, some of which are imposed on customers and society.

4.4.2. Business Models

The appropriate strategy for those in the information business should be to maximize the value of intellectual property, not its protection. Thinking in these terms expands the options available: In addition to the traditional business model of selling digital copyright as a product, there are also models that de-emphasize or forgo attempting to control digital information and focus instead on other products or services for which the digital copyright is complementary. Additional business models can be developed by asking what forms of value can be derived from copyright that are not so easily reproduced. At the lime of this writing, the rapidly evolving Internet has created an effective environment in which to experiment with various business models.

A variety of other business models have been explored in other jurisdictions in an attempt to confront the difficulties encountered in protecting copyright in the digital world. Some of these are derived from models used for traditional products, while others appear to be unique to the world of information products. Eight of these less traditional business models are described below:

- i. *Give away the information product and earn revenue from an auxiliary product or service.* Examples of auxiliary products: Free access to an online newspaper in exchange for basic demographic data; the revenue-generating auxiliary product is the database of information about readers. Free distribution of (some) music because it enhances the market for auxiliary goods and services associated with the artist (attendance at concerts, T-shirts, posters, etc.). An example of an auxiliary service: The Linux operating system is distributed for free; the market is in service - support, training, consulting, and customization'. The *Daily Nation*, a publication of Nation Media Group, is one of Kenya's most widely read daily

See www.linux.org

newspapers. The publishers avail an electronic version of the newspaper on the Internet . which contains a selection of news items, editorial commentaries and information but stripped of the look and feel of the actual paper copy. A reader who prefers to access an exact online replica of the paper copy will need to pay a subscription fee and access it on the website⁴ of a document imaging company contracted by the publishers to provide the service.

- ii. *Give away the initial information product and sell upgrades.* Example: Antivirus software, where the current version is often freely downloadable; the revenue-generating product is the subsequent updates along with support service.
- iii. *Extreme customization* -Make the product so personal that few people other than the purchaser would want it. Examples: Search engine output, personalized newspapers, and personalized CDs. MusicMaker⁵ software will create a CD containing the tracks exactly in the sequence specified by a customer⁶.
- iv. *Provide a large product in small pieces, making it easy to browse but difficult to get in its entirety.* Examples: Online encyclopaedias⁷, databases, and many Web sites.
- v. *Give away digital content because it complements (and increases demand for) the traditional product.* Examples: The MIT Press and the National Academy Press make the full text of some books and reports available online; this has apparently increased sales of the hard-copy versions.
- vi. *Give away one piece of digital content because it creates a market for another.* Examples: The Netscape browser was freely distributed in part to increase demand for their server software; Adobe's Acrobat Reader is freely distributed to increase demand for the Acrobat document preparation software.

⁴ www.nationaudio.com

www.newsstand.com

⁷⁶¹ See www.magix.com

In *Lewis Galoob v. Nintendo* 964 F.2d 965 (9th Cir. 1992, U.S.A's Ninth Circuit Court of Appeals decided that the maker of a "Game Genie" program did not infringe Nintendo's derivative work right by selling a tool with which users could alter certain aspects of the play of Nintendo games. The court held that the Game Genie was not a derivative work because it did not incorporate a protected work or any part thereof in a concrete or permanent form. This ruling suggests that add-on programs will generally not infringe the derivative work right, but many questions remain about how far derivative work rights should extend in the digital environment

See, for example, Microsoft Corporation's online encyclopedia at www.encarta.msn.com

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- vii. *Allow free distribution of the product but request payment* (perhaps offering additional value in the paid-for version). This business model is commonly employed with shareware (free distribution software). Where shareware versions have time-limited functionality or are incomplete demonstration versions, this is quite similar to the "free sample" model above.
- viii. *Position the product for low-priced, mass market distribution.* An example is Microsoft Corporation's operating systems Microsoft Windows 95 and 98.

These less traditional models all reduce the need for enforcement of intellectual property protection against reproduction. The first two do it by foregoing any attempt to generate revenue from the digital content, using it instead as a means of creating demand for services or physical products, neither of which are subject to the replication difficulties of digital products. Giving away digital content as a complement to a traditional product works because reading information online is still awkward and because most people are not willing to print out a multi-hundred-page book. Selling upgrades relies on the relatively short shelf life of the original product; antivirus software is typically upgraded every three months. Extreme customization renders moot any need for enforcing copyright protection, because only the original purchaser is interested in the product. Parceling out the product in small pieces simply makes it difficult to copy the entire product, in part restoring a barrier to infringement that comes naturally with physical products.

