



# Transforming Dimension of IPR: Challenges for New Age Libraries

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# **Transforming Dimension of IPR Challenges for New Age Libraries**

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## Foreword

The current Intellectual Property landscape in India is presenting moderate challenges for new age libraries. Increasing signification of Intellectual Property laws generate a growing need to understand phenomenon and to discuss issues surrounding precarious aspects of IPR & Copyrights issues.

Information technology environment raises new challenges and opportunities in light of globalization and propounds new ways for the libraries in governing information via digital networks. Digital technologies have shifted various individual's demeanour that has been perfectly legal before the new information revolution into the formal infringement of IP laws. Technological developments like internet, digital databases, social networking, cloud computing and digital rights management have immense effect on the core of copyrights and other IPR Issues. A balance between intellectual property rights and knowledge management is essential for prolong growth and control of information explosion.

Tomorrow's society is a knowledge society. How can we contribute to shaping the knowledge society for tomorrow? New age libraries play an vital role in spreading awareness relating to publishing, dissemination and use of scholarly communications, transfer of copyright and maximizing impact factor of their work under the preview of IPR. A library maintains actual and statutory balance in copyright laws in preserving and sharing information under the provisions for libraries in the act. They often provide access to broad ranges of materials preserved as archival or copyleft material or available in public domain. Libraries are at the urge of debating in creation of new intellectual property laws to harmonize the balance between creators, publishers and users of new age libraries. With a good balance between copyright laws and intellectual property policy, the digital information environment grow opportunities for all the stockholders of information.

I hope this compilation of articles makes some new source of emerging and persuasive information on IPR and allied subjects and creates new and important issues in debate to pave the way and right approach towards Intellectual property rights and allied laws.



Prof. (Dr.) Kanbir Singh



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# **Application of Intellectual Property Rights for Digital Preservation of Historical Collection at Indian Council of Historical Research: A Case Study**

*Ramesh Yernagula<sup>1</sup>*

## **Introduction**

The Indian Council of Historical Research has a well established Documentation Centre and has been preserving the documentation in its many forms. The centre's primary goal is to become more visible in the online information-seeking world in order to reach the scholars and expand awareness of the collections, services and their significance. The decision to replace print copies with digital is the documentation centre's preferred choice of preservation surrogate. This article discusses the collection development policy, technologies, challenges, and issues of IPRs of digital preservation etc.

## **Digital Collection Development Policy for Historical Documents.**

Digital collections are better because they are dynamic, changeable, constantly updatable and available any time, any place, anywhere, observes Joint (2006). As we gradually move on from maintaining physical archives to digital archives, the new environment offers a number of benefits and advantages to the documentation staff as well as users. Digitization provides new opportunities to extend their utilization and thus avoid damage to these valuable historical archives (Yu, S 2007).

We have developed a digital collection development policy and strategy document, which should be well thought-out and should meet the organisation's core mission of digitizing.

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The ICHR Library-cum-Documentation Centre has decided to initiate digital preservation of microfilms/microfiches and rare collections relating to Indian History. Microfilms/Microfiches and rare collections along with one digital copy thereof will be returned to the concerned institutes/individuals.

Interested institutes/Individuals are requested to avail this facility provided by the ICHR and send their proposal to the undersigned in the format which is enclosed the Annexure 1 along with undertaking letter

### **Technology Setup at Documentation Centre**

At present, we are digitising the Microfilms/Microfiches in house only and for rare historical collection are being digitised through leading out source agencies at Onsite. As such, they are using overhead scanners and are made available us in tiff & pdf images.

### **Hardware /Software**

Minimum Configuration of P.C: Pentium IV (or higher), 2GB RAM, 300GB Hard Disk Drive, CD-Drive, Network adapter, Monitor, Preinstalled Windows XP

Model Kodak 3000 Microfilms/Microfiches reader cum scanner

External Hard Disk

DVD Rom

Powerfilm Software

PDF professional

### **Emerging Challenges**

Some of the important ones experienced while processing the digital preservation at Documentation centre are listed here:

### **Technology Problem**

Digital components like hardware and software are changing their version and processing capacity leads to grate problem for digital preservation- particularly file formats

### **Technical Problem**

Whenever digitize the dark negatives of microfilms & microfiches, a error shows L 2. These films can't be digitized. Similarly, there are other errors like E3, E5, E7.

### **Skilled Manpower**

Finding skilful staff about new techniques and training them in digitization is a continuous issue.

### **Cost Problem**

Due to migration of new technology and finding skilled staff are more costly than physical microfilm/microfiches materials

### **Metadata Schema:**

There are many metadata schemes which are available for indexing of digitised materials but the selection of metadata schema is one of the greatest problems.

**Intellectual Property Rights** is also major barrier for preserving the digital material - especially hosting the digitized material in the public domain.

### **Intellectual Property Rights Issues**

Digital preservation is an important issue when it comes to preserving national heritage and other historic and current documents, manuscripts, heritage, etc. National Digital Preservation Programme (NDPP) of India has been launched but it is at a very nascent stage. Copyright is one of the most valuable intellectual property rights (IPRs). Discussion on the core topic of this paper i.e. the topic relating to "converting printed documents or physical microfilms/microfiches to digital form through digitization what are copyright constraints?. The immediate question should come to our minds as the librarians whether it is correct? Should we not see restrictions of copyright law before we take up such copying action?. As we know, we can convert materials to digital form provided they are in public domain or the copyright on the material has already expired.

We however, need to check whether copyright of publication has expired or not?  
When copyright generally expires?

### **Legal Steps towards before Giving the Digital Preservation Access at Public Domain.**

- i. If the copyright holder or author has given permission to do so else obtain the permission,
- ii. Whether the undertaken is received or not from the participated institutions. If received do they have any condition on confidentiality of data etc.
- iii. When material is created for public access being a government publication.
- iv. When copyright of book is expired.

This condition varies from one country to other as the copyright provisions differ from country to country. In USA, anything prior to 1923 is considered as public domain. In India it is life plus 60 years. Further, laws in India like Copyrights Act, 1957, Public Records Act, 1993, Right to Information Act, 2005, and Digital Millennium Copyright Act, 1998 (DMCA). Even the Information Technology Act, 2000 (IT Act, 2000) is not sufficient to accommodate the issues of Digital Preservation, Digital Curation, etc and we need a dedicated Digital Preservation Legal Framework in India

### **Conclusion**

Preservation of digital document has now become more obvious and necessary because of fragility of digital data. While converting from printed to digital through digitisation, libraries should see the legality of copying/reproduction action for preservation. The information provided here may be useful for the professionals and the law makers, who work for bringing standardization in digital preservation and digitization in India.

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# IPR in India: Status, Strategies and Challenges for Digital Content

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## Abstract

*Copyright infringement is a trouble connected to information technology. Often this is quite obvious. Since much of the copyright law was written with pre-digital technology in mind, artifacts of these assumptions continue in the law regardless of attempts to modernize it. This paper looks particularly at the relationship between information technology and copyright enforcement. It shows the three key technology factors that matter to rights holders who want to earn money from their creative works: copying technology, distribution technology, and sales technology. This paper covers the traditional intellectual property rights (IPR) laws and associated concepts from printed to digital works, and discusses how the characteristics of digital replication pose problems for traditional IPR systems. It provides some perceptivity into the Indian software industry by discussing the scope of Indian copyright law, the rights of owner, infringement, penalties etc.*

*Also the paper discusses the distinction between “**public**” infringers who make works available to others, either for free or for profit, and “**private**” infringers who are making a personal copy. The copyright law in most countries allows copying for private use, which makes most private infringement legal.*

Keywords: Intellectual Property Right, Copyright, Digital content, IPR law, Copyright law.

## Introduction

Intellectual property is an area of law that has evolved with development of technology. The increasing use of both computers and communication technology has given rise to a digital economy. This new economy is changing the way

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products are produced, the nature of products and their distribution. Certain distinctive qualities of the digital medium have given rise to challenging legal issues. Thus, intellectual property rights (IPR) have come to be recognized as an important tool for economic dominance. The objective of this paper is to analyze an emerging digital IPR regime with respect to copyright protection.

As libraries move from the physical medium to the digital, library staffs are increasingly confronted with the challenges of addressing copyright and other intellectual property rights (IPR) issues related to digital information. Copyright has become a hot topic and a vexing issue for all those who have a stake in scholarship and scholarly communication. In the digital world, the very premises and philosophy of copyright are being questioned and voices are being heard reviewing its tenets. What is so different in the digital age that has made it an engaging topic for all the stakeholders in the scholarly communication process? Balancing conflicting “private” and “public” interests is neither easy nor explicit. This issue is further accentuated in the world of academic research, where the private and public concepts are very nebulous. The issue of rights ownership transgresses into the realm of hairsplitting issues of creativity, work for hire and other equally contentious matters [3]. In the world of scholarship and intellectual heritage, libraries play a very important role: libraries are the voices for the “public good”. But, in the digital millennium, how do we balance often conflicting interests? How are libraries and library services affected? This paper attempts to examine copyright issues and their exceptions, especially in the context of academic research, with a view to highlight the issues that are of concern to libraries, scholarship and to society.

We are living in the Information Age, where information is a vital resource. There are various means through which a person can gain information. One of the best sources of information is a book. Books are the unparalleled instruments for setting down man's knowledge and wisdom.

Many libraries in India acquire information sources in different media, one of which is digital media. The digital form enables the information sources to be easily copied and transferred over the network. Digital media requires specific modifications in the Indian Copyright Law or altogether different law to ensure that the creator's rights are protected by fair use of such media [4].

## **IPR – Intellectual Property Rights**

Today books and other information resources are available in print as well as non-print form. As more and more information resources are being made available in non-print form, the concept of Intellectual Property Rights and thereby, Copyright is gaining importance [2].

### **Indian IPR Law**

India is a member of both Universal Copyright Convention (UCC) and the Berne Conventions. The GATT negotiations led to agreement on Trade-Related Intellectual Property Rights (TRIPS) that included provisions relating to protection of computer software and databases under copyright law. The Indian IPR for computer software is covered under the provisions of the Indian Copyright Act 1957. Several amendments to Indian copyright law were introduced in 1994, which came into effect on 10 May 1995 as one of the toughest in the world. For the first time in India, copyright law clearly explained the rights of the copyright holder, the position on software rental, and the rights of users to make backup copies. It imposed heavy punishments and fines for the infringement of software copyrights [7].

### **Copyright Law**

Copyright laws have been developed to protect the authors' and publishers rights. Copyrights evolved as a response to the threat posed by copying to the trade in books. It was founded on the notion of the 'author' and the distinctive nature of human creativity. The **Berne Convention (1971)** on copyright does give individual authors rights that transcend contractual obligations to their employers. However, this framework is steadily being displaced in favor of one that adds unconditional 'copy rights' to corporate owners of information. The Trade Related Intellectual Property Rights Agreements' (TRIPS) which came into effect on 1 January 1995 recognizes previous standards such as the Paris and Berne Conventions with the exception of Article 6b is of the Berne Convention that recognizes that-

- "Independently of the author's economic rights and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to, the said work, which would be prejudicial to his honor or reputation"[12].

Today copyright is being extended to our digitized environment and to all digital products. The industry has been forced to respond to the IP challenges posed by a digitized environment [13].

In a library, an information resource is used by a large number of users. The Copy Right law consider, for educational and research purpose, making copies to some extent as "fair use". Fair use depends upon the percentage of a document that is copied.

### **Copy Right law in India**

The copyright law of India gives moral rights to the authors of an original literary work. Moral rights under the Indian Law have been conferred upon the authors of an original work, and include the combination of three rights, viz. **Right of Publication**; **Right of Paternity**; and the **Right of Integrity**. It is significant to note that moral rights stand independent of the economic rights flowing through authorial creations, and vests with the author even after the transfer of his copyright [14].

The aspect of moral rights in India has been as author specific right added upon him rights to prevent mutilation of work in any form [5].

These days more and more books and journals are being printed in electronic form in addition to print form. This has been made possible by the development in information technology. The rapid advances in the field of IT are affecting the society in more than one way. The new technologies have brought in significant changes in almost all activities of human life be it manufacturing, trade and business, art or culture etc. The publishing industry is also no exemption as we see the traditional printing and publishing services are fast giving way to electronic publishing.

Electronic publishing is a process where activities relating to publication such as submission of manuscript, formatting, editing, printing and even distribution are carried out with the help of computers and telecommunication technologies. In its simplest form, electronic publishing describes a situation where use of computers is limited to formatting and editing etc. but the final output is processed in the conventional print forms [15].

The latest trend, however, is towards paperless publication where the entire flow of information from the authors to the readers takes in machine-readable form. Technologically, electronic publishing is taking two important forms, viz. Optical Disk (e.g. CD-ROM) publishing and network publishing [6].

### **Digital Libraries and Content Creation**

Digital libraries, by virtue of how content has been created and made available, can be broadly grouped into three classes: *born digital*, *turned digital* and *gained digital libraries* [1].

#### **Born Digital**

In born digital libraries, the content is created in digital form with the purpose and understanding that the content is primarily meant for storage and use in digital form. The tools for creating born digital content are word processing package (e.g. MS office) or complex multimedia content authoring and development tools.

Born digital content can be categorized into **exclusive digital** wherein the analog version is not developed at all. This could include creating course focused content, e-books, learning objects or other multimedia content where analog counterparts are not meant to be created or are not required. The other type of born digital content type is **digital for print**. In this type, the content is created in digital form for dual purposes, which include hosting the content in digital libraries and also having a print counterpart of the content so developed. Many books and journals publishers follow this model of content creation [1].

The difficulty with born digital content is that content creation can be a time consuming task taking a long time to settle the digital library. Further, resource requirement in terms of manpower and financial resources would be high for the content creation process.

#### **Turned Digital**

In the turned digital type, the contents that are in analog form such as the printed books are converted to digital form. Digitization technologies mainly the *scanning technology* is used to turn analog material existing on print media including paper,

manuscripts, etc. to digital form and storing them in digital form only. Digitization technologies are also improving day by day making it easier to turn analog content into digital content. Major digital library initiatives in the world such as **Project Gutenberg** and the **Million Book Project** belong to the turned digital library kind [1].

Based on the type of conversion involved, the turned digital kind can be categorized as *turned digital with replica content* and *turned digital with modified content*.

The disadvantages of turned digital content include the large size of the resultant scanned file which can become time consuming to download for voluminous publications. With regard to copyright issues, digitizing “**out of copyright**” material and institution owned copyrighted material such as dissertation and thesis is easier but obtaining permissions from copyright owners of other desired materials is a daunting task.

### **Gained Digital**

In the gained digital type, the content by itself might have been born digital or turned digital at some source but the library is not associated with the creation of content. The library only acts as a facilitator to access the already available content. This could include licensed resources such as the e-journals, e-books, databases, etc. to which through licensing mechanisms, the library facilitates access to these resources but do not own the content themselves.

Although very high costs are involved in developing a gained digital content in the library collection, the consortium access ensures that high-quality resources can be made available to the users in the shortest time and content is easier to manage. On the other hand, considering that content is usually licensed, the perpetuality of the digital content can be a problem area. Moreover, the users should be sensitized about the copyright issues involved as the library is likely to have entered into licensing agreements with publishers or other intermediaries with regard to the usage of the content [1].

### **Complexities of Digital Networks and Copyright Law**

The significant copyright issues in the digital era can be classified into three groups.

- Issues relating to a whole new set of work, namely, computer programs,

databases and multimedia works.

- Issues relating to reproduction, distribution and communication to the public of a work through digital media.
- Issues relating to the management and administration of copyright in the digital environment [9].

The key problems associated with copyright protection include:

- the protection of computer programs is too long; and
- Ideas cannot be protected, such as when a computer programmer looks at someone else's program and steals its ideas. If a programmer steals the form of expression from other computer programs, that programmer is liable for copyright infringement.

