



Copyright in Light of Effective Access to Research Information in Digital Era

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Abstract

Introduction: Information forms the foundation of every human activity. People can only make right decisions and participate in national development activities if they have access to relevant information. But how can information be made available in the light of copyright?

Objectives: To examine the effectiveness of copyright in addressing interests of rights holders on one hand and information users (Public) on the other.

Methods: This was a literature review. The methods of research involved consultation of literature done by different experts.

Findings: The study established that copyright is meant to serve the interests of rights owners where “fair use” is to enable authors distribute or sell their work for financial and moral benefits. However, exceptions in the digital environment have been affected by TPMs. To this effect the study recommends the consideration of existing and more exceptions in digital era, Government documents to be in public domain, and promotion of FOSS and open access publishing

Key words: Copyright, Information, Technological protection measures, ICTs, Fair use

1. Introduction

Information and knowledge have always been central to the development of every country world over. The success of any knowledge society depends on its privileges to relevant research literature (both print and digital) at the right time and via the right channel. Walter (2008) & iConnect (2008) state that development of every national or individual hinges on information availability access and use. People need information in their day-to-day decision making process in order to attain desired goals or level. People’s abilities to manage their lives, to protect and provide for their families, find and exploit available opportunities basically depend on the availability of relevant information they are exposed. This therefore calls for adequate systems that would facilitate access to and sharing of information and knowledge world-wide in order to attain development. However, in as much as information should be made accessible, there are issues of copyright that need to be addressed. Authors of information want and need to exercise their exclusive rights in order to protect and/or gain from the use of their work. Exclusive rights allow authors to reproduce, publishing or communicate their work for sale or any other purpose (Intellectual property office of New Zealand, 2013).

The fundamental fact about intellectual work is that it is created for a purpose. For instance information/knowledge created through research may exist to either inform people of the new findings on an existing problem, to help solve a problem or to build on the existing knowledge. For this reason, information needs to reach its intended target. It must be made available at the right time and in the right format via the right channel, whether copyright or not.

Realizing on one hand the need to make information available to the users while on the other hand protecting the interests of rights owners, how then should copyright issues be dealt with, how can access to information and sharing of knowledge be made effective while appreciating individuals’ innovation and invention? In as much as people would want to have access to relevant information, issues surrounding copyright still affect their access to information and knowledge.

It has been argued that copyright helps harmonize the concerns of information users and owners of work. For example that copyright ensures that authors are given the privilege to exercise their exclusive rights by deriving financial rewards from the use of their works by others. Copyright also ensures that authors receive the respect and recognition of authorship to their work. To information users, the argument put forward is that copyright ensures that intellectual work is accessible and used for the benefit of society. This is stipulated in copyright limitations and exceptions (Rao, 2003).

1.1. Study Objectives

From this understanding, there has been a debate on the extent to which copyright serves the interests of both groups (Rights holders on one hand and information users on the other hand). This study therefore set out to understand and try to address these concerns without disadvantaging anyone stakeholder.

1.1.1. Main Objective

- To evaluate the impact of copyright on information accessibility and availability

1.1.2. Specific objectives were to:

- Assess the effectiveness of copyright in analogue and digital era?
- Establish the extent to which copyright meets the concerns of rights holders and information consumers.
- To examine the levels of satisfaction of both groups in the way their interests have been addressed

1.2. What is copyright?

According to Intellectual property office of New Zealand (2013), copyright refers to exclusive rights of owners of original works such as drawings, films and sound recordings. Original works include literary, dramatic, musical, artistic works, sound recordings, films, communication works, etc. Copyright owners have exclusive rights to copy (reproduce,

scan, record, download and keep), distribute or publish copies, perform, play or show, communicate their work to the public. This may include radio and television shows and internet webcasts. Authors or rights holders of work have the right to adapt/translate their work from one language to another. Above all, creators have legal rights to gain financially from the use of their work and to control its use.

The University of Alberta Libraries (UAL) defines Copyright as a legal right given to creators of intellectual work (authors, composers, playwrights, publishers, or distributor) to exclusively publish, produce, sell, or distribute their work. Copyright allows rights holders to get payment from the use of their work as well as to control its use. On the consumption side, copyright provides exceptions to rights of creators for educational purposes (UAL, 2015). Rao (2003) states that a balance is achieved by providing authors with legal "rights" while limiting the same rights through "exceptions." Both UAL and Rao further argue that copyright only protects the way information is expressed and not the information itself, such that the copying of ideas, facts, or information in one's own words is not copyright infringement. It may nevertheless constitute plagiarism if the original idea is not acknowledged.

