1.1 INTRODUCTION

The rapid proliferation of computer systems, telecommunication networks and other related technologies upon which virtually every one relies presents concomitant widespread vulnerabilities to protection of copyright. Pirates now use sophisticated computer and digital assisted technologies to advance their nefarious activities thus creating unquantifiable losses for the copyright industry and the national economy. Digital technology and the attendant digital convergence of information products now mean that different categories of works and data such as texts, sound, pictures and moving images can be stored or transmitted without barrier. While digital technology certainly is advantageous for the dissemination and import of information and creative works, it creates potential complications for the protection of copyright works. That is, in the information technology (ICT) age, piracy has become a global challenge to national government and intellectual property based business alike. In the light of this events, therefore, the objective of this paper is to examine the effect of digital technologies on the protection of copyright under Nigerian laws. Thus in an attempt to achieve this objective, this paper is set to examine the following issues, viz, conceptual clarifications of key terms relevant to the paper, effect of digital technology on copyright. Nigerian Copyright Commission and anti-piracy activities and conclusion advancing viable measures needed to strengthen the institution of copyright in Nigeria.

1.2 CONCEPTUAL CLARIFICATIONS

This section aims at clarifying relevant key terms of the paper such as “copyright” and “digital technology”.

“Copyright” is a property right that subsists in various works, for example, literary works, musical works, artistic works, cinematograph films, sound recordings, and broadcast\(^1\). Copyright law protects original works of authorship fixed in any definite medium of expression now known or later to be developed, from which it can be perceived, reproduced or otherwise communicated either directly or with the aid of any machine or device\(^2\). Section 51 of the Nigerian Copyright Act\(^3\) states that “Copyright” means copyright under this Act. This may not be sufficient definition but however suggests that copyright protection in Nigeria can only derive its force from the provisions of the Act. That is, no copyright claim exists outside the statute.
Copyright is the right of an author to control the reproduction of his intellectual creation. It confers on the author the authority to control his creation after disclosure and prevents others from reproducing his personal expression without his consent. In this sense, copyright is usually regarded as a property of a unique kind. It is intangible and incorporeal. The item to which the property right applies – the author’s intellectual work – is incapable of possession, except as it is embodied in a tangible object such as a manuscript, book, record or film, and so forth. The tangible object may be in the hand of several people, but copyright prevents them from reproducing it. It provides protection for the rights of authors in order to encourage further creativity, thus enriching the nation’s store of literature, drama and music.

“Digital technology” refers to the use of equipment, principally computers, which can accept and interpret digital data, and encompasses computer hardware, software, and the internet. It involves the reduction of information of all kinds to computer readable binary representations resulting in digital data consisting of information of various types, including words, sounds and visual images. The term also broadly includes data storage products types such as CDs, DVDs, USB drives, memory sticks and MP3 players, as well as all the other means of disseminating content through digital technology. Among other things, digitalization makes possible enhanced sampling and synthesizing in the creation of sound recordings, perfect recordings on compact disks (CDs), the distortion free reproduction of digital recordings, computer generated special effect for motion pictures, and crystal-clear cable distribution or broadcasting of musical works.

The impact of digital technology on the creation and dissemination of copyright works also contributes in meaningful ways to the achievement of the goals of social inclusion and cultural diversity. This is because it provides a medium which affords a world-wide audience, the e-commerce opportunities for the entertainment industry would also help to project cultural heritage, promotes social economic development, support foreign direct investment and expand the Nigerian market, among other benefits. Musicians, film makers and other entertainment sites blog sites and other online forum also help to update users on developments in Nigeria, including those relevant to the music and film sector, such musicians as 2Face, Idibia, D’Banj, Onyeka, Onwenu, King Sunny Ade, and others. Further Nigerian musicians are also keying into Facebook, YouTube, and other social media like MySpace, where they keep their users up to date on their travels, tours and music. On the other hand, however, is the recurring problem of piracy, which is now compounded by the effect of digital technology on the production and profitable distribution of entertainment.
and other creative works. The situation, whereby pirated discs are produced internally within the country, rather than outside, has also somewhat changed the dynamics of enforcement.

For example, the burning of CDs, VCDs, DVDs, CD-ROMs, CD-Rs, and DVD-Rs thus constitute a serious threat to the copyright based industries. Increasingly, blank recordable optical media are being used to burn unauthorized copies of protected music, sound recordings, audiovisual works, business and entertainment software, books and journals on commercial basis with serious decimating effect on the market for legitimate products.