Some select situations where copyright problems would not be resolved when accessing or using information includes [7]:

- **Web Content.** In case of copyrighted Web based information, the technical interchange from computer to computer during surfing could be in a form of transmission that infringes multiple copyrights.
- **Data Uprising.** Library services have been based on "fair use" and the "first sale doctrine". Any library with copyright works on a Web site, gopher site, or FTP site could be liable for a lawsuit as a spreader.
- **Resources** for the creation of technology based protection tools to safeguard digital copyrights may have to come from libraries and publishers of digital works.
- **Increase in Information Value.** Those who believe that information gains value through use and thorough manipulation by a multitude of users, should not claim copyright and should: push information to users as rapidly as possible; establish a reputation as a generator of quality data;
- **Reduce the Time-to-Market for Research Data;** build publication vehicles such as CDs, flash drive etc. that users use for faster retrieval;
- **Hyperlinks.** A hyperlink used by a site does not directly cause any essential content to be copied, but merely provides a pointer to another site. Since readers are free to click on a hyperlink, though, the owner of the linked site may feel that access should be direct, rather than through the link.
- **Use of Library Computer Terminals.** Library users may make use of computer terminals to view movies, listen music on video/audio tapes or

CDs, run software programs, or download and print copyright materials from databases. Since a library is a public place, there is potential for infringement if the users exceed the licensed number of people.

Even though a library has purchased initial copies of these works, it does not mean that the library is free to make copies.

- ***Electronic Rights Management:*** Several digital copyrightable products ranging from electronic documents to multimedia products are emerging in the network environment. The components of electronic copyright management included in the National Information Infrastructure (NII) White Paper are: a registration and recording system, a digital library system with affiliated repositories of copyright works, a rights management system and a transaction monitoring system to check illegal use of systems.
- ***Digital Broadcasting and Meeting.*** In the past, broadcasting regulations primarily covered contents. In the USA, satellite based video services like Direct-To-Home are regarded as a telecommunication service, whereas in Europe they are treated as a broadcast service. The IPR framework may need to address various concerns from the broadcasters' and the right holders' point of view [11].

### **Copying Technology**

If the technology for making copies of a work requires expensive machines, large numbers of people, or financial resources beyond ordinary reach, then the infringement remains a relatively modest and manageable problem. Once the technology changes to make copying trivially easy, as is true at present with digital materials, then the traditional limiting factors that previously made the law enforceable cease to be effective. Ease of copying is often seen as the main problem in allowing infringement, but it is really only one factor [8].

### **Distribution Technology**

Access technology has two parts: one is the simple distribution of a work; the other is the ability of those receiving the work to make use of it. Distribution matters for any form of public infringement that has an effect on the value of a work. Both rights holders and public infringers need a cost-effective mechanism for getting copies to the point of sale. If a mechanical distribution technology makes distance a

factor in the price, then gaps in the distribution of legitimate copies may appear and markets may grow up where the legitimate product cannot (or for pricing reasons does not) fill the demand. If technology drops distribution costs to virtually nothing, then the market becomes effectively global. Access to the contents can be more complex. In pre-digital times, it often meant language, and infringement often had to do with unauthorized translations. Today access means software, network access, and server space [8].

### **Sales Technology**

The technology of sales determines how a rights holder or a profit-seeking public infringer can get money for a work. The technology can be a mechanical network of transfer payments from bookstores to publishers to authors. Within a common currency area it may function more smoothly than across currency boundaries and across certain economic boundaries sale may not function at all – such as during the cold war. Digital sales mechanisms certainly exist in today's internet, but they have cumbersome aspects, often for security reasons, that make them less attractive for some potential buyers than in-store payment [8].

### **Exceptions to Copyright with Respect to Libraries**

Copyright is not sheer. There are a number of limiting principles and exceptions to the rights. Those principles that are relevant for libraries in the digital age are listed below [3]:

- **Archiving and Copying** - Libraries and archives are permitted to make up to **three copies** of unpublished copyrighted works for the purposes of preservation, security or for deposit for research use in another library or archive. Libraries can also make up to three copies of a published work to replace a work in their collection if it is damaged, deteriorated or lost, or the format of which has become obsolete [3].
- **Fair Use** - What constitutes “fair use” is debatable. However there are certain factors that govern fair use [3]:
  - ✓ **Purpose and Character of Use**, i.e. is it for commercial use or for non-profit educational purposes?
  - ✓ **Nature of the Copyrighted Work** - The fair use principle is generally more indulgent for fact-based works than it is for “fanciful” works, and also is broader for published works than it is for unpublished



works.

- ✓ ***Amount or Proportion of the Whole That is to be Copied*** - Effect that the use has on market potential or the value of the copyrighted work.
- **First Sale Doctrine** - The matter of disposition of a particular copy of a copyright is limited by the first sale doctrine, according to which the owner of that particular copy of the work may sell or transfer that copy. Libraries' lending and marketing of used books are governed by the first sale doctrine [3].

Issues and concerns are complicated by the difficulty of defining what constitutes a “copy” in the digital age. The first copy may be the only copy for which the copyright receives an economic return. The paranoia of the holders of copyright stems from this fear of losing the market and the right to distribute. There are understandable concerns of users, including those of libraries, regarding loss of their rights as provided for in the above exceptions” [3].

### **Scholarly Communication, Copyright, Libraries and Preservation of Intellectual Heritage**

The role that libraries play in the scholarly communication process is shaped by the provisions of the copyright. There are essentially three players:

- the creators, who have legal rights;
- the publishers, who have legal rights due to transfer; and
- the users (individuals and institutions such as libraries and academe), who have legal rights through exceptions and limits. [7]

Authors produce creative and intellectual works while the publishers create a market and distribute and sell the works. The functions of libraries have been well defined over the years – *collection, preservation, organisation and dissemination* of works of intellectual and artistic content in order to facilitate their use. One of the important distinctions between the roles of other intermediaries and libraries is the *preservation* function. Historically, libraries, as social and cultural institutions, have the mandate not only to ensure equity of access and availability to the present generation of users, but also have the responsibility of ensuring that access and availability for future users [10]. Libraries acquire, preserve, lend and provide access to works, including those that have lost market viability or are out of print.

Often libraries are the only agencies that preserve public domain materials. Libraries are the facilitators that enable users to exercise their rights to access copyrighted as well as public domain works [3].

## Conclusion

The nature and use of copyright material in the digital environment differs from that of the print environment. Copyright materials in digital format can be accessed almost directly from anywhere at any time. Advances in ICT makes it possible for the digital content to be quickly and easily copied on a large-scale without the copyright owner's knowledge, without the use of intermediaries, transmitted, and used by multiple users. The new exploitation opportunities in digital environment have come with new challenges to provide protection to the copyright holders against unauthorized use of their contents in digital environment. In the digital environment contents are created for different purposes and in different modes are not covered by copyright laws in equal and comprehensive terms. Also, it is commonly seen that copyright owners many times directly manage with consumers via contracts, licenses, etc.

Technology has long been recognized as a key factor in enabling copyright violation. Some new technologies attempt to restrict copying (e.g. **Digital Rights Management software**). Now internet software is being used thoroughly for discovery and policing. The future of copyright enforcement will likely continue to be a function of technology.

In the Indian context, at present Indian legislation does not deal with the particulars of computer-based network systems. This is true for many developing countries. Digital content providers will have to be conformist to various jurisdictional laws and policies regarding the content provided as well as addressing differing intellectual property laws. In India content providers need assurance of the proper use of intellectual property in the open internet environment and efforts in this direction are on track. There should be legal mechanisms to protect against the hacking of technological protection measures applied to copyrighted works in digital environment.

We live in the ever-changing global digital environment, so it is important that libraries keep abreast of international copyright standards and domestic case law to

ensure that their understanding of current copyright legislation is appropriate and maintains a balance between the “*public interest*” and the rights of copyright owners to earn a living.

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# Significance of Intellectual Property Rights in Modern Era: An Overview

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## Abstract

*Technological developments during the last two decades have tremendous opportunities of speedy information and development of the world market for information resources and services. The modern society belongs to the technology and needs variety of information resources. In the ICT era, Intellectual Property right have been emerging as a big challenge around the competitive world. It is the practical means to legally act for protecting human creation and public welfare. The ever changing information technology and different types of digital resources has threat for our intellectual output process. This paper describes the overview of intellectual property rights and its related issues.*

Keyword: IPR, Copyright, Industrial Design, Trademark, Trade Secrets, Geographical Indications

## Introduction

The importance of Intellectual Property Rights recognized only after the invention of the printing press which made possible the reproduction of books in large quantities. Modern communication medium, channels and devices are liable to be pirated in large scale, if adequate precautions are not exercised. Generally we say that intellectual property law aims at the protection of creation of any creator for granting them certain time limit to control and use. The electronic transmission of copyrighted material, without the permission of its rightful owner, is an infringement. So we should be aware and respect the creation of a creator because the creativity of new idea has benefits for our society.

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## **What is Intellectual Property Rights?**

Intellectual property <sup>[4]</sup> is not a single property but also a bunch of intangible property <sup>[2]</sup>.

### **Intellect**

Intellect is an intangible creation of the human mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce <sup>[9]</sup>, if we expressed it in a tangible form that is assigned certain rights of property. Examples of intellectual property include an author's copyright on a book or article, a patent on the process to manufacture racing motorcycle design, a distinctive logo design representing a soft drink company and its products etc. <sup>[10]</sup>.

### **Property**

Property identifies those things that are commonly “one's own thing”. A right of ownership is associated with that property. One can do anything with that property e.g. buy or sell.

Properties are of two types <sup>[3]</sup> –

1. Tangible property (Physically present)
2. Intangible property (Spiritually form)

Building, land, house, cash, jewellery are a few examples of tangible properties which can be seen and felt physically. On the other hand there is a kind of valuable property that can't be felt physically as it does not have a physical form. Intellectual property is one of the forms of intangible property. It is above the value of a tangible asset.

### **Rights**

It is certain laws or acts given to that creator for their creation in certain period of time.

### **Definition of IPR**

According to the World Intellectual Property Organization (WIPO) <sup>[13]</sup>, “Intellectual Property (IP) refers to creations of the mind, such as inventions;

literary; and artistic works; designs; and symbols, names and images used in commerce”.

### **Significance of Intellectual Property Rights in Modern Era**

The main purpose of intellectual property law is to give protection, encourage the research innovation and rewarded for their original work. Without IPR, creators and inventors would derive no benefit/ gain from new ideas from their work, and the investment made in that works would never be compensate <sup>[6]</sup>.

It can valuable because it represents ownership and an exclusive right to use, manufacture, reproduce, or promote a unique creation or idea. Like other forms of property, Intellectual Property is also an asset which can be owned, sold, and exchanged.

The importance of intellectual property was first recognized in the Paris Convention for the Protection of Industrial Property (1883) and the Berne Convention for the Protection of Literary and Artistic Works (1886). Both treaties are administered by the World Intellectual Property Organization (WIPO). IPRs have assumed significant importance since the signing of the Agreement on Trade Related Intellectual Property Rights (TRIPS) under World Trade Organization (WTO). India has been a World Trade Organisation (WTO) member since 1995.

### **Role of World Intellectual Property Organization (WIPO) in IPR**

WIPO was a specialized agency of the United Nations system of organizations in 1974. It was established by a convention signed at Stockholm on July 14, 1967 and entitled "Convention Establishing the World Intellectual Property Organization" <sup>[12]</sup>. The WIPO Convention entered into force in 1970. It is an international organization dedicated to helping ensure that the rights of creators and owners of intellectual property are protected worldwide. This international protection acts human creativity, enriching the world of literature and the arts by providing a stable environment for marketing products protected by intellectual property.

On April 26 every year we celebrate World Intellectual Property Day to promote discussion of the role of intellectual property for encouraging innovation and creativity.

## **Rights protected under Intellectual Property**

The intellectual property rights are the bunch of rights. Different types of intellectual property rights are there. The major types of Intellectual Property Rights<sup>[3]</sup> are:

- I. Copyrights and Related rights
- II. Patent
- III. Industrial Design
- IV. Trademark
- V. Trade Secrets
- VI. Geographical Indications
- VII. Integrated Circuits layout design
- VIII. Protection of new plant varieties etc.

## **Copyrights and Related Rights**

Copyright is generally understood as a right or license free copying. It is a legal right to prevent others from illegal copying<sup>[9]</sup>. Copyright is a legal right<sup>[6]</sup> given to creators of literary works (i.e. written works, source codes of computer programs), dramatic works (i.e. scripts for films and dramas), musical works (i.e. melodies), artistic works (i.e. paintings, photographs, architecture and sculpture etc.), sound recordings, films, television and radio broadcasts, cable programmes and performances etc<sup>[8]</sup>. (The period of copyright protection cover the life of the author plus 60 years after death).

Copyright protects the expression of ideas: ideas alone are not protected. It means copyright does not cover ideas or concepts, procedures, methods and information themselves, only the form or manner in which they are expressed<sup>[11]</sup>.



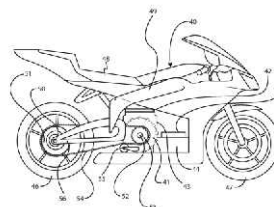
copyright  
all rights reserved

**Available image 1:** <http://lifeexaminations.wordpress.com/2011/02/28/copy-right-or-copy-wrong-would-locke-support-copyright/>

## **Patent**

A patent is an exclusive right granted by a country for an invention to prevent others

from making, using, and selling a patented invention for a fixed period of time<sup>[7]</sup> (Once patent is granted, they are valid for 20 years from the date of filing an application, subject to an annual renewal fees). The purpose of this law is to encourage inventions by promoting their protection and proper utilization of invention. Example: Patent may be a new product, process or design that provides a new way of doing something<sup>[8]</sup>. The figure shown below is Erik Buell Racing Patents Hybrid Motorcycle Design.



***Available image 2:***

<http://www.asphaltandrubber.com/news/erik-buell-racing-hybrid-motorcycle-design-patent/>

## **Industrial Design**

An industrial design protects the visual design or formal appearances of an industrial object<sup>[9]</sup> i.e. configuration pattern, colour and style. It is also known as engineering design. An industrial design focuses on user aspects of products so it used to improve the production as well as marketable. The main purpose of design law is to promote and protect the design element of industrial production. It is also intended to promote innovative activity in the field of industries. It may be two dimensional or three dimensional. Example: Any industrial product is comes under industrial design<sup>[8]</sup> i.e. different models of cars, motorcycles, bicycles, phones or any other industrial commodity etc. The figure shown below is an industrial model of bicycle.



***Available image 3:***

[http://www.forethoughtdesigns.com/My\\_Homepage\\_Files/Page20.html](http://www.forethoughtdesigns.com/My_Homepage_Files/Page20.html)

## **Trademark**

A trade mark is a visual symbol which may be a word, letters, numerical, name, sign, signatures, symbol, design, or an expression distinguishes products or services provided by an individual or a company<sup>[9]</sup>. It is popularly called as “Brand



name”. It is mainly used in commercial sector. Its nature and quality indicated by its unique trademark to help consumers to identify and purchase product or services. The initial registration term is valid up to 10 years; after it may be renewed time to time. Below figures are different trademark of different enterprises.



**Available image 4:** <http://www.svw.co.za/articles/tm-famous-trademarks.html>

### Trade Secrets

A trade secret is non-public or confidential business information concerning with the commercial practices. It may be process, methods or technique, strategies, design, formula, pattern and practices etc <sup>[9]</sup> which is not generally known to other enterprises, if known that is illegal. Trade secret law varies from country to country. It is also called as industrial/ commercial/ manufacturing secrets. For example trade secrets of Coca-Cola. Due to trade secrets we can't know secrets to make the Coca-Cola till now.



**Available image 6:** <http://www.bendweekly.com/index.php?category=9&pg=17>

### Geographical Indications

Geographical indications are signs used on certain products and this product possesses certain qualities, reputation which corresponds to a specific geographical location or origin <sup>[9]</sup> (It may be a country, a region, town or a village). Most commonly, a geographical indication includes the name of the place of origin of the goods. Examples: Bordeaux (wine), Darjeeling (tea) and Tuscany (olive oil). Below figure is the geographical indication of Darjeeling tea.