Zambia Copyright and Performance Rights Act (ZCPR) (1994) and Rao (2003) further define copyright as a legal term referring to exclusive rights given to creators of intellectual work for a specified period of time, usually author's life-time plus 50 years after death. Intellectual work though may vary between and among countries, may include literary, musical and artistic. Literary works may cover anything in writing such as books, articles, plays, reference works, newspapers, databases and computer programs. Musical works may cover films, musical compositions, sound recordings and choreography while artistic works may include paintings, architecture, drawings, photographs, sculpture, advertisements and maps. Rao indicates that by virtue of the Berne Convention for the International Copyright Protection of Literary and Artistic Works, inventions do not necessarily need to have any formality in order to gain copyright protection. Copyright protection automatically takes effect once work has been created, regardless of its origin.

Rao (2003) adds that copyright provides limitations and exceptions also known as "fair use" in order to strike a balance between the legal rights of authors and access to information by the public. Rao states that copyright protection only covers the manner in which information is expressed and not the information itself. He explains that getting ideas, from someone else's work may not necessarily infringe on copyright if the original work is cited.

However, the issue of copyright in a digital environment has become complex and it has not fared well where consumer rights are concerned. Such privileges and issues of adhering and enforcing copyright have been affected by the application of technological measures in a number of ways. As a result, various concerns have sprouted regarding the effects of TPMs on traditional copyright's exceptions provided for. The following sections of this paper will highlight the issues of copyright before and after the integration of ICTs in the protection and dissemination of information.

2. Study review

2.1. Research methods

The study took a qualitative method of research through the critical analysis of substantive research literature done by scholars in the field of information as it relates to copyright. Various literature on international agreements on copyright and intellectual property rights was also consulted to give evidence to arguments brought t up as well as giving basis for case-building in the study. Based on the literature reviewed, the study made recommendations.

2.2. Copyright in the analogue setup: it's effectiveness

Rao (2003) states that copyright was originally meant to serve two purposes. Firstly, that copyright is meant to reward creators for their original works. Secondly, to advance the availability, access and use of created works to the public. The first implication is that copyright enables creators of intellectual works globally to get rewarded and benefit from the use of their works by others. It also recognizes the efforts and the contributions authors have made towards knowledge creation, building and re-use for developmental purposes in society. Rewards would further inspire authors to invent more and take up more challenging knowledge generating opportunities that would help solve experienced problems.

The second implication would avail every created works to all users for purposes stipulated in the exceptions. This would make information and knowledge sharing between and among students and researchers worldwide possible. Through copyright, research findings of various projects would reach the intended targets hence applied to solve initial problems. This way, key developmental sectors such as education, research, information & technology, health, science and agriculture would greatly advance. Meanwhile, access to research information by some researchers would be very helpful in fostering development in other countries with similar experiences. Commenting on this aspect, Walker (2005) argues that copyright is imperative in making available and accessible the much needed knowledge and opportunity by many African countries to achieve their developmental aspirations. Research literature would also help close up the digital divide that exist between developed and developing countries.

UNESCO (2000) brings out the argument that copyright tries to address both the interests of authors and those of information consumers based on mutual understanding of what each party deserves. Creators of intellectual works use copyright to safeguard their work while making it available for public legitimate use. Likewise, Hugenholtz states that copyright is based on balancing the interests of creators of work and protecting their works while guaranteeing public interest the fundamental freedom to use the information. This balance precisely draws from one of the basic principles of copyright, which is to promote progress in research and continuation of culture. As a result, copyright grants creators of work exclusive rights based on the understanding between their interests and that of society, which demands the free sharing and use of ideas, information and products. Hugenholtz further reveals that inherent therein is the idea of a social contract between the creator and society and that many copyright principles embody this concern for the sole purpose of harmonization, ensuring that both the period and the extent of copyright has limitation (Hugenholtz, 1997).

Copyright therefore empowers individual countries to promote the development of research and important findings by giving authors and inventors limited times they can exercise exclusive rights to their respective findings (Walker, 2005). This way, creative works is allowed to facilitate the creation of culture. Copyright's best known feature is

protection of owners' rights i.e. copying and quoting from copyright works without permission or payment is allowed under fair use in copyright law. Fair use is a user's right.