The Nigerian Copyright Commission has thus introduced the Copyright (Security Devices) Regulation in 1999, aimed at addressing the already endemic problem of piracy. The Regulation makes provisions prescribing the use of tamper proof hologram stamps on sound recordings and cinematograph films intended or offered for sale, rental, hiring, lending or otherwise intended to be distributed to the public for commercial purposes in Nigeria. However, seven years after, it became apparent that technological development had moved beyond the existing provisions relating to the use of hologram stickers. To meet this challenge, the Copyright (Optical Discs Plants) Regulation, 2006 was put in place which upgrades the legal response to positively utilize the possibilities of technology to respond to the piracy problem. It facilitates the monitoring and control of the production of optical discs entrenching high standards of copyright practice in relevant industries.

Paragraph 5(1) of the Regulation stipulates that “every registered person shall cause each optical disc and each production part manufactured by it in Nigeria to be marked with the appropriate manufacturer’s code as may be prescribed by the Commission”. Paragraph 7 of the Regulation further provides “the Nigerian Copyright Commission may, after giving due notice, require the application of Source Identification Codes (SID) or any other prescribed anti-piracy device on every optical disc produced”. The issue highlighted above has given rise to law reform initiatives in Nigeria including Copyright (Amendment) Bill of 2009, which makes provision prohibiting certain conduct such as making, importing, selling and distribution of technological protection measure circumvention device used or likely to be used to infringe copyright in a work protected by technological protection. In addition, the Cyber Security and Data Protection Agency Bill criminalizes the use of computer to violate any intellectual property rights protection under any law or treaty applicable in Nigeria, and makes such acts punishable upon conviction. It is important to note that Nigeria has neither ratified nor domesticated the WIPO and WCT Internet Treaties. The country is also yet to...
amend its copyright laws to expressly extend protection to the new forms of exploitation online, made possible by advances in digital technology.

The Copyright (Optical Discs Plans) Regulations 2006 generally empowers the Nigerian Copyright Commission to monitor the operations of all optical discs manufacturers and replicating plants, as well as the imports of such products with a view to checking the rising tide of piracy through optical medium in the country. The Regulation was introduced by the Nigerian Copyright Commission in 2007 pursuant to section 46(4) of the Copyright Act which empowers it “to make regulations specifying the conditions necessary for the operations of a business involving the production, public exhibition, hiring or rental of any work in which copyright subsists under the Act”\(^\text{15}\). The power to suspend registration can be exercised by the Commission on three grounds namely: if the registered person has been charged with an offence under the regulation or involved in an infringement of copyright, trademark and neighbouring right or an offence in these regards has been committed in the registered premises and the offender has not been identified or another person has been charged with an offence committed in the registered premises\(^\text{16}\). The Regulation prescribes penalties for the contravention of any of its provisions. Where no penalty for an infraction is stated, it stipulates a penalty of a term of imprisonment not exceeding three years or a fine of N1,000,000.00 or both.

1.3 EFFECT OF DIGITAL TECHNOLOGY ON THE PROTECTION OF COPYRIGHT IN NIGERIA

Although digital technology has turned into reality, the promise of innovative ways of distributing creative works on a global scale and the making of higher quality copies of works such as sound recordings, film products, and even books to lower unit cost. It also has a serious down side for content producers in the copyright based industries\(^\text{17}\). The greatest challenge in this area include the difficulty in the control of information sharing, the getting admissible evidence to convict infringers. Previous worries about widespread piracy may have proven to be exaggerated, but with the advent of digital technology and its application in optical disc production and storage in the optical media, the magnitude of the threat of piracy has become unprecedented.

A contemporary challenge confronting copyright law and indeed copyright based industries globally is the emergence and application of digital technology in the late 20\(^\text{th}\) century. Digital technology and the attendant digital convergence of information products now mean that different categories of works and data such as texts, sound, pictures and moving images, which used to be reproduced independently, can now be complied in one
single medium of fixation such as CDs, VCDs, CD-ROMSs, CD-Rs, DVD-Rs and DVD\textsuperscript{18}. It has capacity for reproduction and ease of transmission without loss of quality which has brought about new copies identical to the originals stored in CDs or DVDs.