**Available image 7:** <http://www.intellexip.com/Geographical-Indications-12>

### Layout- design of an integrated circuit

An integrated circuit (IC) is an electronic circuit in which the elements of the circuit

are embedded into a single chip <sup>[5]</sup>. Mainly silicon semiconductors are used to create integrated circuits. These are also called as a "chip" or a "silicon chip". Layout- designs are valid for 15 years from the date of its creation.



**Available image 8:** <http://itagbs.com/ic-layout-design/>

### **Protection of new plant varieties**

A plant variety is defined as a plant group within a single botanical taxon (Singular) (taxa= plural: taxonomy) of the lowest rank <sup>[5]</sup>. A person who breeds plants, and has discovered and developed a new plant variety called a “breeder” <sup>[11]</sup> and can seek protection for their new plant varieties by applying for a grant of protection for a plant variety. The grant of protection can last for 25 years (as long as you pay an annual fee) and the plant variety is your personal property.



**Available image 9:**

[http://www.soei.com/english/about/services\\_available/plant\\_variety\\_protection.php](http://www.soei.com/english/about/services_available/plant_variety_protection.php)

### **Some important IPR Act.**

- (a) The Designs Act, 1911
- (b) Copyright Act, 1957
- (c) Patents Act, 1970
- (d) Protection of new plant varieties Act, 1970
- (e) The Trade and Merchandise Marks Act, 1958 or the Trade Marks Act, 1999
- (f) Geographical Indications of Goods (Registration and Protection) Act, 1999
- (g) Semi-conductor Integrated Circuits Layout- Design Act, 2000

### **Conclusion**

IPR can generally be concluded as the rights given to persons over the creations of their minds. In the present information age Intellectual Property Right (IPR) is very much important tool. It is safeguard creators and other producers of intellectual

goods and services by granting them certain time-limited rights to control their use. It is a blessing for authors, inventors and any other innovative ideas which can unique for our society particular library professionals are religious duty to protect of this law.

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# Intellectual Property Rights Information in India

*Kalpana<sup>1</sup>*

## Abstract

*Brief historical information of Intellectual Property rights in four principal kinds of IP viz. patent Information, copyright information, trademarks information and design information, is given pointing to some salient features that makes the Intellectual Property provisions in India together and in conformity with its international obligations. Existing information on Acts giving Intellectual Property Laws in various categories of Intellectual Property (IP) have been listed, as also major international treaties which India has signed.*

Keyword : Intellectual Property Rights

## Introduction

The tradition of scholarship and intellectual creativity in India goes back to a few millennia. Yet the concept of Intellectual Property Rights in the modern sense is rather new and would appear to have no cultural moorings or sanction in our country. The history of Intellectual Property Rights in India backed by enforceable legal provisions scarcely goes back to 150 years.

The first Indian statute on Patents was passed in 1856 granting some exclusive rights (kept for special class) to inventors for fourteen years. It had to be re-enacted with some modification as the Act of 1859. It granted to inventors of 'new manufacture' exclusive rights to make, sell and use the invention in India, or to authorize someone to do so. Its scope was expanded to include design, under the new 'manufacture' in the patents and Design Protection Act 1972. Then came in the invention and design Act of 1888, and later the Indian Patents and Design Act 1911, (which was modeled largely on the British Patents and Design Act 1907). After independence in 1947, the Government felt the need for a more effective patent legislation. The existing situation with regard to patents was received by two

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expert committees:

1. Headed by justice Rajagopal Iyengar ; and
2. Headed by Bakshi Tek Chand.

It was revealed the MNCs, who owned 90% of all patents on India had misused patents largely to ensure a protected market in India for their products, denying availability of many essential goods to people at competitive prices. The patent Bill following the reports of these committees was debated for a decade when finally the Indian Patents Act 1970 was enacted. It was highly acclaimed by, amongst others, UNCTAD, as a most progressive patent law and inspired similar legislation in many developing countries. It clearly codified inventions that could not be patented, permitted patenting of only process, not products, of manufacture in the field of food, drugs and medicines and substance produced by chemical processes. The term of patent was in the case of process relating to food, medicines and drugs, Five year from the date of the patent or Seven year from the date of patent whichever was earlier, in case of other process patents, it was fourteen years, it had provision for 'Licenses right' and compulsory licensing in some circumstances, it provided for use of inventions for government purposes acquisition of invention by Central Government and revocation of Patents in public interest.

Following India's membership of the WTO and obligations under the TRIPS agreement, the Indian Patents Act 1970, was amended by Patents (Amendment) Act 1999 and Patents (Amendment) Act 2002, which came into force on May 2, 2003. The provision of the present Act is in line with the TRIPS Agreement.

### **Trademarks Information**

No specific Legislation existed on trademark before 1940. However, remedies for violation of trade mark were available under the Indian Penal Code 1860 and specific Relief Act 1877. The Trade Marks Act 1940 was replaced by the Trade and Merchandise Marks Act, 1958, which has now been repealed and replaced by the Trade Marks Act 1999.

### **Designs Information**

Designs continued to be governed by the provision of the Indian Patents and Designs Act, 1911, while the Designs Act 2000 was passed.

## **Copyright Information**

In matters of copyright the English copyright Act 1842 was deemed applicable to India, though it was never expressly declared to be so. The application of the copyright Act, 1911 of England was extended to India as a British dominion. The Indian copyright Act 1914 introduced criminal sanctions for infringement and continued till the copyright Act 1957 came into force on 21.1.1958. This was necessitated as much by the changed status of India as an independent nation as by the advancement of technology of reproduction, information & communication. The Act had several original features; registration of copyright was voluntary; administrative machinery for registration of copyright was established, the government was empowered to protect copyright of citizens from other countries. It has been amended since then in 1983, 1992, 1994 and 1999 the last one, after India ratified the TRIPS Agreement as a member of the WTO.

Besides these four principal fields for intellectual property protection, namely, patents trademarks, industrial designs and copyright India has enacted the Intellectual property laws for geographical indications of goods, protection of plant varieties and farmers rights semi conductor IC layout designs information technology and bio diversity.

## **Intellectual Property Law Information in India:**

The India law to grant and regulate protection of intellectual property in various fields of Intellectual Property has now been aligned to the requirements and provision as a visualized under the TRIPS agreement of the WTO. Details study of the individual Acts dealing with specific Intellectual property instruments, patents copyright trademarks, industrial designs etc. In this article I will refer to some general features specially those pertaining to the administration and enforcement of Intellectual property rights in India that define IP laws in India.

## **Indian Patent Law Information**

The law relating to patents is laid down in the Indian Patents Act (1970) as amended by Patents (Amendment) Act, 1999 and Patents (Amendment) Act, 2002. Some of the more significant change introduced by these amendments in the original Act of 1970 are as follows:

- ❖ There is no restriction now on Indians applying for patents abroad
- ❖ The definition of term invention is fully consistent with the TRIPS agreement and includes both products and processes in all fields of technology. Before amendment only methods or processes of manufacture relating to food, medicines and drugs were patentable.
- ❖ The list of items that are not to count as inventions for granted patents has been modified to include exclusions permitted by the TRIPS Agreement. Earlier an invention was not patentable if its primary or intended use would be contrary to law or morality or injurious to public health. Now it will not be considered an invention if its primary or intended use or commercial exploitation could be contrary to public order or morality or which causes serious prejudice to human animal and plant life or health or to the environment. Also discovery of any living thing or non living substance occurring in nature is not regarded as an invention under the amended act.
- ❖ The rights of the patentee have been brought in line with the provisions of the TRIPS Agreement, as necessitated by changes permitting product patents.
- ❖ Reversal of burden of proof when infringement of a process patent occurs has been included in accordance with the TRIPS agreement. It is now for the defendant to prove that the process being used by him is different from the patented process alleged to be infringed.
- ❖ The term of patent is now uniform 20 years as required by the TRIPS. Earlier for a process patent relating to an item of food, medicine or drug it was five years from the date of sealing of the patent or seven years from the date of application whichever period was shorter and fourteen years from the date of patent in respect of any other invention.
- ❖ The provision of licenses of right has been omitted and compulsory licensing brought in the line with TRIPS.
- ❖ Provisions for exclusive of special marketing rights have been included.



- ❖ Provisions for parallel import of patented products have been included.
- ❖ Protection of biodiversity and traditional knowledge, information under inventions not patentable category.

The Acts makes the Controller General of Patents, Designs and Trademarks appointed under the trade Act, 1999 as the controller of patents with powers of civil Court.

### **Indian Copyright Law**

The copyright Act 1957 as amended in 1999 governs the copyright law in India. It came into force on January 15, 2000. It has established a copyright office, under the immediate control of the Registrar of Copyright, to facilitate registration of copyright. It has also established a copyright Board (CB) with Registrar of Copyright as its Secretary. The CB is meant to hear and settle certain kinds of disputes arising under the act.

The act defines various categories of works in which copyrights and has inter alia, provisions for determination of first ownership of copyright, the scope of rights conferred, assignment and licensing of copyright compulsory licensing and the circumstances in which it could be granted performing rights of societies; broadcasting rights; author special rights; international copyrights. The Act sets out in detail what constitutes infringement and what does not, civil and criminal remedy; against infringement and remedies against threat of legal proceedings without any ground.

The Indian copyright law is in conformity with the provisions of the TRIPS Agreement of the WTO. It is also in line with the provisions of the Berne Convention for the Protection of literary and Artistic Works (Brussels' Text 1948) and the Universal Copyright Convention (1952) ; India is a member of both conventions.

### **Indian Trademark Law Information**

The Trade Marks Act 1999 lays down the law governing trade marks in India. It extends the scope of protection by registration of Trade marks to services, besides

goods. It provides a single register and simplifies the procedure for registration. It recognizes well known marks as a distinct category, and provides for registration of collective marks, owned by an association of persons. It firmly discourages persons tempted to exploit other person's good name in business through false or misleading means.

The Controller General of Patents, Designs and Trade Marks is the Register of Trade Marks. The act establishes an appellate board with the same powers as the vested in civil courts; any proceedings before the Board are deemed as judicial proceedings.

Several measures have been taken to simplify trade mark law and procedures, offer better protection and make enforcement more effective e.g. a single application for registration in more than one class; increasing the term of protection from seven years to ten years; enhancing punishment to bring it at par with copyright law, making trade mark offences cognizable.

### **Indian Designs Law Information**

The Design Act 2000 lays down the law for protection of industrial designs in India. The Controller General of Patents, Design and Trade Marks is the Controller of Design.

The act inter alia defines 'Original' and enlarges the scope of definitions of article and design. It spells out what designs shall not be registered, brings in the internationally followed system of classification and cataloguing of the Indian library system, provides for restoration of lapsed designs and maintaining the register of designs on computer, the two year period of secrecy of a registered design is revoked and any document for transfer of right in a registered design is required to be compulsorily registered. More grounds have been added for cancellation of registration and cancellation proceedings are to be initiated before the Controller of Designs instead of a High Court. Infringement attracts heavier penalties' the initial period of registration is enhanced from five years. It provides for control of anti competitive practices in contractual licensees. Appeal against an order of the control lies to the High Court.

## **Appeal Mechanism**

In keeping in its status as a major vibrant economy and as an active contributor in the realm of knowledge Information and creativity India though a relatively later comer in the Intellectual property game, has strong IP laws and effective enforcement of IPRs. All the Acts dealing with IP in its various forms are aligned to the TRIPS Agreements making appropriate use of flexibilities available under the TRIPS. They are fully alive to the role of IPRs in growth and development consistent with societal and environmental concerns.

### **All the IP Laws Provide the Following:**

- i) A fully empowered administrative machinery to grant and register claims for IPRs in a fair and transparent manner; and
- ii) A mechanism for appeal against administrative decisions if necessary; and
- iii) A procedure for legal enforcement of IPRs. Patents and industrial designs are required to be registered under the relevant Acts to claim any legal protection of IPRs. However, copyright and trade marks in India) have no such requirements their registration is voluntary, but in case of legal dispute, registration carries distinct advantages. As copying, counterfeiting and forgery have become easy and rampant and economic consequences of infringing a copyright or using a brand name (trade mark) in an unfair way may be huge, it is advisable to get the copyright and trademark duly registered; and
- iv) The provision of appeal against a decision order of the highest controlling authority is only fair and necessary under a sound legal system. The appeal earlier used to lie with a High Court of appropriate jurisdiction. However, the domain of IP being highly specialized, which was often unfamiliar to a High Court judge, the need of a specialist member of information on the reviewing bench was always felt. Further the disposal of an appeal in a High Court was time consuming and involved high cost of litigation.

Having regard to these considerations, the Trade Marks Act 1999 established an Appellate Board (AB) having advocates who have been active in the field of Trade Marks for ten years. A bench of the Appellate Board will consist of a judicial Member and a Technical Member. The bench will sit at a place decided by the Central Government.

The Appellate Board for trademarks is also the Appellate authority under the Patents Act, 1970 as amended by the Patents (Amendment) Act, 2002. It is also the Appellate Board for geographical indications. The Technical Member of the AB for patents cases is a person experienced in patent law to consider appeals against the decisions of controller. He is a person who has been Controller or has exercised his functions, for five years or he/she should be an advocate practicing law relating to patents and designs for ten years. A bench of the Appellate Board constituted of one judicial member and one technical member.

Pursuing a case before a trade mark Appellate Board or the Copyright Board (which also have sittings all over India) can be frustrating and difficult experience.

The Appellate Board sits in the following cities: Ahmadabad, Bangaluru, Chennai, Hyderabad, Kolkata, and Mumbai. The Board fixes its own procedure place and time of sittings.

The procedure for appeal in the case of copyright is different. The appeal against a decision of the Registrar of Copyright lies with the copyright Board. The copyright Board constituted by the Central Government, consists of a Chair person who is or has been or has the qualification to be a judge of High Court, and two to fourteen members. The Registrar of Copyrights is the Secretary of the Board. A further appeal against the decision of the copyright Board lies with the High Court of appropriate jurisdiction.

Under the Design Act 2000, the appeal against a decision of the Controller of Designs lies with the High Court. The Semiconductor Integrated Circuits Layout Designs Act, 2000 provides for a layout Design Appellate Board, and an appeal against its decision lies with the High Court. The appellate authority under the protection of plant varieties and Farmers Rights Act 2001 is the Plant varieties protection Appellate Tribunal. The Biological Diversity Act 2002 provides for an appeal against the orders of the national biodiversity authority or a state biodiversity board, to the High Court. The information Technology Act provides

for appeal to a cyber Appellate Tribunal against one order of the Controller of Certifying Authority or an adjusting officer.

Thus the situation in respect of appeal related to various kinds of IPRs' may do with some streamlining. The diversity of appellate authorities and procedures for different IPRs seems unnecessary. There could be a case to have only one Intellectual Property Appellate Tribunal to hear appeals cases of the category of IPRs. The Tribunal and its benches may also shed the roving character and have fixed places for hearing to make it easy, convenient and less costly for litigants to pursue their cases.

## **Conclusion**

Intellectual Property scenario in India including a historical information on Intellectual Property (IP) Legislation in India, the IP Acts enacted by India and major international treaties in IP signed by India, discussed some issues that have emerged with the rapid advancement in the fields of information and communication technology. Economic growth and development requires a flourishing international trade and on an environment of intellectual creativity in India that gives to a large pool of inventors, innovators and other creative workers. Both of them need an underpinning of sound IP provisions and effective enforcement mechanism for IPRs. In this research article I examined the information on patents, copyrights, trademarks and designs in the growth of national economy through legislation and national development.