UNESCO (2000) further states that under copyright, users are granted several exceptions which take care of essential values as freedom of expression, the right to privacy, access to research literature and to culture and the dissemination of knowledge through education, research and library repositories. Meanwhile in her speech, Hackett (2005) states that copyright provides for libraries to collect, store and make available information to the public, the aspect libraries exist for. Without copyright, it becomes a challenge for the library to make available information to users while meeting the interests of the owners' of such works. This can only be achieved through balanced copyright laws that provide effective protection to the interests of rights holders, as well as reasonable access to created work. This would lead into promotion of innovation, research and further creativity.

2.3. Extent to which copyright meets the concerns of rights holders and information consumers

Rao (2003) in his definition of copyright argues that copyright balances the legal rights of authors and access to information by the public through limitations and exceptions. The question we started with is whether copyright meets the concerns of information users in the same way it does authors'. To which the answer is a definite no. It seems copyright exists to serve the interests of rights owners. It can be argued that even though fair use has extensively benefited information users, its initial existence was to enable authors distribute or sell their work for financial and moral benefits. Exceptions only come in because authors of work know that they need end users for their work to be meaningful and to complete the knowledge creation cycle. Copyright may be there basically to address author's issues and how they can gain from the use of their work, of which can be facilitated by limitations and exceptions. In the past, users have brought out issues they are not happy with but such have not been considered by copyright. Do you know why? It is because users are considered secondary. Users have no influence over other people's work. It is like a relationship that exists between a cat and a rat. The rat is expected to dance to the tune of the cat in order to maintain a healthy relationship and ultimately preserve its life. This therefore proves that consumers are not quite happy with the way copyright has addressed certain issues. Some of them which may include the following:

UNESCO (2000) and AAU (2005) have revealed that traditional copyright protection can also be damaging more especially to third world countries because it sets up barriers to information access needed for development. For instance, exceptions provided for under fair use only take care of reproduction of copies for free while leaving out the cost for acquiring the original work. In this case, consumers may still be compelled to spend more money in order to have access to the original work. These poses a challenge to most information consumers in developing states whose budgets cannot allow to even buy the original copy? Given to choose between funding to buy books or food, it is obvious that they would go for food because this is a matter of life and death hence their number one priority.

In instances where original copies have been purchased, copyright may hinder timely distribution and access to information due to lengthy procedures needed in getting permission from rights owners to use their work. One is required to explain the purposes for which such work will be used for. This would therefore limit the amount of information available and knowledge sharing among writers, researchers, educators and the general public, especially in most African countries. Quality research and generation of knowledge gets stifled. When research and creation of work is not well supported, many areas get affected. The rating of the education system on a global scale is negatively affected. There is no scholarly writing openly visible to the wider world.

The exclusive rights given to copyright holders cover a very long period of time, i.e. authors' entire life time plus 50 years after death. In fields like science and technology where information easily becomes obsolete, such information would have been way superseded by the time it gets into the public domain, hence useless. Another aspect is the issue of public work being owned and controlled by the Government. This means that the public need to get copyright permission to reproduce multiple copies beyond what is permitted in the copyright exceptions. The outcome would be limited access to important documents on critical issues like health (HIV/AIDS, tuberculosis, and malaria), crime, science, education, sanitation, employment, technology and other aspects of socio-economic development. One may choose to argue that since public research and production of government documents are supported by the public (citizens) through tax and are for people, the results thereof should be made available to them freely. They need such information to enable them make informed decisions in their lives as well as to enable them participate fully in issues pertaining development and their governance (Nicholson & Kawooya. 2008).

Copyright must therefore reconsider such cases and ensures that such information is in the public domain the moment it is created to allow the public have access to and use it. After all it exists to benefit people's lives (the public). When public information (indigenous knowledge) is denied, knowledge sharing becomes quite difficult among locals. To this effect, IFLA (2002) laments that a society which is unable to access the knowledge required on critical aspects of human development like politics, social, environment or economic issues will not achieve broad consensus upon which a healthy society is founded.

2.4. Copyright in a digital setup (level of satisfaction)

As the world switches to digital technologies in creating and distributing knowledge and culture, questions of digital copyright has become central. While there are new opportunities, users now have more diminished rights in the digital environment than they have in the analogue set-up. The exceptions that traditional copyright provided for has heavily reduced in the digital environment (UNESCO, 2000; Hackett, 2005). Hackett further states that rights owners have too much rights yet one wonders what their responsibilities could be. The fair use in exceptions and limitations especially on print work has been reduced drastically in the light of technological protection measures (TPMs). Since the world is increasingly transforming into digital, the outcome is a huge limitation to the development while experiencing reduction in information and knowledge resource accessibility. This portrays a picture of unhappy information users. They feel their rights are not fairly addressed and hence not satisfied.