Another challenge confronting the enforcement of copyright includes the use of internet which is difficult to trace the infringer who commits the offence. For example, an Internet Service Provider (ISP) could be in South Africa, the site in London, the user in Nigeria and could upload the work to a friend in America. Thus identifying the source of infringement or the system from which the infringement occurred becomes complex. Oladipo\textsuperscript{19} once remarked that “the internet combines the capability of the mails, the fax, the phone, video, graphics, credit card, archive systems and more in a single, low cost, world-wide interactive computer network”. This network brings together the clients, professionals, dealers, brokers, market quote vendor, banks, government and more in an electronic environment that knows no sovereign. This is beyond the reach of any single regulator, respects no geographical boundaries and applies no special law. The use of new technologies not only on the internet, but also on cellular phones, palm devices, flash drives and other mobile technologies pose threats for copyrights protection. Some of these devices are pre-loaded with illegal content before they are sold. These new technologies are used to pirate music, films, ring tones, games, telecasts, artistic works and scanned books. This is a global challenge and it has been reported that countries with significant problems of piracy using new technology include China, India, Indonesia and Malaysia among others\textsuperscript{20}. Nigerian Copyright legislation has not kept pace with technology, particularly with the digitalization of global networks, digital super highways, digital deliveries and use of copyright products\textsuperscript{21}. Also, use of advanced photocopiers such as industrial photocopier, scanners and other devices capable of producing volumes of materials within the shortest time also pose threat to copyright protection. The frequency in which both public and private individual’s patronage business centres for photocopy of protected materials is alarming. The claim that there is either scarcity of such materials or low income is not acceptable for pirating copyrighted works.

In response to this menace of optical disc piracy, Copyright (Optical Disc Plants) Regulation 2006 was introduced as part of the Strategic Action Against Piracy (STRAP) policy of the Nigerian Copyright Commission launched on 3\textsuperscript{rd} May, 2005. Section 7 of the Regulation provides mandatory inscription of Source Identification Code (SID) on all optical discs introduced in Nigeria in May 2010 onwards. Nevertheless the issue is that of non
compliance to regulations by the stakeholders, the Copyright (Optical Disc Plant) Regulation, 2006 provides for the use of SID on all Optical Discs at the point of production. However, even some legitimate plants still produce CD without the code. The Director General of the Commission had to announce 1st June, 2010 as the deadline for the application of the code. Another issue is where right owners resort to using materials from illegal sources to produce their works; due to the fact that such materials are cheaper and readily available.

1.4 NIGERIAN COPYRIGHT COMMISSION AND ANTI-PIRACY ACTIVITIES

The Copyright inspectors through the activities of STRAP have inspected plants and outlets for CDs, optical discs and video productions and rentals all over the country to verify their compliance with the law. It is pointed out that over 160 operations were carried out against music, book, film, software and broadcast infringers across the country and more than 400 suspects were arrested. Pirated works worth over N1,458,255.00 were removed from the market nationwide and some were intercepted at the border in conjunction with Standard Organization of Nigeria (SON), the police and Customs. He went on to say that seized product estimated at N1,263,000.00 were destroyed and 15 Optical Disc plants were brought under regulation. With these developments, it is hoped that the burden on the Police and the Office of the Attorney-General of the Federation both which contend with copyright cases in addition to the other crimes with graver consequences than piracy will reduce.

Proactive enforcement interventions was public burning of 722 million units of pirated works and contrivances estimated at N6.5 billion, comprising literary, musical, film works and contrivances, including those from the broadcast industries, which were confiscated between 2007-2011.

The purpose was to demonstrate the Commission’s commitment to its zero tolerance policy on piracy and to send out a warning signal that piracy would no longer be a profitable venture. Within the period, the Commission conducted over sixty (60) anti-piracy surveillances in the endemic locations across the country. It further carried out fifty-five (55) strategic anti-piracy operations against book, software, broadcast and audio-visual piracy in different piracy hotbeds across Nigeria, such as Alaba International Market, Ojualegbia and Ijora in Lagos, Aria Market Aba, Onitsha, Kano, Benin City and so on. Within 2007 and 2011, 84 suspected pirates were arrested. The Commission removed 3,621,787 quantities of assorted pirated copyright works, comprising of books, software, DVDs, CDs etc from different piracy outlets and seaports across Nigeria with an estimated market value of four billion, three hundred and seventy-nine million, four hundred and thirty-one thousand Naira (N4,379,431,000.00). The Commission in collaboration with Custom and Excise Department,
the Nigeria Police, other enforcement agencies, right owners, anti-piracy committees and national anti-piracy crimes go out from time to time to residents of book pirates, those indulging in piracy in music and film, software, visual art upon receipt of information, to raid suspects. Accordingly, infringing materials have been confiscated, suspects arrested and prosecuted in the law courts. Below is a table of summary of recent anti-piracy activities detected by Nigerian Copyright Commission for the period of June, 2012 to May, 2013.