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# IPR Implications Vis-a-Vis Developing Countries

## Trips Saga: Implications for Developing Countries

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### Abstract

*The free trade agreements have bewildered the developing nations because of the snags associated with it. Amidst such chaos is buried the political unrest and gambits of the developed nations to regulate and sequentially dominate the international market. They have accomplished this task by restricting the flexible provisions of the TRIPS agreement in the FTAs with their leverage. On the other hand the developing nations have been active participants in the TRIPS negotiation in order to address and resolve the problem of healthcare at large. This has been stomped over by the developed nations by negotiating free trade agreements, after considering bilateralism as an exit line from multilateral constraints. This paper deals with the subjugating free trade agreements and their bearing on the developing nations.*

*The case of U.S.-Jordan FTA affirms the negative impact arising from the implementation of comparable FTAs in developing countries, particularly in the area of public health and access to medicines which contains various provisions like patent term extension, restriction on compulsory licensing etc. Thereafter the essay focuses on Anti-Counterfeiting Trade Agreements (ACTA) which contains TRIPS-Plus provisions and its implications for India's generic medicine export.*

*Lastly, the essay proposes and recommends a “price” solution for better access to medicines in developing countries. Differential pricing can be effectively implemented to trim down the detrimental provisions of TRIPS-Plus on the aggrieved nations.*

**Keyword :** Intellectual Property Rights

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## **Introduction**

TRIPS was considered a minimum standard for application of intellectual property rights for the developed nations while was a benchmark for the developing nations. This was rectified by Maxim Medvedkov, Russia's lead negotiator on WTO accession who said that "I think we have to draw a line between WTO and bilateral issues..." thereby considering TRIPS to be a ceiling and not a floor for Russia.<sup>3</sup> TRIPS comprehends provisions for balancing patent protection and public health services which can be an impediment for the developing countries since they are open to interpretations.

Thus the bilateral free trade agreements were the initiatives of the developed nations in order to combat the onslaught of "the active participants" in the decisions and discussions of the WTO. These agreements assisted in divesting the developed world of many problems like compulsory licensing and provisions of the Doha declarations.

## **Doha Declaration and Compulsory Licensing**

The uncertainty of the TRIPS provision was a political gizmo for the U.S which threatened to impose sanctions on Thailand in 1997 and on Brazil in 2000, for their use of compulsory licensing. The upshot of this discourse led to the formation of a transnational coalition inclusive of NGOs, WHO and countries facing health crises.<sup>4</sup> These provided assistance to the developing nations for addressing their concern on public health. This was considered as one of the many reasons for the initiation of the Doha negotiations in 2002.<sup>5</sup> This declaration emphasized on the chief aim of the TRIPS agreement,<sup>6</sup> stating that it should be interpreted and implemented in order to promote access to medicines for all. Most importantly the Doha Declaration on Public Health stated that the TRIPS agreement should be implemented considering the public health issue at large. However this declaration failed to make requisite recommendations on compulsory licensing which was emanating as a huge defence tool for the developed nations. Thus the WTO went

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<sup>3</sup> See IP-Watch(2005), Official: In WTO Talks US Pushes Russia to Restrictive TRIPS Standard, available at: <http://www.ip-watch.org>.

<sup>4</sup> Sell, S. and Prakash, A. (2004) 'Using ideas strategically: the contest between business and NGO networks in intellectual property rights', *International Studies Quarterly*, Vol. 48, pp.143–175.

<sup>5</sup> Id.

<sup>6</sup> Para 4: "it can and should be interpreted and implemented in a manner supportive of the WTO members' right to protect public health and, in particular, to promote access to medicines for all"



one step further by providing circumstances under which a country inefficient in manufacturing drugs can efficaciously use compulsory licensing.<sup>7</sup> They fancied free trade agreements in order to provide enhanced intellectual property protection. These agreements enforced insensitive restrictions on the developing countries which are as follows:

### **Patentability of New Medicines**

The FTAs were efficacious in introducing ruthless provisions. All FTAs replicate Article 27 (1) of the TRIPS agreement which provides that the “patent shall be available for any invention whether product or processes”. As per this statement, there are two kinds of patentable inventions: product innovation and process innovation. However the TRIPS agreement is silent about the patentability of new inventions. Some construe it to be comprehended in process innovation like in U.S. law,<sup>8</sup> while some rest it on the members to decide its inclusion. Article 27(3) (b) precisely mentions that the members can exclude therapeutic, diagnostic and surgical methods for the treatment of humans and animals from patentability. However the FTAs signed between the U.S. and Australia in 2005 ended such flexibilities by including patentability for new uses and methods of using a known product in the free trade agreement. Subsequently USTR, which seeks for consistency, went one step further by comprehending patentability of new uses and methods of known products including “for the treatment of humans and animals”, in the FTAs with Morocco and Bahrain in 2006.<sup>9</sup>

### **Protection of Data and Data Exclusivity**

Article 39(3) of the TRIPS agreement provides for minimum international standard for the protection of marketing approval of data by providing for protection of undisclosed data of the new product against unfair commercial use except where necessary to protect the public or where steps are taken to ensure that the data is protected against unfair commercial use. Some WTO members choose to limit the protection of data that involves considerable effort to financial investment. This was trounced by the U.S. by embracing a stricter provision in the FTAs signed with

<sup>7</sup> Hoen, E. (2002) 'Public health and international law: TRIPS, pharmaceutical patents, and access to essential medicines: a long way from Seattle to Doha', *Chicago Journal of International Law*, Vol. 3, No. 1, pp.27–46.

<sup>8</sup> See Kantor, M. (2005) *US Free Trade Agreements and the Public Health*, <http://www.who.int/intellectualproperty/submissions/US%20FTAs%20and%20the%20Public%20Health.pdf>.

<sup>9</sup> MFTA, Art 15.9.2; BFTA, Art 14.8.2

Singapore, Chile, Australia, Morocco, Bahrain,<sup>10</sup> where undisclosed data that involves considerable effort as well as the information that is linked with the safety or efficacy of the product that contains a new chemical entity was protected. It also applied to the chemical entity that is not new.<sup>11</sup> Additionally, the FTAs provide for a minimum patent protection of five years to the patent owners, which was contradictory to the TRIPS approach of unfair competition law. Thus the data is unavailable to the second party who applies for marketing approval of such data within the term of patent protection. There are two additional rights conferred on the patent owners:

- ? Patent owners shall be made aware of the third party's marketing approval application
- ? Patent owners shall give their consent for such issuance.

This restriction creates a monopoly which is not required by the TRIPS agreement and therefore makes it impossible for the countries facing health crises to use compulsory licensing.<sup>12</sup> Moreover practically a patent term extends beyond the term of patent protection. In some of the cases the patent may not be issued or the development period was so long that the patent term had expired. In such cases the data protection period acts as a substitute, thereby preventing the competitors for a five year period. In addition to this, the relationship between compulsory licensing and data exclusivity presents yet another predicament. Due to immense pressure mounting on the developing countries, undisclosed data was excluded from compulsory licensing.<sup>13</sup> This was a significant achievement precisely for brand name companies and generally for developed countries, particularly U.S.

### **Protection of an Effective Patent Term**

Article 33 of the TRIPS agreement provides for the term of protection as 20 years. This is counted from the date of filing. Thus the effective term of protection is put at peril by two administrative procedures which can substantially reduce the term of

<sup>10</sup> 8 S FTA, Art.16.8; CFTA, Art.17.10; CAFTA, Art.15.10; AFTA, Art. 17.10; MFTA Art. 15.10; BFTA, Art. 14.9

<sup>11</sup> Correa, Carlos, Implications of Bilateral Free Trade Agreements on Access to Medicines, 84 Bulletin of the World Health Organization (2006), p. 399, 401.

<sup>12</sup> 10 Abbott, Frederick The Doha Declaration on the TRIPS Agreement and Public Health and the Contradictory Trend in Bilateral and Regional Free Trade Agreements, Quaker United Nations Office, Occasional Paper 14, April at <http://www.quno.org> 1, 7 (2004).

<sup>13</sup> IP Watch (2005) 'Clash continues on US-central America trade deal', IP Watch, Vol. 2, No. 1, pp.1, 2, 6, 7.

protection. These are patent examination process and marketing approval process. Article 62 (2) of the TRIPS agreement states that the procedure shall provide the granting of patent within a reasonable period of time without unwarranted curtailment of the protection period. However such reasonable period was again subject to interpretations. To guarantee an effective patent period of 17 years, the U.S. enacted Patent term Guarantee Act, 1999,<sup>14</sup> which was later adopted in the FTAs signed with the developing countries. It stated that the patent shall be extended at the request of the patent owner to compensate for the unreasonable delays that occurred in granting patents.<sup>15</sup> The second procedure that is the marketing approval procedure was of serious concern for the U.S. since its Food and Drug Administration procedures are particularly rigorous and long. Therefore Congress enacted the Hatch Waxman Act, 1984<sup>16</sup> which stated that each party shall make available an extension of the patent term to compensate the patent owner for the unreasonable curtailment of the patent term as a result of the marketing approval process. This was again replicated by it in the FTAs. This is problematic for the developing countries where the patent offices are understaffed and involves quite large number of departments. Notwithstanding the predicament, there was legal transplantation of U.S. law into foreign countries.

### **Restriction on the Authorised Exceptions**

There are certain exceptions laid down in Article 30 of the TRIPS agreement to the exclusive rights conferred on a patent.<sup>17</sup> However such exceptions are general and not specific. These exceptions as alluded to in the agreement should be such as to not conflict with the normal exploitation of the patent, or prejudice the legitimate interests of the patent owner, taking into account the legitimate interests of third parties. This general exception is restricted in the FTAs<sup>18</sup> by a provision which states that if a party permits a third party to use the subject matter of a subsisting patent solely to support an application for the marketing of that pharmaceutical product then the party shall assure that the product produced under such authority

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<sup>14</sup> See 35 USC 154

<sup>15</sup> Id.

<sup>16</sup> See 35 US 156

<sup>17</sup> "Members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking into account the legitimate interests of third parties."

<sup>18</sup> JFTA, Art. 4.19; SFTA, Art. 16.7.5; CFTA, Art. 17.9.4; CAFTA, Art. 15.9.5; AFTA, Art. 17.9.6; MFTA, Art. 15.9.5; BFTA, Art. 14.8.5

shall not be made, used or sold in the territory of that party, to generate information for the approval of marketing of the product once the patent expires. This exception popularly known as “bolar exception” was considered regulatory exemption and therefore fell within the general conditions of Article 30. The permitting of competitors to produce and stockpile a product for sale after the expiration of the patent was considered “substantial curtailment” and excluded from Article 30. Not only this, it also restricts exporting of the patented product to marketing approval. This restriction refrain the countries having insufficient industrial capacities from making effective use of compulsory licensing.

### **Additional Restriction on Compulsory Licenses**

Article 31 of the TRIPS agreement prescribes general conditions under which compulsory licenses can be issued by a WTO member. These conditions remained undetermined by the agreement and the members are free to determine circumstances under which these licenses can be granted. However these grounds have been restricted to three conditions in the recent FTAs signed by the U.S. These are: to remedy an anti competitive practice, provided it has been declared as such after a judicial or administrative process; to use for non commercial purposes or in national emergency, or extreme urgency, where it can only be used by the government or legislative entity under the government and on the ground of failure of meeting working requirement provided importation constitute working. Later these restrictions were further constricted by the U.S. in the FTAs signed with Singapore and Australia.

### **Prohibition of the International Exhaustion Doctrine**

The U.S championed national exhaustion and then used their leverage to dissuade the developing countries from complying with the doctrine of international exhaustion. The result was somewhat ambiguous which was later made conspicuous by the Doha Declaration which stated that it is upon the will of each member to establish its own regime for such exhaustion without challenge. Thus bilateral trade agreements were again an opportunity for the U.S. to prevent full application of the international exhaustion doctrine. Since the U.S. relied on national exhaustion doctrine so it compelled many people of U.S to drive to Canada in the past several years in order to buy cheaper version of the brand name drugs.

### **Restrictions on the Ground of Revocation**

The TRIPS agreement under Article 32 provides for revocation. However it leaves it on the WTO members to determine the grounds of revocation which could be construed as circumstances involving public interest, abuses that might result from the exercise of exclusive rights and for compliance with the public health law. However such grounds of revocation were restricted in the FTAs. The revocation was permissible in case if it justified a refusal to grant the patent, if it involved fraud, misrepresentation or inequitable conduct. This was another embodiment for the rescue operation conducted by the bilateral agreements when the multilateral agreements failed to meet their ends.

Thus the FTAs were incompatible with the Doha Declaration which was a first step towards providing flexibility to the provisions of the TRIPS agreement.

In June 2006, the Committee on International Trade Law passed a resolution expressing concern over some WTO members' concrete steps taken for their self preservation through bilateral and regional free trade agreements and urged the governments to refrain from incorporating any such provision which serves as an impediment in the promotion of public health and access to medicines for all.

Bilateral FTAs between powerful, industrialized countries, particularly the United States and European Union, and poorer developing countries proliferated over the past decade. The signing of an FTA represents the beginning of a long and winding road, but there is little analysis of what happens following the conclusion of bilateral free trade agreement. One reason for the lack of analysis of the implantation of FTAs is that these agreements are negotiated and implemented secretly, behind closed doors with little public debate. The case of U.S.-Jordan FTA affirms the negative impact arising from the implementation of comparable FTAs in developing countries, particularly in the area of public health and access to medicines.

### **U.S- Jordan Bilateral Free Trade Agreement**

The close relationship between Jordan and the U.S. is evidenced by the exceptional military and financial support Jordan has received from the U.S. over the years. U.S. backing ensured Jordan's speedy accession to the WTO in 2000 and subsequently paved the way for the signing of the first bilateral free trade

agreement (FTA) between the U.S. and an Arab country in 2001 (the U.S.-Jordan FTA). High levels of collaboration between the two countries in the area of intellectual property have existed for some time. However, it was often U.S. pressure, triggered by industry groups, which dictated the terms of the relationship between the two countries. For instance, until 1998 Jordan was still placed on the United States —Section 301 Watch List. In the same year, the Pharmaceutical Research and Manufacturers of America (PhRMA) went even further, by formally asking the USTR to name Jordan in the next year as a —Priority Watch country, for —failing to provide adequate intellectual property protection. The relationship became less turbulent following the country's accession to the WTO and its signing of an FTA with the U.S. in 2000 and 2001, respectively.

The case of Jordan not only conforms to these observations, but also sheds new light on the inconsistencies and loopholes present in intellectual property regulation, given the explicit influence of the U.S. The key players representing the United States' private sector interests include a number of historically well-established and organized business groups and associations. For instance, both the Business Software Alliance (BSA) and the International Intellectual Property Alliance (IIPA) have been vocal in their push for strengthened copyright protection in Jordan. Meanwhile, the Pharmaceutical Research and Manufacturers of America (PhRMA)<sup>19</sup> continues their pursuance of higher levels of intellectual property protection in the area of pharmaceutical patents in the country. These business groups and associations are also supported by their local representatives, agents, and networks of contacts. What is of concern here is the evident lack of public input and the absence of public participation and civil society representation in these discussions, particularly from the Jordanian side.

Moreover, the U.S. - Jordan FTA was one of the first bilateral agreements to include extensive TRIPS-Plus provisions. These provisions had noticeable impacts on many development-related areas. In particular, the agreement contains several TRIPS-Plus provisions, which directly impact public health and access to medicines in the country. These may be summarized as follows:

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<sup>19</sup> The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the US's leading pharmaceutical research and biotechnology companies, which are devoted to inventing medicines that allow patients to live longer, healthier, and more productive lives. PhRMA companies are leading the way in the search for new cures. PhRMA members alone invested an estimated \$49.4 billion in 2010 in discovering and developing new medicines. Industry-wide research and investment reached an estimated \$67.4 billion in 2010. For more see About PhRMA, PhRMA (Feb. 9, 2012), <http://www.phrma.org/about/about-phrma>.

### 1. “New use” legal protection for chemical entities.

Although the TRIPS Agreement does not oblige member states to provide legal protection for new use, the U.S.-Jordan FTA includes reference to this type of protection. In this regard, Footnote 8 of Article 4.22 the U.S.-Jordan FTA states that:

***“It is understood that protection for —new chemical entities|| shall also include protection for new uses for old chemical entities for a period of three years.”***

Article 33 of the TRIPS Agreement provides that legal protection shall be granted to patents for a period of twenty years from the date of filing. The U.S.-Jordan FTA further extends this period in order to compensate the applicant for the time spent during the examination of the application and/or marketing authorization. Article 4.23 of the U.S.-Jordan FTA states that:

“With respect to pharmaceutical products that are subject to a patent:

a. Each Party shall make available an extension of the patent term to compensate the patent owner for unreasonable curtailment of the patent term as a result of marketing approval process.”