In agreement, UNESCO laments that the copyright balance is threatened by technological changes that have been enacted by the information society. It is revealed that copyright is expanding, not only on protected issues but also on the

areas of protection. Basic information, traditionally outside the scope of copyright, becomes indirectly covered. This gives the rights holders the right to monopolize their work at the expense of access to information by the public. UNESCO adds that exceptions and limitations on copyright, which are an essential instruments of achieving desirable balance, are prone to decrease, both through the effects of the law and through the growing use of contracts by technology in applying copyright (UNESCO, 2000). Keeping a balance therefore between copyright and access to information will remain a major challenge to the information society as threats to the transfer of knowledge and access to informational and cultural content are considerable.

Commenting on the same, Hinze (2002) reveals that current draft of the Free Trade Area of America (FTAA) requires signatory countries to extend protection to issues and information within databases. He adds that U.S. copyright owners have used TPMs to obtain an extended monopoly over products and technologies that do not qualify to be protected under traditional copyright. The example given is that of TPMs used to back the Digital Millennium Copyright Act (DMCA) to freeze free expression and legitimate scientific research. This forced scientists to either publish their research on access control vulnerabilities, or remove previously published research work from the internet so that DMCA liability does not affect their publications. This is infringing on copyright 'fair use' provision to allow the use of copyright works for the purpose of research. If researchers cannot distribute and share research findings, technological innovation gets stifled. Meanwhile, we see owner rights being renewed whenever there is a substantial change in the database. This has resulted into shrinking of the public domain as less and less work is now qualifying to be treated so.

A rich and robust public domain provides the raw material for future creativity, innovation and research. Hackett (2005) in support argues that increases in the term of copyright protection leads to the erosion of the public domain and those technological measures do not expire. She states that in the name of harmonization, the use of the available protective technologies has removed access to a large amount of content that millions of people around the globe require to carry out their most need activities for development such as research and education. Hackett further reveals that developing countries are the most hit because access to information is a fundamental aspect in attaining development. She further explains that information that traditionally belonged to everybody is removed from collective ownership. This has serious consequences on education, research and innovation. Worse still, the retroactive extension of the term of protection in some jurisdictions does not serve the interest of the traditional copyright provisions for both the rights holders and public or society.

Rodgers (2000) also argues that TPMs limit access to information even what copyright allows. TPMs are a threat to a long existing and accepted concept of "Fair dealing" or "Fair use" which avails libraries a privilege of collecting, keeping and disseminating information to the public. Technology has undermined the legitimate public information access. Davis and Lafferty (2002) further comment that locking and controlling access and use of research content through ICTs have presented interesting challenges in supporting fair dealing in the digital world. Users are meant to purchase not only the intellectual property, but the production and maintenance costs as well. For example, software legitimately purchased may later on require upgrades to continue operating, which are purchased separately. System or software upgrading then becomes a routine aspect, forcing one to continue spending on something already paid for. To this, Hinze (2002) responds that ICTs contribute to the increase in the cost of accessing and acquiring information by users. In the end, the knowledge gap between the developed and less developed Countries is widened.

In a related argument, Rodgers (2000) indicates that preserving the purpose of 'fair use' in the copyright age encourages a renaissance of research, academic, and educational freedom. The moment 'fair use' reduces as a result of ICTs applications on access to copyright work, it becomes a clear fact that something momentous has been taken away from the normal. Without 'fair use', consumers find themselves paying for all the information they want to use because copyright owners have designed it that way. One might not have access to certain literature regardless of purpose, be it education, research, library acquisitions, non-profit-making intentions or private use, access is limited. This brings about challenges on the availability of scholarly, academic, and library collections. In agreement, Rodgers (2000) and Hinze (2002) in their studies argue that TPMs fail to distinguish between legitimate information uses and infringing information uses by information consumers. For example, a protection mechanism used to prevent a person from making multiple copies for commercial use may not only prevent the person infringing on copyright but will also prevent a researcher, teacher, student, news reporter or a visually impaired person from making legitimate copies under fair use as provided for by copyright law. Hinze adds that unlike copyright, there are no exceptions under TPMS for special use or particular purposes without seeking permission from the copyright owner. This implies that works protected by TPMs have limitations and rules with regard to their use, even on what is allowed under traditional copyright.