**ANTI-PIRACY ACTIVITIES BETWEEN JUNE 2012 AND MAY 2013**

<table>
<thead>
<tr>
<th>S/NO</th>
<th>DATE</th>
<th>ACTIVITIES/ACTION</th>
<th>AMOUNT INVOLVED</th>
<th>ACTION TAKEN</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16/6/2012</td>
<td>Arrested over 145 suspected pirates</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6/7/2012</td>
<td>7 containers - loads of suspected pirated books intercepted.</td>
<td>N1.5 billion</td>
<td>Confiscation of containers</td>
<td>Case pending</td>
</tr>
<tr>
<td>3</td>
<td>21/9/2012</td>
<td>Arressted 5 suspects, Lagos</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>8/11/2012</td>
<td>Confiscated 11 containers of suspected pirated books and one container of pirated compact discs of sound recordings and movies products in Lagos</td>
<td>N4 billion</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>21/12/2012</td>
<td>Arrested 26 suspects and confiscated pirated products in Enugu</td>
<td>N2.3 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>26/12/2012</td>
<td>Arrested 8 broadcast piracy suspects and impounded illegal gadgets</td>
<td>N3 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>30/1/2013</td>
<td>Impounded broadcast facilities at Onitsha, Anambra and Port Harcourt</td>
<td>N9.5 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1/2/2013</td>
<td>Seized Broadcast gadgets and arrested 6 suspects</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>4/2/2013</td>
<td>Impounded 14 containers (3,613,315 units of pirated products)</td>
<td>N5.05 billion</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>7/2/1013</td>
<td>Arrested 3 suspects and confiscated 225 units of pirated film works in DVDs</td>
<td>45,000.00</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>9/2/2013</td>
<td>Arrested 3 piracy outlets Nyanya Abuja</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>6/3/2013</td>
<td>Seized 612,000 copies of suspected pirated DVDs and 45,900 units of DVD jackets</td>
<td>N300 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>21/3/2013</td>
<td>Arrested 2 broadcast pirates and impounded gadgets</td>
<td>2 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>9/4/2013</td>
<td>Arrested 13 suspects, seized pirated books</td>
<td>N130,000.00</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>11/4/2013</td>
<td>7 Musical Copyright Society of Nigeria dragged to court for illegal operating a collecting society</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>12/4/2013</td>
<td>Arrested 6 book piracy suspects in Abuja</td>
<td>Not reported</td>
<td>Trial in progress</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18/3/2013</td>
<td>Seized broadcast gadgets at Omoku, Okposi, Obrikom in Port Harcourt</td>
<td>N2 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>8/5/2013</td>
<td>Impounded pirated products and arrested 7 suspects</td>
<td>N6 million</td>
<td>Case pending</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>20/5/2013</td>
<td>Impounded DSTV Broadcast signals at Onitsha and Port Harcourt</td>
<td>N9.5 million</td>
<td>Case pending</td>
<td></td>
</tr>
</tbody>
</table>
The above table disclosed that the sum of Twelve billion, three hundred and thirty million, eight hundred thousand Naira (N12,330,800,000.00) worth of materials were lost to pirates between June 2012 and May 2013. The number of arrests within the period stands at two hundred and twenty four (224) suspects at various stages of trial. It should be noted that between 1st January to 8th May, 2013, alone number of arrested pirates is forty-seven (47) while materials worth of Five billion, three hundred and eleven million and eighty thousand Naira (N5,311,080,000.00) was seized. Piracy activities are more rampant with compact discs (CDs) or DVDs, that is, on digital media. The sites of most of these activities are Lagos, Port Harcourt and Onitsha. The issue of legal measures is concerned, owners of intellectual property whose works are pirated on the net are unlikely to get succour from a Nigerian court of law as no statutory provision exist to grant them adequate reprieve

Similarly, the Nigerian Copyright Commission is handicapped to track down the source of digital piracy and is so hampered on effecting enforcement. It is concluded that due to the importance of Intellectual Property protection, the country must take urgent legal and policy steps to safeguard the multiple gains of intellectual property rights.

It should be noted that the available legal protection in Nigeria for computer software is not adequate. This inadequacy is accentuated by the intricate and specialised nature of this aspect of digital technology and the difficulty of identifying infringements of such digitized copyright materials, coupled with the incredible speed at which information and data can be electronically transmitted over long distances. Other related problems include the advances in information storage and compression technologies, the distribution, re-distribution, transmission or reproduction of computer generated information.