### 2. Restrictions on compulsory licensing.

The TRIPS Agreement grants member states the right to grant compulsory licenses. However, the agreement does not list nor specify the grounds whereby such licenses may be granted, but instead awards member states the discretion to define such grounds. On the other hand, the U.S. - Jordan FTA lists the grounds where such licenses may be granted, hence eroding the policy space available to Jordan, by broadly defining these grounds. Accordingly, Article 4.20 of the FTA states:

***“Neither Party shall permit the use of the subject matter of a patent without the authorization of the right holder except in the following circumstances:-***

a. to remedy a practice determined after judicial or administrative process to be anti-competitive;

b. in cases of public non-commercial use or in the case of a national emergency or other circumstances of extreme urgency, provided that such use is limited to use by government entities or legal entities acting under the authority of a government”

The impact of these TRIPS-Plus conditions in the area of public health and access to medicines is grave. In brief, such measures would result in prolonging the monopoly terms granted to pharmaceutical patents and would delay the entrance of generics into the market at an earlier stage.<sup>20</sup> Lastly, U.S. interest groups and local agents collaborate to achieve higher levels of intellectual property protection without taking into consideration the public interest and consumer rights of local communities. This "act of state-sponsored violence," as some have proclaimed it, jeopardizes the lives of millions of citizens across the globe.

### **Trips plus Through Anti-Counterfeiting Trade Agreements (ACTA): Implications for India**

Unfettered by opposition, a select group of developed countries have resorted to tactics of forum-shopping and have succeeded in initiating the TRIP-plus enforcement agenda through proposed Anti-Counterfeiting Trade Agreement (ACTA). The ACTA would create new standards for enforcement of IPR by establishing a strong legal framework for IPR enforcement, increasing international cooperation, and enhancing enforcement measures. Moreover, recently the failure of ACTA was the major reason for the dropping of criminal sanctions from the Canada-European Free Trade agreement.

### **Trips plus Agenda: Elimination of TRIPS Flexibilities**

Higher standards for IPR protection under the concept of TRIPS-plus have the effect of reducing the ability of developing countries to protect the public interest. It includes a number of initiatives including: the Anti-Counterfeiting Trade Agreement (ACTA); Interpol's SECURE; the WHO's IMPACT; WIPO's ACE discussions; and many bilateral and regional Free Trade Agreements, Investment Treaties, and Economic Partnership Agreements. ACTA is a glaring example of attempts by the developed countries to eliminate TRIPS flexibilities in IPR enforcement in the developing countries.

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<sup>20</sup> To this effect, a recent study stated that —Reportedly overlaying U.S.-style rules over Jordan's pharmaceutical sector negatively affects the ability of generic industries to operate, which is why many from Jordan's generic pharmaceutical industry view the FTA as TRIPS-Minus



## Implications for India

India produces an enormous number of generic products and is an important provider of generic medicines to other developing countries. Due to price differentials, Indian generic products have become particularly popular in developing countries as a cheaper alternative to branded products; for example, Médecins Sans Frontières (MSF) estimates that more than 80% of the AIDS medicines used to treat more than 5 million people across the developing world come from Indian companies.<sup>21</sup> Multinational pharmaceuticals companies lobbied against the increasing availability of generic drugs, which are marketed at much lower prices than their products. It seems that attempts are being made to impede India's export of generic products to other markets, particularly in the poor developing countries.<sup>22</sup>

During 2008 and 2009, several consignments of generic drugs in-transit of Indian companies were seized by the Dutch customs authorities on grounds of alleged IPR violations. This caused a major concern in India because it relates to the supply of generic drugs from India to developing countries and ties into issue of access to medicines in these regions. Seizure of the consignment of losartan potassium in December, 2008 was one such case of what is emerging as a clear pattern. Such instances have caused India great concern due to their systemic and far reaching implications. Indian government raised this issue before the WTO General Council. It pointed out that such acts represent a distorted use of the international IP system and circumscribe TRIPS flexibilities. In addition, this is against the spirit of a rule based trading system and impeding free trade. Repeat of such actions may have an impact on Indian exporters' choice of transit routes, which may affect the economics of trade of pharmaceutical products and consequently, adversely affects the Indian economy. Additionally, it has a deleterious effect on access to essential drugs and public health budgets of recipient poor countries. This is further exacerbated by the EU and Japan move to push ACTA to apply to patents according to the law of the transit country, meaning that right holders will be able to stop generic medicines in transition that are alleged to violation the "manufacturing

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<sup>21</sup> Abbot, Frederick (1998), 'The Enduring Enigma Of TRIPS: A Challenge for the World Economic System' *Journal of International Economic Law*, vol.1(4).

<sup>22</sup> Swapan K. Bhattacharya (2007), 'Harmonising patent laws with the TRIPS Agreement of WTO: India's stride towards globalisation of intellectual properties. *International Journal of Intellectual Property Management*' vol 1(3), pp. 253 – 276.

fiction” in the transit country. In effect, proposed ACTA will allow the border detention of in-transit medicines destined for developing countries.

As explained above, proposed ACTA is a subtle and concert way of circumscribing the flexibilities of the TRIPS Agreement. This also runs counter to the spirit of the TRIPS Agreement which is a minimum standards agreement. In this regard, India's primary concerns are based on ACTA's provisions for border measures. If the ACTA is allowed to supersede the TRIPS standards, it would allow for the seizure of medicines in-transit by custom authorities simply on grounds of suspicion. Stringent nature of enforcement measures under the proposed ACTA raise the apprehension for creating a wider scope for injunctions and damages on all IPRs, not only on copyright and trademark violations. More importantly, the proposed ACTA directly oppose India's position on scope of enforcement measures in the customs dispute with the EU, a dispute which could soon land in the WTO if resolution to instances of drug seizures by the Dutch in 2008 and 2009 are not resolved.

## **Recommendations**

### ***The “Price” Solution for Better Access to Medicine***

The price solution for better access to medicine, especially in developing and Least Developed Countries, is based upon the idea of a differential pricing, depending on the income of the country in which the patented pharmaceutical is commercialized.

### ***Differential Pricing between Developed and Developing Countries***

In developed countries with high income, consumers are indifferent to a price change for any given pharmaceutical as long as they can afford it. However, this is not true for all consumers since even in developed countries, incomes differ among consumers. The demand of pharmaceuticals in developed countries is therefore price inelastic. As to the developing countries a change on the price of a pharmaceutical has an impact on the consumer decision to purchase a given drug. In developing countries the demand of pharmaceuticals are price elastic. Demand of pharmaceuticals in developing countries is price elastic since a change in a price has an impact an effect on the demand. For expensive drugs which are needed to be taken over a long period of time, such as AIDS cocktail drugs, consumers in

developing countries with low income are particularly sensitive to the price factor. With the differential pricing solution for access to medicine, the drug would be available at lower cost in developing countries and the pharmaceutical would still have enough in capital return in developed countries to sustain competition and R&D. Thus a patent-holder may rationally set prices near marginal cost in low-income markets where demand is highly priced elastic. Therefore charging differential pricing in developed and developing countries would ensure better access to medicines.

## **Conclusion**

Consequently politicisation of the IPR through criminal sanctions, inadvertently through PAIPO(an initiative of African Union), which lacks transparency; lack of political obligation evidently through “no response” policy adopted by the nine countries questioned on Trans Pacific Partnership, will only lead to distress. A collective, unbiased and ingenuous step should be taken to combat the emanating dilemma from these FTAs.

# Impact of IPR Issues in Metadata Application in Digital Scenario

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## Abstract

*This paper discuss about the digital libraries, Intellectual Property Rights and Metadata. In this paper we discussed about how to save digital objects using metadata standards, mostly two standard MARC 21 and Dublin Core metadata are used widely for digitization, there is an example of two libraries just for understanding that which type of metadata scheme they adopt and how it works. Once Metadata standard is determined on the digital resources, the seamless accessibility of the resources is possible. It's led to the IPR in digital resources, if the standard of metadata is diversified, then the accessibility will be rigid. And that rigidness led to duplication of digital resources material. The repeated duplication of digital material costs more time and money. So, the role of metadata in digital materials cannot be avoided. This is the finest time when we confined the uniform metadata application in digital resources.*

Keyword: Digital library, Intellectual Property Right, Metadata, Dublin core, MARC 21, Dspace, OAI-PMH.

## Introduction

Whenever the people think about the libraries they quickly assumed the traditional libraries of simpler times, where all the works done manually and all the services are provided by staff is time taking. They can't even imagine the present structure of libraries, the new technologies like RFID, Automation and Digitization of material in libraries. The automation of libraries now becomes common in India. This is the first step to convert the traditional libraries into modern and new libraries. Library automation decreases the work load from the library professionals. Traditional work techniques were very time taking for both the users and as well as for the staff. We the library professional already knows the Dr. S.R. Ranganathan fifth law is

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“Library is a growing organism.” So, the libraries are always increases in every manner such as, in a manner of users, the reading materials, staff and furniture etc, so this is necessary to save the space in libraries. many of the libraries now using online journals, it saves the time of the users as well as time of the library professional also, the space is remain save, and of course, the money also.

New and better technologies are coming day by day and with the use of those new technologies the libraries are changing. The concept of digital libraries is arising now. All the library reading material (Books, maps, dissertation and thesis, pictures etc) can be digitize and preserve the materials for a long time. These digitize material easily can be access by any one from any part of the world.

### **Digital library**

Digital libraries has not any particular definition, the information scientist and some library association have work on the concept of digital library and give some definition of digital libraries such as-

*“The Association of Research Libraries (ARL) suggests one definition of digital libraries, consisting of the elements that have been identified as common to terms used to describe digital libraries”.*

*“A managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network (Arms, 2000). According to Borgman (2000) “Digital libraries are a set of electronic resources and associated technical capabilities for creating, searching and using information, in this sense they are an extension and enhancement of information storage and retrieval systems that manipulate digital data in any medium and exist in distributed networks. The content of digital libraries includes data, metadata that describe various aspects of the data and metadata that consist of links or relationships to other data or metadata whether internal or external to the digital library.”*

Research and development in the field of digital libraries has grown significantly over the last decade, and a large number of operational digital libraries are now in existence. These include hybrid libraries through which users can get access to digital information resources alongside traditional print-based information

resources. It can access all over the world, and it can be copied without error. This is why digital libraries are coming. They address traditional problems of finding information of delivering it to users, and of preserving it for the future. Digital information takes less space than paper information and thus may help libraries reduce costs. But, more important they deliver information to the user's desk. Digital libraries are going to change the social system by which information is collected and transferred. A digital library is not just a collection of disk drives it will be part of a culture.

Digital libraries also can provide enhanced search and browse features and enables documents to be downloaded or cut and pasted directly into other documents. They can provide services to support activities such as distance education (e-learning) and e-commerce and facilitate collaborative work among people who are geographically scattered.

Digital library is nothing but a large collection of multimedia, data that are globally available directly or indirectly across a network. In the digital libraries we need web sites, search tools and the user authentication.

In India the scenario of digital libraries are different they act as hybrid libraries where one can use the library traditionally as well as in a modern way. Mostly the libraries in India digitize the theses and dissertations because the work is original and there is no copyright on these dissertations, so there is always a danger of misuse of their work., the UGC notification dated 1<sup>st</sup> June 2009 mandates submission of electronic version of theses and dissertation by the research universities with an aim to facilitate open access to Indian theses and dissertations to academic community worldwide. Online availability of electronic these through centrally maintained digital repositories, not only ensure easy access and archiving of Indian doctoral theses but will also help in raising the standard and quality of research. This would overcome serious problem of duplication of research and poor quality resulting from the poor visibility and the unseen factor in research output. As per the regulation, the responsibility of hosting, maintain and making the digital repository of Indian Electronic Theses and Dissertation accessible to all institutions and Universities, is assigned to the INFLIBNET center.

IGNCA Library digitized Rare Books and the retroconversion of Books, Journals, and Manuscript is also in progress. IGNCA library digitized rare books with Dublin

Core till now they have done 7, 71,742 pages and upgradation of Libsys to LSPREMIA with MARC 21, finalization of MARC 21 cataloguing formats for Books, Journals, Manuscripts, Slides and they are converting of existing data from AACR to MARC 21.

Digital technology has some drawbacks also like anybody can copy the material and publish the work under his name and make several copies for their own benefits. Anybody can copied, manipulated, disseminated the material from the websites. So, how the creator or author trust on this technologies. The answer is libraries/institutes/centers/museums have to adopt new techniques and methods.

### **Intellectual Property Rights**

We already know what intellectual property is. It is that property or material which is related to original and real work of the author or creator. to save that original work from other people the national and International govt. granted some laws to protect these intellectual properties , these legal laws are said Rights of Intellectual property . We also know that the component of IPR are copyright, Patents, Industrial Designs, Database rights, trademarks etc.

The libraries with the collaboration of other libraries or individual library are getting digitize their materials (Thesis and Dissertations, Books, Journals, Maps, Pictures etc.) we can also see the digitize books through Google books. The question is how this digits material can be saved. Yes, of course, the answer is through metadata. We will discuss in next part about metadata and how it can be useful to protect digitize materials.

### **Metadata**

This is major topic in library and information science because of the digitize collection in libraries/Museums/Institutes. This term is belongs to computer science. Here the word “meta” means about, it is described the data of other data. Without metadata, the collection is useless in virtual world, there is no another method to find and identify the digital objects within the collection. It provide basis for searching from the sites.

The most common definition of the term “metadata” is data about data, information that describe information.

According to Milstead and Feldman “*Metadata is the term is generally applied to electronic resources and refers to “data” in the broadest sense, data-sets, textual information, graphics, music, and anything else that is likely to appear electronically.*”

There are three types of metadata Administrative, Structural and Descriptive metadata. These divisions are given by the literature on Cultural heritage metadata. Some experts include *Technical, Preservation, Rights and Use metadata* as categories on the same level as these three.

**Administrative Metadata-** Provides information to help manage a resource, such as when and how it was created, file type and other technical information, and who can access it.

**Structural Metadata-** Indicates how compound objects are put together, for example, how pages are ordered to form chapters.

**Descriptive Metadata-** Describes a resource for purposes such as discovery and identification. It can include elements such as title, abstract, author, and keywords. Descriptive metadata used in the libraries for the retrieval and searching of the digitised material.

**Technical Metadata-** Metadata related to how a system functions or metadata behave for example Hardware and software documentation.

**Preservation Metadata-**Metadata related to the preservation management of information resources.

**Rights Metadata-**Which deals with intellectual property right.

**Use Metadata-** Metadata related to the level and type of use of information resources for example exhibit record.

### **Metadata Standards/Schemes that Work for Digital Collections**

There are many metadata standards/schemes which are followed by many libraries/museums/institute. Different libraries have different types of collection,



so according to their collection they follow different standards, which are suitable for their collections. The metadata standards/schemes are given below.

S.No.	Name of the Metadata Standard
1.	DC
2.	AACR 2
3.	EAD
4.	TEI
5.	METS
6.	MODS
7.	LOM
8.	AGLS
9.	ONIX
10.	Darwin Core
11.	CDWA LITE
12.	CIDOC CRM
13.	QDC
14.	MARC/MARC 21
15.	MARXML
16.	NISO Metadata for Images (MIX)
17.	MPEG Multimedia Metadata
18.	GILS
19.	GEM
20.	OAI-PMH

*MARC 21 and Dublin core metadata standards/schemes are mostly adopted by the libraries/museums/institutions. Here we will discuss about these two.*

## **Marc 21**

Machine Readable Catalogue is MARC. It is designed by the Library of congress for the libraries so that they convert library catalogue into digitize format. MARC 21 is the new name of CAN/MARC and USMARC. The MARC 21 formats are standards for the representation and communication of bibliographic and related information in machine-readable form.