A draft Treaty on the Protection of Broadcasting Organizations, under discussion in 2005 at WIPOII to introduce new protection on the signal and the fixation of the signal, has a negative impact on both the copyrights holders and the public at large, in particular content in the public domain. As currently drafted, the term of protection is a massive 50 years inclusive of webcasting (Hackett, 2005). This might impede the access of certain information that would have been accessed under copyright for the purpose of broadcasting or communication. Further, anti-circumvention clauses can prevent libraries from making copies of certain works for their legitimate users. This can also restrict sharing of information and interlibrary loan facilities, current awareness services, book reviews, and information access to people with disabilities.

According to Hackett, information providing institutions such as libraries, documentation centers, archives, and museums act as the world or public repositories. Some have a legal mandate, not only to preserve, but to make available people's cultural and scientific heritage to the current and future generations. This would allow for continuity of culture. We find that with the application of TPMs, this mandate has been affected. TPMs lock away such resources. She further adds that TPMs are not timed to release locked resources into the public domain once the term of protection has expired. This poses a great risk because future public records may lose value or may bring in inconsistency in knowledge. (Hackett, 2005)

In support, UNESCO (2000) reveals that ICTs have complicated copyright by bringing in a third level of protection on works, which provides protection on the technology itself. The implication is that apart from the work being protected by technology under the law, the technology itself is also protected by law. In which case, if one infringes on copyright

by using work without authorization of the author of certain work protected by a technological system, the user commits two offences. One offence is against copyright law, and the second offence is against the provisions on technological measures.

Another area where ICTs have brought in complications on copyright is the issue of information licenses. Hackett (2005) reveals that ICTs impose restrictions on access to electronic resource by use of contracts. For instance, e-resources in libraries are usually acquired via a license or contract with publisher or provider. In such cases, the library only buys access to content but not ownership of the same. While the terms and conditions of the license may guide on what the library can and cannot do with the materials, Hackett explains that in most legal systems, contracts may be allowed to override the legal exceptions and limitations of traditional copyright. Worse still, it is difficult for the library involved to negotiate on unprogressive clauses as they do not have power to face the resource providers. Mostly, the comparative bargaining power between libraries, who are simply requesting to access essential resources for their users, and the publishers who hold the monopoly rights as resource owners, is extremely disproportionate. In an attempt to redress the imbalance, libraries have formed consortia to try to negotiate on some licenses with publishers for major resources. Such an effort has not yielded much success though. Consortia have also used well meaning bodies to negotiate on their behalf such as the Electronic Information for Libraries (EIFL) and International Network for the Availability of Scientific Publications (INASP). This way, prices have been at least manageable.

Compulsory licenses where many changes to Intellectual Property laws driven by the music, software and mass entertainment industries have directly affected libraries in a negative way (Hackett, 2005). She goes on to explain that like all global businesses, the journal and book publishing sector has experienced its fair share of mergers and takeovers over the years. This coupled with the networked distribution process has led to a situation where fewer individuals have monopoly over huge amounts of research information. This therefore calls for information consumers to have deliberate protection from concentrated or uncompetitive markets. Such protection can be done through statutory compulsory licensing schemes. Hackett's worry is that libraries in future might have no collections because the digital age has turned publishers into holders of the digital archives. The situation can only be dealt with if libraries are given more power to negotiate for perpetual access to the archives of previously subscribed to content. The national copyright legislations should also provide licenses and contracts that embrace statutory copyright exceptions.

In a comparison study of the analogue environment and the digital environment, Litman (1994) as cited by UNESCO reveals that copyright exceptions in the analogue setup does not regulate access to information once materials are acquired through purchase. The digital era demands authorization from author to use one's work for legitimate purposes even after purchase. This brings about problems to a teacher who may have bought, say a computer program for class demonstration such that he is denied the right to copy the software on several computers for his students.

2.5. Are there positive aspects of ICTs on copyright?

The response to the above question is yes, there is. In everything created under the sun there are positives unless you choose not to notice them. UNESCO (2000) on the other hand has argued that the use of ICTs has made possible digitization and circulation of works online. This has resulted into the production of low-cost but of high-quality copies of works at a fast rate. Digital work can be used and shared among a wide range of people around the world simultaneously, irrespective of distance. UNESCO further reveals that some interactive features of Internet make it possible and quicker licensing transactions between copyright holders, producers, intermediaries and consumers. In a way saving travel, handling and lodging costs on the part of the consumer.