Free and low-cost mass-market distribution is in the spirit of making the product cheaper to buy than it is to steal. It is worth noting that stealing an information product or service typically comes at a cost. An individual needs to expend the cost, time, and effort to obtain the product or service through infringing means and faces possible downstream costs such as refusal of technical support. When costs (i.e.. the price to buy versus the total costs to steal) converge, the need for copyright enforcement clearly diminishes.

Kenya's online publishers should give careful consideration to the power that business models offer for dealing with distribution of digital information. The judicious selection

of a business model may significantly reduce the need for technical protection or legal protection, thereby lowering development and enforcement costs. But the model must be carefully matched to the product: While the appropriate business model can for some products obviate the need for technical protection, for others (e.g. first-run movies) substantial protection may be necessary.

4.5. THE INTERACTION OF TECHNICAL PROTECTION SERVICES, BUSINESS MODELS, LAW, AND PUBLIC POLICY

The community of authors and publishers is characterized by substantial diversity, ranging from those who make their living from the sale of their intellectual property, to those who make their living by keeping it proprietary and using it themselves (i.e., holders of trade secrets), to those who make their careers by giving it away (e.g. most academic researchers), finding reward in the recognition and the indirect benefits that accrue. The differences across all these groups are substantial. There are differences in motivation, in reward structure, and in the consequences of changes in level of copyright protection, differences large enough that an attempt to identify the solution would be both stifling and counterproductive. Such an approach would also likely focus on the high end of the market, as these products often present the most immediate, compelling, and easily quantified examples of the consequences of copyright theft or misuse. But making law or policy by focusing on those examples would be as inappropriate as creating the policy based on the segment of the market that gives away copyright and sells auxiliary products or services.

There is great diversity in the kinds of digital copyright, business models, legal mechanisms, and technical protection services possible, making a one-size-fits-all solution too rigid. Currently a wide variety of new models and mechanisms are being created, tried out, and in some cases discarded, at a furious pace. This process should be pursued by authors and supported by government, to allow all parties to find models and mechanisms well suited to their needs. Legislators should not contemplate an overhaul of intellectual property laws and public policy at this time, at least as far as technical

protection services and business models are concerned, in order to permit the evolutionary process described above the time to play out.

CONCLUDING REMARKS

The combination of technologies that make up the information infrastructure - information in digital form, computer networks, and the World Wide Web - has arrived accompanied by contradictory powers and promises. For copyright, the infonnation infrastructure promises more - more quantity, quality, access, and markets - while simultaneously imperiling the rewards of those who create and publish. It is at once a remarkably powerful medium for publishing and distributing information and the world's largest reproduction facility, almost running amok and challenging existing notions of territoriality, jurisdiction and regulation. It is a technology that can enormously improve access to information and yet inhibit access in ways that were never before practical.

That technology has arrived in a world where our existing laws, policies, and practices around copyright depend on a number of subtle, surprisingly complex, and at times conflicting elements of law, public policy, economics and technology. Those elements are in relative balance today but may well be thrown out of balance by the transformations resulting from the information infrastructure.

Copyright will surely survive the digital age. However, major adaptations will have to take place to ensure sufficient protection for content creators and rights holders, thereby helping to ensure that a diverse supply of copyright is available to the public. Major adaptations will also be needed to ensure that the important public purposes embodied in copyright law, such as public access, are fulfilled in the digital context. Kenya should be cautious about major legislative initiatives because it is early in the evolution of digital copyright and much remains unknown both because of the yet-to-come evolution in the information industries, user communities and technologies and the need for research and data collection to improve knowledge and understanding of the issues. However, in the meantime, it would be appropriate to give both policy and legal force to such quick-win measures as would help in bridging the digital divide, in the integration of computer

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technology in governance and business and the re-evaluation of apparently redundant terminology and concepts (such as "copy" and "document" and the doctrine of fair use with regard to digital works).

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