The record, Data content and the context designation are three types of MARC 21 elements. The content of most data elements is defined by standards outside the formats e.g. Anglo-American Cataloguing Rules, Library of congress subject headings, and National library of Medicine classification. There are some MARC21 tags given below which are used by libraries.

**Variable fields of MARC21**

<b>S.No.</b>	<b>Name of the field</b>	<b>MARC21 Tags</b>
1.	Main Entry Personal Name	100
2.	Title /Statement of responsibility	245
3.	Varying form of Title	246
4.	Imprint Statement	260
5.	Collation	300
6.	Physical Medium	340
7.	Formatted control	505
8.	Note Sec(Summ)	533
9.	Note Sec	544
10.	Note Sec (language)	546
11.	Added Entries (Personal)	700
12.	Subject-added entries (Uniform title)	630
13.	E-Sources	856
14.	MSS Accession No.	901
15.	Commentary	905
16.	Pub Detail	906
17.	Digitization	907

There is an example of MARC21 ,this is the example from the IGNCA library , they convert their record using MARC 21. They used some identical and some different MARC tags for monographs and manuscripts.

### The MARC 21 tags used for the Manuscripts

S.No.	Name of the field	MARC21 tags
1.	Main entry-Personal name	100
2.	Title/Statement of responsibility	245
3.	Varying form of title	246
4.	Imprint Statement	260
5.	Collation	300
6.	Formatted Control	505
7.	Not Sec-Reproduction notes	533
8.	Not Sec-Language	546
9.	Sub-Added Entries (Uniform title)	630
10.	MSS-Accession no.	901
11.	Commentary	905
12.	Pub details	906

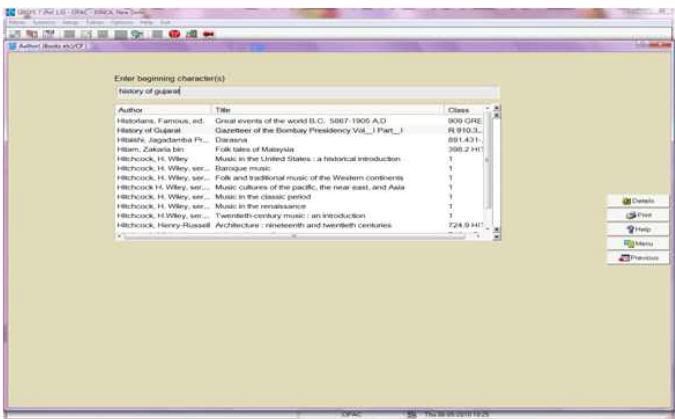
### The MARC 21 tags used for the Monographs

S.No.	Name of the field	MARC 21 tags
1.	ISBN	020-R
2.	Language	041
3.	DDC No.	082
4.	Main Entry-Personal name	100
5.	Uniform title	130
6.	Title/Statement of responsibility	245
7.	Varying form of title	246
8.	Edition Statement	250
9.	Imprint statement	260

10.	Collation	300
11.	Series statement(uncontrolled)	490
12.	Note Section	500
13.	Note Section-Bibliography	504
14.	Note Section-Content	505
15.	Note Section(Sumn)	520
16.	Note Section-Reproduction note	533
17.	Note Sec-Language	546
18.	Subject Added Entries (personal names)	600
19.	Subject Added Entries (Corporate Name)	610
20.	Subject Added Entries (Conference Name)	611
21.	Subject Added Entries (Uniform titles)	630
22.	Subject Added Topical Entries	650
23.	Subject Added Entry	751
24.	Added Entries Personal	700
25.	Added Entries Corporate	710
26.	Added Entries Conference	711
27.	Uniform Titles Conference	730
28.	Analytical Entries	740
29.	Alternate Title	904

When we compare both the tables we see that there are some MARC 21 tags, which are used in both commonly.

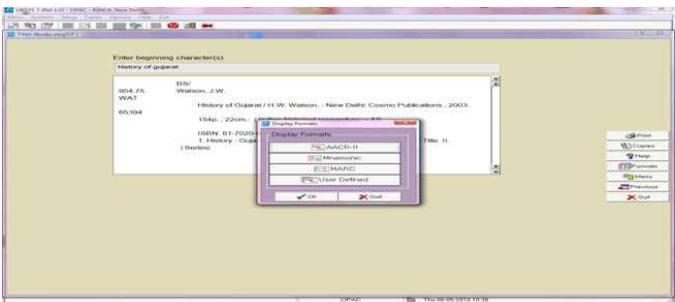
Catalogue Record with MARC 21



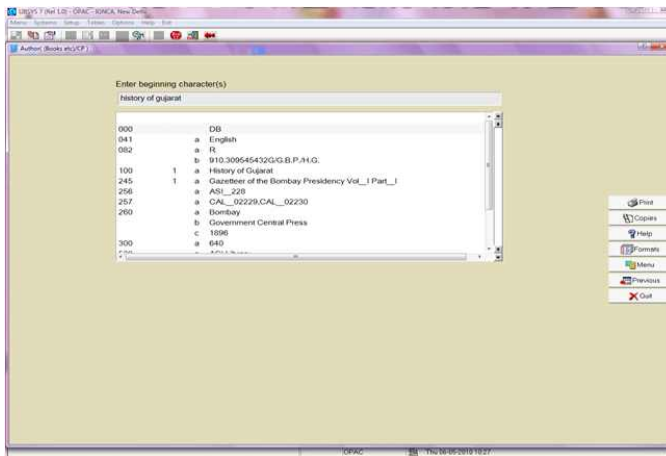
Catalogue Format



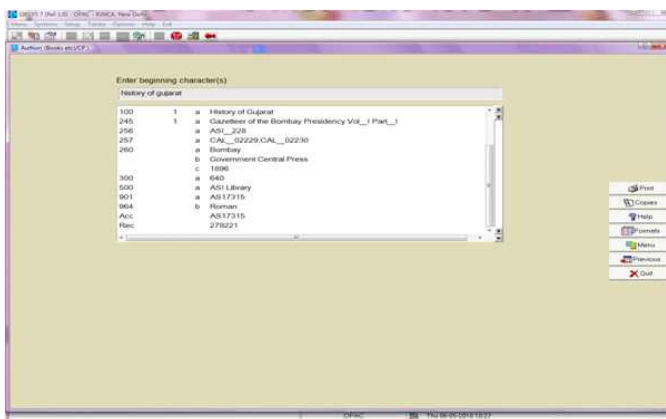
Catalogue Format



### Variable field of MARC21



### Variable Field of MARC21



Above are the examples of MARC 21 variables which are used by IGNCA library for their digitized catalogue records.

### Dublin Core

Dublin core Metadata Element set is a standard metadata schema for describing electronic records, documents and web resources. Librarians have influences on its initial structure most efficiently. Dublin Core is a metadata schema that arose from an invitational workshop sponsored by the online computer library centre (OCLC) in 1995. “Dublin refers it the location of this original meeting in Dublin, Ohio and

“Core” refers to that fact DC is set of metadata elements that are basic, but expandable. DC draws upon concepts from many disciplines, including librarianship, computer science and archive preservation. The standards and definitions of the Dublin Core Metadata initiative with an eye interoperability. Dublin core is a set of fifteen basic elements plus three additional elements. All elements are both optional and repeatable. The basic Dublin Core Elements are mentioned below, all the 15 elements of Dublin Core Categorized into Three parts such as Content, Intellectual Property, Instantiation

### Elements of DC

Content	Intellectual Property	Instantiation
Coverage	Contributor	Date
Description	Creator	Format
Type	Publisher	Identifier
Relation	Rights	Language
Source		
Subject		
Title		

The additional Dublin Core Elements are

1. Audience
2. Provenance
3. Right holder

The INFLIBNET center digitized the universities' thesis and dissertations through Dspace. Shodhganga is the name coined to denote digital repository of Indian electronic thesis and dissertations set up by INFLIBNET center. Here the technical term comes Dspace. Firstly, we understand about Dspace. Dspace is an open source repository adopted by many institutions, Universities and museums. It is free and easy to use that any organization can adopt it quickly and make their own digital repository. Dspace uses internationally recognized interoperability standard, interoperability means working together of any organization and systems, in a manner of sharing and exchanging of data conveniently. Dspace supports “Open

Archive Initiative's protocol for metadata harvesting (OAI-PMH)" and uses qualified version of Dublin core metadata standard. About the Open Archive Initiative's protocol for metadata harvesting (OAI-PMH) standard we will discuss in next section.

### Open Archive Initiative's Protocol for Metadata Harvesting (OAI-PMH)

The open archive initiative is an initiative to develop and promote interoperability standards to facilitate the dissemination of web accessible content through interoperable repositories for metadata sharing (website, <http://www.openarchives.org/>). It developed because of the easy access of electronic resources from the websites by the users. The OAI-PMH is based on client – server type architecture. There are two categories one is “data providers”, they are the owners of the digital resources and creators of the original metadata for these resources and “service providers” collect metadata from multiple data providers and create value-added services.

Here are some examples-

### Record of electronic thesis (INFLIBNET @ Shodhganga)

The screenshot displays the Shodhganga website interface. The top navigation bar includes the URL [shodhganga.inflibnet.ac.in/handle/10603/13336/sample-search%3Bsearchid=0CAB7CF02C7EECB60174BC135ECC7EBA?query=drugs](http://shodhganga.inflibnet.ac.in/handle/10603/13336/sample-search%3Bsearchid=0CAB7CF02C7EECB60174BC135ECC7EBA?query=drugs) and user information: "New User | Login as: Shodhganga user | University Coordinator | Admin".

The left sidebar contains a search bar with the text "Search Shodhganga" and a "Go" button. Below it are links for "Advanced Search" and "Subject Search". A "Browse" section lists categories: Home, Universities & Departments, Submit Date, Researcher/Guide, Title, Keyword, and University. The "Top 5 Contributing Universities" section lists: Jawaharlal Nehru University [3560+], Anna University [2080+], Mahatma Gandhi University [1950+], Bundelkhand University [1760+], and Cochin University of Science & Technology [1410+]. The "Theses to be Uploaded" section lists: Jawaharlal Nehru University New Delhi [3000], Pandit Ravishankar Shukla University [1926].

The main content area shows "Search Results" for the query "drugs". It includes a search bar with "Central Drug Research Institute" and a "Go" button. Below the search bar, it says "Results 1-10 of 48". The results are displayed in a table with columns: Submit Date, Title, Researcher, and Guide(s). The table shows 10 results, with the first result being "Study of toxicity and differential gene expression in mice following exposure to selected antimalarial drugs" by Mishra, Shrawan Kumar, guided by Rath, S. K.

Submit Date	Title	Researcher	Guide(s)
2-Dec-2013	Study of toxicity and differential gene expression in mice following exposure to selected antimalarial drugs	Mishra, Shrawan Kumar	Rath, S. K.
2-Dec-2013	Synthesis of derivatives of monosaccharides for drug discovery	Vikas Kumar	Shaw, Arun K.
6-Jan-2014	Transcriptional analysis of macrophage response to tuberculosis infection on treatment with biodegradable microparticles containing anti-TB drugs	Yadav, Awadh Bihari	Misra, Armit
17-Feb-2014	Pharmacokinetic studies of a- B- arteether, a highly effective antimalarial drug	Sabarinath, S.	Gupta, R. C.
18-Feb-2014	Pharmacokinetics of a sulphur mustard decontaminant CC 2 and drug interaction studies of centhroman in rats	Kumar, Vipul	Gupta, R. C.
8-Mar-2014	Computer aided drug design: 3D QSAR and molecular modelling studies on B3AR agonists and a, AR antagonists	Prathipati, Philip	Saxena, A. K.
1-Apr-2014	Nonionic surfactant based delivery systems bearing cycloporine as the model drug	Vure, Prasad	Mishra, P. R.
16-Jun-2014	Preformulation studies and formulation development of CDRI candidate drugs	Saxena, Deepali	Singh, Satyawati; Dandedi, A. K.
6-Jan-2014	2-Pyranones-Derived arenes and Heteroarenes as biodynamic agents	Verma, Deepti	Goel, Atul
6-Jan-2014	Chemotherapy of visceral leishmaniasis: molecular and biochemical approach	Ramesh	Gupta, Suman





IGNCA used MARC21 and Dublin core Metadata standards and for the digitization of monographs, manuscripts, slides, rare books collection they put great efforts for digitizing their library and INFLIBNET Centre @ Shodhganga used Dublin core metadata standards for the digitization of thesis and dissertations.

MARC21 and Dublin core are advance and useful standards for the digitization of any library. They will be very effective in metadata creation for non-print material such as slides, glass plates, photographs, mask, art objects and upload audio-video material.

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# Intellectual Property Right Issues with Special Reference to Indian Institutional Repositories: A Study

*Kankana Baishya*<sup>1</sup>

## Abstract

*Background of the Problem: In accordance with the Open Access Scholarly Information Sourcebook, repositories form a permanent and critically important part of the scholarly communication process. In the face of web revolution, patron expectation, information explosion, rising cost of scholarly publications, poor budget and restricted access to information, libraries are imposed to have a sound and depth archive of scholarly contents with a wider accessibility over the web. While exploring more possibilities in IR some IPR related problems have been identified during the tenure of the study. Sometimes researchers and authors are reluctant to deposit their scholarly contents into the IR due to the fear of losing their Intellectual Property right. Lack of understanding the benefits of IRs pulls researchers back in doing so. Library officers are in the best position to interpret legal issues of IR as IRs are hosted basically in libraries. Librarians are the main stakeholders to make the authors, administrators and users better understand the IPR issues related to IRs.*

**Keyword:** Institutional Repository, self-archiving, Intellectual Property right, License, Policy, SHERPA

**Purpose of the Study:** The study intends to find out the legal issues related to IRs, the protocols to be employed while implementing IRs and to reveal the state of the art of IPR issues in Indian IRs.

**Methodology:** To yield the purpose of the study mixed methodologies are being carried out simultaneously. Firstly an attempt is made to find out the existence of IRs in India. A comprehensive survey has been conducted over Directory of Open Access Repository (DOAR), Registry of Open Access Repository (ROAR),

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Repository 66.org, and Web of Repository (<http://repositories.webometrics.info/>). The existing directories may miss some of the repositories in their listings. So, a discussion was also posted in the LIS Links ([www.lislinks.com](http://www.lislinks.com)) to have public input. Internet surfing is also done to get more links of IRs. After listing the valid IRs in India their websites are thoroughly reviewed to get the available information on the legal and copyright issues.

**Findings:** IRs can be the most effective platform to get the rapid impact on someone's research output if the Policies and mandates are defined properly

**Significance:** The study depicts the scenario of IR with special insight of IPR issues and fosters the standard of IR implementation in India.

**Citation Style:** American Psychological Association (APA)

**Type of work:** The online survey is purely primary source of information

## **Introduction**

'Institutional repository' (IR) can be considered as the most innovative and creative representation of Library and Information Centre through which an academic and research institute showcases and shares its digital outputs. According to Ginsparg (2000) "IR is the will to create a network of collections which represent the best output of different institution in a distributed model." Hence, in a nut shell a digital IR is described as the concept of capturing, managing and disseminating openly (but not necessarily free) all the digital information or knowledge assets i.e. scholarly work of students, faculty members or staffs, administrative reports, institute's publication, external works done on the institute, proceedings of seminar, conference and meetings of the institute to end users both within and outside of the institution. The paper intends to discuss how librarian and repository managers handle the challenge of copyright issue while running an IR.

## **Scholarly Content Coverage of an IR**

The continuum of the contents in IR varies depending upon the institutes and its content contributors. An IR may consist of an institute's learning materials including, classroom teaching materials, technical reports, computer programmes, study materials, assignments, lectures, audio-visuals and multimedia presentation,

research materials including research products such as research paper or pre publication drafts either post publication version and research data. Other types of research materials include journal articles, book chapters, conference papers, preprints, working papers, thesis/dissertations, progress/status reports, project reports.