In a related account, Rao (2003) and Hatcher (2005) reveal that TPMs assist authors to track the use of their works. Such information is relevant for both grant purposes as well as measuring authors' own effectiveness in knowledge creation. Usage statistics make it easy to justify to funding agencies why certain projects should continue and are worthy sponsoring. On a personal level, usage statistics would help authors to assess their work output and its quality. Further, Baxter (2005) indicates that preventive ICTs may guarantee integrity of one's work by preventing reputational harm that end users may plan to bring such as content alteration or any other use that may infringe on copyright. The argument is that when creators of intellectual works are assured of safety of their works and their rights, they can freely allow end-users to acquire and use it as long as they acknowledge the original work.

Another aspect revealed by Hackett (2005) is the dramatic change in library services over the past years. The application of technology has availed libraries with wonderful opportunities of access to global resources, while advancing on services. She cites academic and research libraries in the 50 eIFL member countries then that have benefited from accessing various e-resources. In a similar argument, Walker (2005) states that through technology, copyright works can easily be accessed. Huge amount of information is made available, used and shared online among people to bring about development in third world countries. While Hackett further indicates that the digital environment has the potential to transform access to and use of copyright work, regardless of distance or economic situations. While compulsory licenses would allow libraries to negotiate on equal terms, libraries may also take such an opportunity to negotiate for perpetual access to material already paid for. Libraries, if they so wish, may as well lobby for specific exceptions not covered by copyright but would greatly help them live their goals (Hackett, 2005). This could work because libraries are major purchasers of copyright works, both analogue and digital. In a related account, UNESCO (2000) believes that the use of advanced communication technologies would enable Africa overcome the information divide as it would make information availability and accessibility a lot easier.

In the absence of TPMs, much digital information becomes vulnerable for copying in their entirety in the digital environment. Unlike in the print age where photocopying would only be convenient with a few parts of a book, technology allows reproduction of materials even the whole book (Hinze, 2002; Hatcher, 2005). Furthermore, UNESCO (2000) indicates that digital works are easily altered, or even falsified, causing many potential threats to the moral rights of authors. TPMs therefore come in to prevent unauthorized uses or dealing of copyrighted materials. In turn, this helps creators of works to continue gaining financially and morally. The World Intellectual Property Organization (WIPO) (1998) argues that it is out of these facts that copyright has become one of the first areas to have attracted the attention of

the international community. Such have caused the creation of both national and international legislative and technological initiatives to reinforce copyright protection in the digital environment.

It is further a proved fact that ICTs enhance the quality of education. It brings in more interactive and easily accessible teaching methods with multiple activities that do not only allow learners to read and write but engage them through creating, designing, performing, searching and playing while learning. Learning has taken a learner-centered kind, which influences the way students are taught and learn. Such transformation has made education more interesting, flexible and entertaining. For example, teachers can incorporate audiovisual and digital learning materials in their teaching methodologies to communicate facts and experiences to students. They can also ask students to do an exercise on a computer. In as much as students get entertained by watching or designing, they get to learn and even understand better and faster because they can easily apply what they see or told. Like the saying goes “When I hear I forget, When I see I remember, When I do I understand”. This in turn prepares the students for lifelong learning, an ability to meet the demands of the industry. (Livingstone, 2012; Eid, 2013)

ICTs have made possible online education. With online learning, geographical locations no longer matter. With the help of ICTs, students have access to e-learning materials like e-books, e-journals, examination papers, etc. They can have one-to-one discussions with their lecturers as well as participating in group discussions with fellow students. Noor-Ul-Amin reveals that ICTs allow students to easily correspond with their mentors, experts, researchers, professionals, and peers world-wide. Similarly, academic institutions are able to reach a wide market while learning and teaching can take place anytime, 24/7. (Noor-Ul-Amin, 2015)

2.6. Summary of the literature review

According to UNESCO (2000) one of the essential challenges presented by the information society is that of building a balanced and coherent legal framework that takes care of both the change in the economic and socio-cultural model. Such a framework must also exist to safeguard fundamental rights and freedoms in the digital world, including copyright. The argument is that TPMs for example are controversial in the sense that copyright owners on one hand support their use because they prevent users from copying their works illegally. On the other hand, information consumers believe that TPMs do not only prevent copyright infringements but also prevent legitimate use of information under statutory exceptions such as education, research and personal use. This calls for a framework that will address all these concerns on a level ground and mutual respect.