1.5 IMPERATIVE REFORMS

The paper found that emerging digital environment like the internet and global knowledge economy has not been addressed in the current Nigerian Copyright Act. The ease of reproducing and distributing materials on the internet without regard to geographical boarders has been a great concern in the protection of copyright. For example, the modern technology makes it possible for somebody at one end to load copyright work of another person, call up same on the screen and transmit same through the internet without necessarily being tracked down. This is because the key players, for example, internet service providers, operators of bulletin boards, news group administrators, owners of search engines on the web, writers of specialized counter-programs which overcome copyright protection devices built into certain works as well as makers of machines or devices that can be used to copy or
reproduce works of copyright and so on. All these facilitator can be considered as authorizing copyright infringement, just as those who posted copyright materials in downloadable forms without permission. Further, it was noted that producers’ fate are in the hands of pirates, whose activities jeopardize their returns on investments, thereby undermining the economic rationale for copyright protection. This brings about discouragement to prospective investors in the copyright works. Apart from sale of pirated CDs however, copyright works are faced with different scale of piracy activities such distribution online to a global market, for example, musical works.

With the advent of interactive digital networks and all the new development brought about by digital technology, there is every need that Nigeria copyright system is restructured both in legal structured and administration in order to be relevant in the present day globalization of digital networks, digital superhighways, digital delivery and the use of copyright products. The Supreme Court of Nigeria in recognizing this fact in the case of Esso West Africa Inc. vs. Oyegbola held thus “the law cannot be and is not ignorant of modern methods and must not shut its eyes to the mysteries of the computer” that is digital technology.

Also, it should be noted that there is no incorporation of provisions for minimum standards under international treaties to which Nigeria is a signatory, for example, WIPO and WCT Internet Treaties. Again, the constitutional restriction of jurisdiction for adjudication to Federal High Court as the court of first instance over stresses the Court. In addition, penalties for infringement are not stringent enough to effectively deter copyright violations. It was further observed that collaboration with regional, inter-regional and international agencies/organizations is yet inadequate for an effective check on the incidence of piracy across national boundaries.

The Nigerian Copyright legal structure as presently constituted does not adequately cover internet related activities, for example, section 6(1)(a)(vii) is to the effect that “broadcast or communicate the work to the public by a loud speaker or any other similar device”. This provision does not accommodate communication through other means such as internet, MP3 and media technologies. It is therefore suggested that the section be reviewed to accommodate the current digital technologies applications in line with United States Digital Millennium Copyright Act, 1998.

The Copyright Act should include emerging digital environment like the internet for global knowledge economy and to incorporate Statutes of minimum standards under
international treaties to which the country is signatory. Also, a review of the constitutional restriction of jurisdiction for adjudication of intellectual property matters to the Federal High Court in the first instance, which has been overburdened to the extent of not being able to cope with the list of disposing copyright and other intellectual property cases speedily.

It is further suggested the Nigerian Copyright Commission ought to engender stronger proactive enforcement of the Copyright Act and review urgently for more stringent penalties for infringement to ensure effective check of piracy in the country. For example, section 39(5)(6) of the Copyright Act provision for contravention of the law is far below than what he gets upon successful nefarious activities of piracy particularly through digital media. Nigerian Copyright Commission should identify more areas for collaboration such as awareness creation, intelligence gathering, surveillance, antipiracy raids, prosecution and capacity building.

It is recommended that the Commission maintains efficient collaborative linkages with both international and domestic partner agencies including the US Patent and Trademarks Office, the UK Intellectual Property Office, the International Federation of Phonographic Industries, Queensland University of Technology, Australia, the Nelson Mandela Institute of African University of Science and Technology, Nigeria Customs Services, Nigeria Police, Economic and Financial Crimes Commission, National Information Technology and others.

Finally, beyond law reform however, institutional support to combat online piracy needs to be put in place through training and other forms of capacity building for those charged with administration and enforcement of copyright, including copyright inspectors of the Nigerian Copyright Commission, police officers and the enforcement arm of the Economic and Financial Crime Commission (EFCC) to assist in investigating and detecting internet piracy.

1.6 CONCLUSION

In the modern time computer has moved from the periphery to growth mechanism and in view of its information management capabilities and potential, occupies an important position as a stimulant and motivator of growth and development. In the new millennium, the pace and pattern of our development will be dictated in part by information management through digital technology. The Copyright Act in its pragmatic flexibility affords protection to works pertaining to the emergent technologies. However, the nature of the technology
itself makes the monitoring and detection of infringement and the enforcement of the rights of copyright owner rather difficult.

REFERENCES & NOTES

2. Section 1(2)(b), ibid.
3. ibid
9. ibid
10. ibid
12. ibid
14. These are Bills before National Assembly awaiting passage into law. If however it is passed it would enhance copyright protection.
16. Section 10(2) ibid.
21. Haruna, A.Z., ibid