### **Benefits for Author/Researchers**

IRs can be considered as a central archive of a researcher's work, the pride and prestige of the institute they belong. The more benefits of depositing contents into IRs are furnished below,

- a) **Immediate Awareness and Impact of Research:** Enhance rapid communication of individual's research. Researcher can post pre-publication before the article is published. This increases the chance of getting it cited immediately. Harvesters bring users to the publications and therefore, publications in IR immediately get cited/identified in global indexing and search services
- b) **Greater Citation Impact:** Increase *citation* rate of the publications. Surveys have indicated that the open online access to the literature over Internet have appreciably higher citation rates than traditionally published articles. (Steve Lawrence. 2001. "Online or invisible?" Nature 411 (6837):521. Available at: <http://www.nature.com/nature/debates/e-access/Articles/lawrence.html>)
- c) **Useful in Claiming IPR:** Establish priority to Intellectual Property Right for researcher's scholarly work by allocating identifier.
- d) **Self-Archive:** Due to lack of time researchers sometimes fail to get deserving value and exposure of their research work. IR can be considered as a mean for the long term security and accessibility of the scholarly works.
- e) **Challenges to Publishers:** IR is a challenge for publisher's monopoly and thus protects authors from copyright.
- f) **Decreased Potential Plagiarism:** Anti plagiarism softwares can trace all the contents available in web and therefore uploading scholarly work in an IR can decrease the potential plagiarism

Intellectual Property Right (IPR) and Author's Concern

Intellectual Property Right is the core issue which should be taken into consideration while introducing an IR in a university or institute. Intellectual property is divided into two branches namely industrial property and copyright. Industrial property rights are the rights in patents, trademarks, trade names and industrial designs and copy right is the right to protect intangible property i.e intellectual creativity in literature, arts and music. Property Rights generally covers the right over work produced and distributed both online and print version. Sometimes IPR becomes barrier or obstacle for IRs as because authors are concerned that they may be violating copyright agreement they have signed with their publishers (Mark and Shearer, 2006) and as such do not have the right to deposit in IR. Prior to the publication of journal articles, authors require to sign copyright agreement which may vary publisher to publisher. Many publishers permit author to make their preprints, final proof version and raw pdf version available in an IR. Some publishers allow authors to make copies of their publications available on a personal web site, but not in an institutional repository. Some publishers instead ask authors to sign a non-exclusive license to allow authors to retain copyright for self-archiving. Authors need to check out in the agreement whether or not he is permitted to deposit his contents in a repository. If agreement is not available, the invaluable SHERPA/RoMEO site should be referred to find out the publisher's self- archiving policy. In case of self-archiving book chapters, conference papers and other publication holding copyright the concerned publishers can be contacted directly. It is important to focus that open access is free from copyright and not impaired by author's exploitation right. However, it is the author's decision to also make their work available for commercial exploitation through contractual agreement (Kuhlen, 2008)

**SHERPA/RoMEO-Publisher copyright policies & self-archiving (<http://www.sherpa.ac.uk/romeo.php>):** Provides a listing of publishers' copyright conditions as they relate to authors archiving their work on-line.

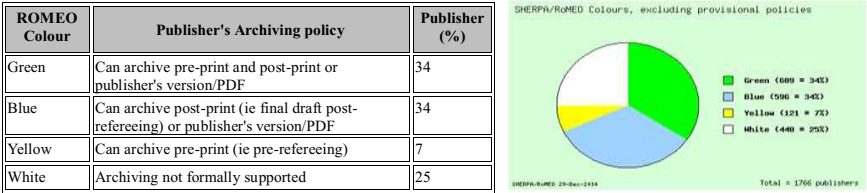


Table 1 RoMEO Colours and Publisher's



## **Archiving Policies Diagram 1 RoMEO Colours and Publisher's Archiving Policies**

RoMEO is a searchable database of publisher's policies regarding the self-archiving of journal articles on the web and in Open Access repositories, run by SHERPA Services, at the Centre for Research Communications, University of Nottingham. RoMEO contains publishers' general policies on self-archiving of journal articles and certain conference series. Each entry provides a summary of the publisher's policy, including what version of an article can be deposited, where it can be deposited, and any conditions that are attached to that deposit. RoMEO's own database covers over 22,000 journals. RoMEO also searches the Zetoc, DOAJ, and Entrez databases for additional journals. RoMEO does not provide self-archiving information on books, monographs, theses or conference papers, however, some series titles may be covered. RoMEO lists total 1766 publishers all over the world.

## **Role of Institutional Repository Manager in Relation to IPR Issues**

Understanding copyright issues is a key to building a successful institutional repository. The repository managers are usually the persons who should be basically concerned and interpret copyright, digital right management and IPR related issues. Institutional repository officers can deal with copyright issues by focusing on various factors as furnished below,

## **Developing Repository Policies**

The LEADIRS Workbook of MIT Libraries and OpenDOAR registry have defined some policies to assist the repository administrators for formulating their own repository policies. Following points can be highlighted out of those above mentioned ready reference policies,

- **Content and Collection Policy:** Includes how to organize collection, types, format and forms of contents, type of content contributors, type of work whether academic or research oriented and quality
- **Intellectual Property Right:** LEADIRS Workbook of MIT Libraries states the probable questions for IR managers framing the IPR policy eg. Must content submitters own copyright for submitted content? What policies do you need for author permissions and licensing terms? Do you require

copyright transfer for submitted items, or do you want only a non-exclusive right to distribute the work? Who is responsible for ensuring compliance with publisher copyright issues? At your university, who holds the intellectual property rights for faculty research, course materials, etc.? What are your existing intellectual property rights agreements with faculty? Who owns the copyright to theses at your university?

- **Data Policy** - For full-text and other full data items, access to full items, re-use of full items
- **Submission Policy**: Eligible depositors, deposition rules, moderation, content quality control, publishers' and funders' embargos
- **Preservation Policy**: Retention period, functional preservation, file preservation, withdrawal policy, withdrawn items, version control, closure policy

## Content Licensing

Barton and Waters (2004) suggested two kinds of licences: Deposit licence (An agreement between the creator/copyright holder and the institution giving the repository the right to distribute and preserve the work) and Distribution licence (An agreement between the author/ creator or copyright holder and the end user governing the uses that can be made of the work).

## Creative Commons (<https://creativecommons.org>)

The initial set of Creative Commons licenses was published on December 16, 2002. These licenses, depending on the one chosen, restrict only certain rights (or none) of the work instead of traditional copyright, which is more restrictive. Many of the licenses, notably all the original licenses, grant certain “baseline rights”, such as the right to distribute the copyrighted work without changes, at no charge. Some of the newer licenses do not grant these rights. As of February 2008, there are 43 jurisdiction-specific licenses, with 9 other jurisdictions in drafting process with more countries joining the project. All Creative Commons licenses are *free content* as defined in the above. Attribution (by), Non-Commercial (nc), No Derivative Works or No Derivs(nd), Share Alike (sa), Sampling Plus and Noncommercial Sampling Plus are the set of the original licenses hold by the Creative Common Licenses.

### Other Policy Makers

The other international policy makers like Copyright Clearance Centre (<http://www.copyright.com>), Copyright Licensing Agency (<http://www.cla.co.uk>) etc should also be consulted in preparing a repository. In case of Indian repositories Indian Copyright (<http://copyright.gov.in>) policies should be kept in consideration.

### Uploading IPR related information in an Institutional Repository webpage

The institutional repository website should provide all the following information that may be required by depositors and users

- **Explanation of Open Access and Self-Archiving:** A section of the webpage should contain Open Access introductory page enabling researcher to learn about self- archiving.
- **Disclaimer:** This section might cover what they are permitted to do with the content they find there. If there are any restrictions on re-use these should be stated clearly.
- **Detailed Policy Information:** All the policies (metadata, data, preservation, privacy, metadata etc) should be clearly and thoroughly mentioned in the repository site.
- **Copyright Information:** This section may be the place to provide clear information about author rights and how to retain the rights needed to ensure that self-archiving and re-use of work is unhindered by publisher copyright. A link to one (or a choice) of the available author addenda is also useful here, along with an explanation of how they can be used by authors seeking to retain the rights they need to provide Open Access for their work.

### IPR issues in Indian Institutional repositories: A Study

On the basis of an online survey done in the month of December, 2014 a list of 54 institutional repositories has been prepared. (see table 1). Although altogether 83 IRs are collated from various IR sources, after proper verification of the urls, only 54 IR links are found valid.

Surprisingly some of the popular IR links are not functioning properly during the survey period might be due to the down servers, reconstruction of webpages or other reasons e.g Repository of Institute of Minerals and Materials Technology,

Bhagirathi of IIM, Madras and Egyankosh of IGNOU, National Centre for Radio Astrophysics (rank holder in web of science), National Chemical Laboratory, Pune, OpenMED@NIC (rank holder in web of Science), National Institute of Immunology, Physical Research Laboratory, Sarder Vallabhbhai National Institute of Technology, Sri Dharmasthala Manjunatheshwara College of Engineering and Technology, Vidya Prasarak Mandal repository etc.

Institute	Name of Repository	Location	Subject	IPR Information	Disclaimer	Detailed Policy	Deposit Policy	Submission Restricted
Kashida University	Knowledge Repository Open Network	Kashim	General	SHERPA/PAJoMo	No	Yes	NA	Academic institutions of IIRK
Aditya Trust for Research in Ecology and the Environment	aditya@ATREE	Karnataka	Sc	NA	Yes	OpenDOAR	Yes	ATREE community
Information and Library Network Centre	indolibrary@INFLIBNET	Goa	General	NA	Yes	Yes	Yes	All Universities
Central Drug Research Institute	Digital Knowledge Repository of CDRI	Uttar Pradesh	Sc	NA	No	NA	NA	CDRI Community
Central Food Technological Research Institute	cfri@CFTRI	Kanpur	Sc	Yes	No	Yes	Yes	CFTRI Community
Central Marine Fisheries Research Institute	cfmri@CMFRI	Kerala	Sc	SHERPA/PAJoMo	Yes	Yes	Yes	CMFRI Community
Advanced Materials and Processes Research Institute	CIPR-ALP@IITB	Madhya Pradesh	Sc	NA	Yes	Yes	Yes	CIPR-AMPR Community
CIPR Institute of Microbial Technology	CIPR@IITB	Chandigarh	Sc	NA	No	NA	NA	CIPR-IITB publications
National Aerospace Laboratories	Institutional Repository @NAL	Karnataka	Sc	SHERPA/PAJoMo	No	Yes	Yes	CIPR-NAL Community
Cochin University of Science and Technology	DigitalLibrary@CUSAT	Kerala	Sc	NA	No	NA	NA	CUSAT Community
Cochin University of Science and Technology	Digital Digital Repository of CUSAT	Kerala	Sc	NA	No	NA	NA	CUSAT Community
Oswaal Singh Indraprastha University	Digipac @ GGSIPU	Delhi	General	NA	No	NA	NA	GGSIPU Community
Indian Academy of Sciences	IAS OA Repository	Karnataka	Sc	NA	Yes	Yes	Yes	IAS Community
International Crop Research Institute for Semi-Arid Tropics	ICRISAT Open Access Repository	Andhra Pradesh	Sc	SHERPA/PAJoMo	Yes	Yes	Yes	ICRISAT Community
Indian Institute of Development Research	Open Access Digital Repository at IODR	Maharashtra	Arts	NA	No	NA	NA	IODR Community
Indian Institute of Astrophysics	Open Access Digital Repository of IIA	Karnataka	Sc	SHERPA/PAJoMo	Yes	NA	Yes	IA Community
Indian Institute of Chemical Biology	Open Access Digital Repository of IICB	West Bengal	Sc	SHERPA/PAJoMo	No	Yes	Yes	IICB Research Community
Indian Institute of Horticultural Research	Knowledge Repository of IHR	Karnataka	Sc	Yes	Yes	OA Self Archiving	NA	IHR Community
Indian Institute of Management Ahmedabad	IIMA Institutional Repository	Goa	Management	NA	Management	Yes	Yes	IIMA Community
Indian Institute of Management Kozhikode	Digipac @ IIM Kozhikode	Kerala	Management	NA	NA	NA	NA	IIMR Community
Indian Institute of Petroleum	IIP Institutional Repository	Uttarakhand	Sc	NA	No	NA	NA	IIP Community
Indian Institute of Science Bangalore	iiit@IISc	Karnataka	Sc	Yes	Yes	Yes	Yes	IISc Research Community
Indian Institute of Science Bangalore	iiit@IISc	Karnataka	Sc	Yes	Yes	Yes	Yes	IISc Research Community
Indian Institute of Technology Bombay	Institutional Repository of IITB	Maharashtra	Sc	SHERPA/PAJoMo	No	NA	Yes	IITB Community
Indian Institute of Technology Delhi	iiit@IITD	Delhi	Sc	NA	No	NA	NA	IITD Community
Information and Library Network Centre IR	IR@INFLIBNET	Goa	General	NA	No	NA	NA	INFLIBNET publications
Indian Historical Institute Bangalore	Library Digital Library	Karnataka	Information Sc	NA	No	NA	NA	IHI Community
Kishin Kanya Manjanga Sanskrit Open University, Assam	KCSOU Knowledge Hub	Assam	General	CC-BY-NC-SA	No	NA	NA	KCSOU Community
Council of Scientific and Industrial Research	National Science Digital Library	Delhi	Sc	NA	No	NA	NA	Known Indian academics
Dr. Madan Mohan Malaviya Sanskrit University	Open Access Digital Repository of DMU	Tamil Nadu	Sc	NA	No	Yes	Yes	DMU Research Community
Council of Scientific and Industrial Research	OA Repository of Indian Theore	Delhi	General	NA	No	Yes	Yes	Responsible institutions
Mahatma Gandhi University	MOU Open Theses Library	Kerala	General	NA	No	NA	NA	MOU Community
Ministry of Earth Sciences, Government of India	Open Access Digital Library	Karnataka	Sc	Yes	Yes	Yes	Yes	MOE research Community
Mahatma Gandhi University	Institutional repository of M.G. U.	Goa	General	NA	No	NA	NA	MGU Community
Indian Institute of Space Research Kozhikode	Digipac @ IISR	Kerala	Sc	NA	No	NA	NA	NA
Inter-University Centre for Astronomy and Astrophysics	Digipac @ IUCAA	Maharashtra	Sc	NA	No	NA	NA	NA
Institute of Mathematical Sciences	Digipac@IMSc	Tamil Nadu	Sc	NA	No	NA	NA	NA
National Centre for Antarctic Research@NCAR	DIPAC AT NCAR	Ora	Sc	NA	No	NA	NA	NCAR Community
North Eastern Hill University	NEHU Digital Library	Manipur	General	NA	No	NA	NA	NEHU Community
National Institute of Oceanography	Digital Repository Service of NIO	Goa	Sc	SHERPA/PAJoMo	No	NA	Yes	NIO Community
National Institute for Research in Universities JCMR	NIRP Institutional Repository	Tamil Nadu	Sc	SHERPA/PAJoMo	No	Yes	Yes	NIRP scientific Community
National Institute of Technology Karnataka	NITK Digital Archive	Oshaka	Sc	SHERPA/PAJoMo	No	NA	NA	NITK students
National Institute of Technology Karnataka	Emerse@NITK	Oshaka	Sc	Yes	Yes	Yes	Yes	NITK students
National Meteorological Laboratory	Open Access Repository NML	Bombay	Sc	NA	No	Yes	Yes	NML Community
Collaboration of MHRD and NCERT, India	National Repository of Open Educational Resources	Delhi	General	CC-BY-NC-SA	No	NA	NA	Open to all
Council of Scientific and Industrial Research	NCIS@ Online Periodicals Repository	Delhi	Sc	CC-BY-NC-NC	Yes	NA	Yes	Open to all
Indian Institute of Technology Kanpur	Aggregata	Uttar Pradesh	Sc	NA	No	NA	Yes	Open to all in related field
Pandit Dadasaheb Phule Sanskrit University	Digital Library @PDPU	Goa	Sc	NA	No	NA	NA	PDPU Community
Pannu Research Institute	Digital Repository of the RRI	Karnataka	Sc	Yes	Yes	Yes	Yes	RRI Community
Sardar Vallabhbhai National Institute of Technology	Emerse @ SVI Library Service	Goa	General	NA	No	Yes	Yes	SVI Community
Tagore University	Open Access Digital Library	Goa	General	NA	No	NA	NA	Tagore Community
University of Agricultural Sciences Dharwad	UAS Dharwad	Karnataka	Sc	NA	No	NA	NA	UAS Community
Hyderabad University	India Open Access Digital Library, UoH	Andhra Pradesh	General	NA	No	NA	NA	UoH Community
University of Hyderabad	Open Access Digital Library, UoH	Karnataka	General	SHERPA/PAJoMo	No	OpenDOAR	Yes	UoH research Community

Table 1: Location, subject coverage, availability of IPR information, disclaimer, detailed policy of data, metadata, content, preservation, deposit policy and content contributors of Indian Institutional Repositories

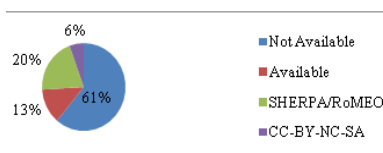
## Basic Information on Indian IRs

From Table 3 it is seen that out of 54 IRs, 1 IRs is of arts subject, 14 IRs are of general subjects, 2 are from management Institute and another IR is of Information Science subjects. Rest of the 36 IRs are of Science subjects. Again the list displays top 4 states holding highest IRs and Karnataka state holds the 1<sup>st</sup> rank with 13 no's of IRs.