The study established that traditional copyright basically exist to address the concerns of authors/rights holders. The so called “Fair use” came into place simply because authors realised that they need end users for the existence of their business. This could explain why initial agreements on copyright did not involve the participation of information consumer. Yes one can argue that copyright addresses the concerns of the two parties but to what extent are their concerns met? Their levels of satisfaction are not even. One group (Rights owners) has an upper hand over the other (end users or public). The interesting part however from the study is that the copyright provisions in the name of exceptions have still been appreciated and greatly benefited the public in accessing information. Its profound importance is explained in the heated debate on the effects of TPMs on copyright in a digital era. A lot of talk has come up expressing grief on the diminishing value of ‘fair use’ as a result of using TPMs for copyright.

For example, UNESCO, University of Melbourne, Copyright office (UMCO) and Hackett argued that TPMs give rights holders a monopoly over their work at the expense of access to information by masses of users. Hackett further argues that the agreed statement to extend existing copyright exceptions and limitations in Article 10 of the 1996 WIPO Copyright Treaty to the digital environment, has not been implemented physically (UNESCO, 2000; UMCO, 2007; Hackett, 2005).

This argument is based on the fact that where end-users of information like libraries that have asked for the extension of traditional copyright exceptions on electronic information from rights holders, they have been denied or achieved very little success. UMCO (2007) also explains that contracts for electronic resources in most cases are allowed to override the legal exceptions and limitations of copyright. And in many cases, the opportunity to negotiate the standard license is non-achievable because the bargaining power of right owners is way beyond what consumers can march with. This creates a situation where the consumer is put in a “Take it or leave it” quandary. Users would just have to comply with the right owners’ unfair terms and conditions in order to have access to information they need.

It is worth noting that libraries have a mandate defined by law to collect, preserve and disseminate information to promote education, culture, health, research and other areas that bring about national development. Libraries further exist to facilitate good governance and the development of society through the provision of access to information, knowledge and learning resources. When access to the needed information and knowledge is restricted or limited by copyright issues, development gets retarded automatically

Rao (2003) and Ricketson (2003) further state that copyright provides for copying and distribution of works under fair dealing arrangements whereas no such privileges exist for e-information. If anything, the technology has contributed to decreasing scope and number of exceptions to copyright in the digital world. Where provision is made, users are usually made to pay fair remuneration to authors. In the analogue setup, copyright does not regulate access to information or require authentication once materials are purchased. The use of digital information demands users to get authorization from rights owners. This affects legitimate uses even when one has already paid for them.

The study further revealed that TPMs have been extended to areas that do not fall under copyright protection. To this, UNESCO argues that sui generis right on databases does not only cover the information contained in the databases, but the non-original form of the whole information, which, not being original, cannot be protected by copyright. Setting up a monopoly over information through the sui generis rights on databases does not only hinder access to information, but prevents the non-commercial sector from taking advantage of the free flow of information too. The educational and scientific community, whose work is beyond imaginable without access and use of permanent research literature, could be heavily affected by this new right (UNESCO, 2000).

In a related study, Hinze (2002) found that U.S. copyright owners have used TPMs to obtain an extended monopoly over non-copyright works and technologies that interact with their works. The idea of extending monopoly to non-

copyright qualifying works is not only subject to criticism, but is legally unnecessary and simply brings in inconveniences at the expense of development.

The reviewed literature adds that ICTs impact adversely on libraries round the world, but do so even more severely on libraries in the developing countries. Such libraries are denied of opportunities to realize their full potential. The incrimination that technology brings on copyright further does not only inhibit access to resources but also imposes unrealistic costs on societies already disadvantaged economically. It is for this reason that Hackett (2005) complains that the current "one size fits all" approach to copyright law is undemocratic. It is unfair that developing countries while struggling to attain development are expected to adhere to very strict regimes which developed countries did not go through in their developing stage, Hackett argues. There is need for equal treatment and understanding of each party's concerns.

However, on the other side of the coin, the study reveals positive impact of ICTs on information accessibility. Some scholars have argued that application of ICTs in various human operations both at organizational and individual levels is very beneficial to both creators of works and information consumers. For example, Hackett (2005) and UNESCO (2000) have also indicated that the digital environment has the potential to increase access to and use of information and overcome the information divide between information rich and poor. Since compulsory licenses would enable libraries to negotiate on equal terms, this gives libraries an opportunity to even negotiate for exceptions over and above copyright such as perpetual access to materials already paid for. In her argument, Hackett indicates that ICTs have dramatically changed library services over the past years such as providing access to global research e-resources. Libraries are able to reach a wider audience of their clients using social networks. Since the majority of academic library users are students that fall in the category of the young generation, access to library resources is instant and continuous via mobile devices.

It is true that most institutions and organizations have gained competitive advantage as a result of exploiting appropriate ICTs in their operations. For example, Walker (2005) argues that technology has made information easily accessible. Huge amount of information is made available online, used and shared among people to foster development in transitional countries. TPMs also help authors track the usage levels of their works, critical information for both grant purposes as well as assessing the quality and effectiveness of one's work in one's field of specialization (Rao, 2003; Hatcher, 2005).

This study therefore, reveals that adapting exceptions to the digital environment is an essential issue especially to developing countries. Care must be taken to ensure that the digital society does not endanger authors' prerogatives while making information accessible to the public. This will allow a peaceful transition. The proposed exceptions in the digital environment in the 1996 WIPO Treaties should not conflict with a normal exploitation of the work or the legitimate interests of the author. Where need be, additional consumer rights should be added. In a related development, Ricketson (2003) argues that some technological measures such as the three-step test may not have any effect on exceptions. The implication is that the application of certain technological protections neither affects access to and use of information nor conflict with traditional copyright exceptions. So it is neither here nor there that application of such technologies should be a matter of discussion.

3. Recommendations

Considering the negative impact of ICT application on exceptions and limitations under traditional copyright, the study recommends the following:-

- The need to adopt and establish acceptable exceptions in the digital world globally to ensure that both rights owners and information consumers each get a fair deal. Rights owners must be made to understand that their work exist because of consumers that need it. Otherwise created work would exist in vain, with no purpose and no use. Countries need to establish new exceptions which would be acceptable in the information society world-wide.
- Application of TPMs in the digital environment should not override the exceptions and limitations provided for by copyright because these are lawfully users' rights and users should therefore be allowed to enjoy their rights. Information consumers should refuse to trade off their statutory rights, as this would further increase the digital divide that already exists between the information rich (Developed countries) and the information poor (Developing States).
- Consumers must demand that government documents are equitably and conveniently made available to the public because such documents are a national asset and crucial for making day-to-day operating decisions in society
- In cases of libraries, they should form consortia to increase their bargaining power and possibly negotiate for more exceptions on critical aspects of national development. At negotiation level, libraries should make it clear that publishers need libraries (end users) for their survival, hence are integral in knowledge-creation cycle. Information must be used or it becomes useless. Information consumers are
- The information consumers should promote Free Open Source Software and support open access publishing through open access journals and Institutional Repositories. These offer free access to global research content needed for national development.

4. Conclusion

The study established that the initial existence of copyright was to serve the interests of rights owners. Even though 'fair use' has extensively benefited information users, its initial existence was to enable authors distribute or sell their work for financial and moral gain. As a result, it has been commonly argued that copyright takes care of both the interests of authors and information users by protecting authors' work while making available information to the public though limitations and exceptions. However, the application of TPMs on electronic information has brought in complications on copyright limitations and exceptions. As such copyright in the digital era has been heavily criticized by information users and accused of affecting the provisions of fair use such as limiting access to critical research literature. For example the

application of certain TPMs may limit access to and use of information for legitimate uses provided for under exceptions. This therefore restricts access to research information needed in critical developmental sectors of developing countries like education, health, agriculture, science and technology. It further impacts on creativity, innovation and knowledge building

Since our generation is witnessing the transition from the analogue into the digital setting, the application of TPMs to safeguard the interests of authors should not be allowed to override the provisions of the copyright under 'fair use'. These exceptions provide a balance that is at the very heart of intellectual property rights. Overprotection of copyright stifles research progress, innovation and ultimately development. Libraries and other well-meaning information professionals should commit themselves to ensure fair dealing between protection of the legal rights of authors on one hand and access to information by the public/end users on the other.

This therefore calls for a mutual understanding between the producers of information and consumers of information since they both benefit from each other. The fact is that they both need each other for survival, i.e. authors need information users for economic benefits while users need producers for information they need to perform their tasks. In support, UNESCO (2000) calls for fairness and balance of rights in the digital environment.

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