Category	Indicators	Total No. of IRs
Subject	Arts	1
	General	14
	Information Science	1
	Management	2
Location	Science	36
	Karnataka	13
	Delhi	6
	Gujarat	6
	Kerala	6

(\*Location displays holding highest nos of IRs ) **Table 3 Summary of the Basic Information of IRS Availability of IPR Information in IR Sites:** Findings on availability of IPR issues in Indian IRs have been showed by following tabular and diagrammatic representation,

IPR Information	Number of Repository	Percentage (%)
Not Available	33	61
Available	7	13
SHERPA/RoMEO	11	20
CC-BY-NC-SA	3	6



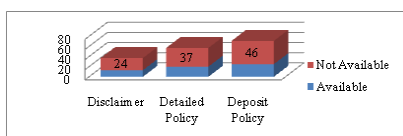
**Table 4: Availability of IPR Information in IRs** **Diagram 2: Availability of IPR Information in IRs**

From the above statistics in table 4 can be understood that majority of the IRs don't much concerned about IPR issues which are to consider on priority basis while planning a IR. The diagram shows that 61 % IR websites don't provide any IPR information, 13% IRs are having their own IPR information, 20% IRs directly refer to the SHERPA/RoMEO publishers policy and only few IRs i.e 6% are holding Creative Common By Attribute Non Commercial Share Alike License.

### Availability of policy information in IRs

There are 13 IRs sharing Disclaimer statement. Detail policies including data, metadata, contents and preservation have been set up by 20 IRs and 25 IRs has defined deposit policies or submission guidelines for

Policy Information	Available	Not Available
Disclaimer/policy Statement	13	24
Detailed Policy Information	20	37
Deposit Policy	25	46



**Table 5: Availability of Policy information in IRs** **Diagram 3: Availability of Policy information in IRs**

content contributors. The statistics reveals that IRs in India denotes less importance in policy making and IPR issues. Different categories of content contributors have come into the picture from the list. Highest 40 no. of IRs restrict submission of the contents to their own community only. Some IRs are open to all, some are open only for the renowned university authors, some are limited to their own publication whereas some don't have any information about their content contributors.

## Conclusion and suggestion

IR managers/Librarian can directly contact publishers for permission to deposit published materials in the IR, to fill in information gaps. Publishers should be using a standardized permission letter. IR managers should ensure that submission does not infringe upon anyone's copyright or other intellectual property rights. Authors can choose his own option prior to any publication i.e. retain all rights and license publication, transfer his copyright, but retain some specified rights, transfer all copyrights to the publisher

Librarian as a host of IR, should himself first learn copyright issues so that he can clearly define the legal obligations in content submissions. Copyright are meant to protect the author's scholarship but in some way it has impaired the author's right. Therefore, it is the need of the hour to promote open access enabling to minimize the restriction on author's own right.

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# **Development and Analysis of Intellectual Property Rights Using Emerging Technologies in the Digital Age**

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## **Abstract**

*The intellectual property right and copyright cover printed matter, patents, industrial design, trademarks, trade secrets etc. right associated with intellectual property which gives legal protection is referred to as IPR. Paper also deal with an intellectual property can be either artistic or commercial. The artistic works come under the category of copyright laws, patents, trademarks, industrial design rights, and trade secrets. Paper describe about nature & importance of IPR. Analyses different aspects of IPR. IPR and its issues in digital era. Concludes with the suggestion that library and information professionals have an obligatory role to play in making aware their users about IPR.*

**Keywords:** IPR, Copyright, Trade Marks, Patent, WSIS

## **Introduction**

The intellectual property rights covers almost all walks of life such as agriculture, biotechnology, industries and library sciences while the copyright mainly relates to authors, publishers, librarians etc. The intellectual property right and copyright cover printed matter, patents, industrial design, trademarks, trade secrets etc. right associated with intellectual property which gives legal protection is referred to as IPR. After the advent of printing and multimedia technology for storage and communication, the concept of IPR/copyright has changed and become more complex and important.

Librarians and information scientists are deeply concerned with IPR/copyright issue as it has direct impact on their work and services such as acquisition, storage,

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and dissemination of information. In the recent past, the issues concerning intellectual property right (IPR) have been debated in various meetings, seminars, conferences and forums all over the world. In today's post information age, which has been labeled as knowledge society, issues such as generation, valuation, protection and exploitation of intellectual property (IP) are becoming more and more critically important around this global village. Many countries of the world have initiated measures to strengthen and restructure intellectual property regime as a result of commitments made under trips by establishing intellectual property cells to provide relevant information about IPR.

India has also initiated concerted efforts to provide IPR information at the national level to a large section of the society participating in many bilateral arrangements or multilateral international treaties and conventions concerning IPR.

### **Intellectual Property Right**

The word 'property' is derived from the Latin word 'proprio' which means 'one's own' i.e., essence of property is ownership. Intellectual Property Rights can generally be defined as the rights given to persons over the creations of their minds. Intellectual property rights as a collective term includes the following independent IP rights which can be collectively used for protecting different aspects of an inventive work for multiple protections intellectual property is unique, as it is the fruit of personal creation and inventiveness. In the future, intellectual property creators aim to deliver more abundant food resources, clean energy and cures for illnesses from cancer to the common cold. The brain of human is very inventive and is never taking rest. It continuously creates intellectual output in the form of new designs, inventions, trademarks and other new-fangled things etc. property can be of intangible which include intellectual property, securities, right to individual reputation, etc. IPR is the creation of human mind. Potential efforts of human beings lead to intellectual outcomes which in turn have considerable value in economy. Right associated with intellectual property which gives protection is referred to as IPR. IPR usually protects ideas or information of commercial value, playing a crucial role in the information market. As mentioned earlier, the creators or owners are granted certain exclusive rights over their creations or works. Such exclusive rights are called intellectual property rights. These rights help them benefit from their creations and also enable them to protect their work. In that way, intellectual property is like any other real property which is financially beneficial for the owner. The monetary benefits are said to encourage people to come up with

new inventions and creations. Intellectual property rights also enable the owners or creators to protect their work. These rights can be related to article 27 of the universal declaration of human rights. According to this statute, "everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author". So, owners of intellectual property can benefit through protection of the moral and material interests of their creations. The term intellectual property encompasses various types of creations of mind, like inventions. An intellectual property could be anything like a music composition, a movie, book, painting or even a brand name. According to the concept of intellectual property, such creations of mind are intangible or non-monetary assets with commercial value. The owners of such non-monetary assets (creations of mind) are assigned some exclusive rights over their creation, so that they benefit financially. However, it is not possible to recover or replace an intellectual property that is stolen. If stolen, the interests of the owner, over his/her creation will get affected. So, there must be laws to protect the moral as well as material interests of the owner over his/her intellectual property. IP law deals with the rights assigned to owners of intellectual property.

## **Types of Intellectual Property Rights**

### ***Copyrights***

A copyright is a right conferred on the owner of a literary or artistic work. It is an exclusive right to control the publication, distribution and adaptation of creative works. The right lies with the owner-cum-copyright holder for a certain period. As the time lapses, the work can be republished or reproduced by others. usually, in most countries the time span of a copyright extends through the entire life of the owner and lasts up to a period of about 50 to 100 (70 years in the u.s.) years after his/her death. In case of anonymous works, the right lasts for 95 years from the date of first publication or 120 years from the date of creation. Copyright stands for legal right to prevent others from copying an existing work of an individual. It is such a right exclusively given for a definite period of time to the originator (author or creator) of intellectual work such as publication, or an article or a literary work for sale or any other use. USA has enacted copyright law where the work of the author does meet following three requirements.

1. The work must be original and not copied from other's work.
2. The work must be in a "tangible" form that is, either written down or record on tape, videotape disk, CD and so on. The spoken word is no ©

3. The work must be more than just an idea: an idea is not copyrightable although a particular expression of an idea is. In India, during the period of the East India Company, the Copyright Act 1847 was enacted. The Copyright Act 1847 was followed by the Indian Copyright Act 1914, which was influenced by the British Copyright Act. After independence, a comprehensive Copyright Act was enacted in India in 1957. The term of "copyright" holds to a period of 25 years after the author's death. The Indian Copyright Act 1957 was amended in 1983, 1984, 1994, 1999, 2010 & 2012. Some of the following amendments were incorporated:
  1. Increased term of copyright of performers from 25 to 50 years.
  2. Amendment definition of literary works.
  3. Meaning of copyright in respect of computer programs.
  4. New provisions pertaining to power of govt. of India to apply the provision relating to broadcasting organization and performers of broadcasting organization.

### ***Trademarks***

A trademark is a symbol generally used to identify a particular product, which indicates its source. A trademark can be a combination of words, phrases, symbols, logos, designs, images, or devices, used by an individual, legal entity or business organization to distinguish their products from others. A trademark may be designated by the following symbols:

- ™ (for an unregistered trade mark, that is, a mark used to promote or brand goods) ?
- (for an unregistered service mark, that is, a mark used to promote or brand services)
- ® (for a registered trademark)

Once registered, trademarks are protected legally and the owners can sue persons for unauthorized use of their trademarks.

### ***Patents***

Patents are rights related to new inventions. Such rights are conferred on persons who invent any new machine, process, article of manufacture or composition of matter and biological discoveries. In order to be patented, the invention should fit into specific criteria, which may differ from country to country. In general, the invention must be new and should be useful or can be applied in industries. The person who receives a patent for his invention has an exclusive right to prevent

others from making, using, selling or distributing the patented invention without permission. Generally, the time limit of a patent is 20 years from the date of filing the application (for the patent).

### **The Importance of Intellectual Property**

Almost everyone in society is a user and potential creator of intellectual property. Its protection, through a system of national and international rules called intellectual property rights, is necessary to provide incentives and financing for innovation and creation, which in turn lead to economic, cultural and social progress. Intellectual property rights add value for consumers and can provide a guarantee of source and quality. Intellectual property protection contributes to economic growth in both developed and developing countries by stimulating innovation, cultural diversity and technical development as part of a larger policy framework unless governments, businesses and citizens make a coordinated effort to uphold the intellectual property system, society will not reap its benefits.

### **Protection of IP**

Society provides legal rights over intellectual property to encourage the production of inventions and creative works that benefit society and to help innovators and creators make a living from their work. It is essential to protect IP so that nobody else can enjoy the fruits of other's efforts. The IP of a person can best be protected if he keeps it out of the eyes and knowledge of the world. Intellectual Property Rights are granted under the national laws of each country or region. In addition, various international agreements on Intellectual Property Rights harmonize laws and procedure, or allow Intellectual Property Rights to be registered at the same time in several countries. Different types of IP – literary and artistic creations, inventions, brand names, and designs, to name a few – are protected in different ways. The world summit on information society (WSIS) held in Geneva in December 2003 also reaffirmed that the protection of IPR is important to encourage innovation and creativity in the information society.

### **IPR & Copyright in Libraries**

IPR & copy right also impact libraries. Libraries are authorized to exercise special rights in addition to fair use. Some of these are: 1) Archiving lost, stolen, damaged or deteriorating works. 2) Making copies for library patrons. 3) Making copies for

other libraries patrons (inter-library loan). Now, all the libraries are providing reprographic service to their users, especially academic, research and special libraries. Sometime the photocopying is done not for the readers but for library itself for fulfill the additional requirement of the library. If the books are not available in India, would not be infringement; this protection is available for public library librarians only. S.R. Rangnathan's laws are (books are for use, books are for all, all books have its readers) in total contravention. A library is a place where there should be free transfer of information and knowledge should be meant for learning not for selling/buying purpose. But the copyright law has put these fundamental principles of library in doubt. section 52 (a) provides a fair dealing with a literary dramatic, musical or artistic work not being a computer program for the purpose of, 1) private use including research, 2) criticism of review but the act has not defined the fair dealing. in the new digital era, the libraries and readers have been enjoying with the recent technology but they have positively understand the concept of IPR and information officers should keep themselves up to date about the IPR & copyright act.

## **Conclusion**

Intellectual property right in Indian scenario is less known by the people due to extreme illiteracy in context to patent system, copyright etc .it is our duty to know about these laws and govt. should organize such programs from time to time to familiar the people. In India the software companies are not taking much interest to spend the money on security option. Librarians play an important role in protecting the rights of copyright holders, patent holders, trademarks, industrial design etc. The librarians and information officer should keep themselves aware with latest changes in the intellectual property right and information technology act and their implementation. It is an obligation of the librarian to keep the user aware about copyright. Library science curriculum should include the IPR related issues. All these steps will be helpful to the society to protect infringement and cyber crimes. Protection of IP resulting from exercise of human intellect has been in existence since a long time, with the Vienna international exhibition on invention in 1873. Since then there has been an important landmark in the IPR scenario. It is essential to know about the laws, rules and regulations under IPR. Governments of different countries have taken up various strategies to make their citizens aware of it.

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# **A Robust, Realistic and Rigorous Action Plan for Ensuring Adequate Protection of Traditional Knowledge**

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## **Abstract**

*Indigenous communities form an indispensable component of our social ethos and epitomize the pluralistic values that the Indian state espouses. Their artistic creations help in the preservation and promotion of India's cultural vitality and form the basis of their distinct social identity. Therefore, any improper appropriation of such creations amounts to a direct attack on the specificity and integrity of these communities. The special features and idiosyncrasies of traditional knowledge ("TK") necessitate the institutionalization of a sui generis framework for its protection. This essay, which is divided into 3 sections, delineates a cogent and comprehensive action plan for effectuating the twin goals of adequately protecting TK while ensuring the widespread dissemination of such knowledge for the growth of our knowledge economy. The first section analyzes pertinent provisions and initiatives pertaining to the preservation of TK that fall within the ambit of the existing intellectual property regime. It brings to light the inadequacy of the existing system by highlighting its main flaws. The second section sets out 5 foundational principles that would form the pillars upon which the edifice of this action plan would rest. The third section expatiates upon the modalities of a sui generis framework for the protection of TK and succinctly discusses the methodologies that can be adopted for reconciling competing interests.*

**Keywords:** Traditional Knowledge, Indigenous Cultural Intellectual Property (ICIP), Indian Patents Act, Local Development, Kerala Policy for Protecting Traditional Knowledge, Sui Generis System.

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## Introduction

### A Brief Overview of the Existing Legal Framework to Safeguard Traditional Knowledge

Broadly speaking, TK is viewed as a subset of heritage that includes “tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.”<sup>2</sup> In other words, TK results from a large array of intellectual pursuits in scientific, social, environmental and technological contexts. Common examples of TK include use of Methi to reduce the level of glucose in the blood or use of kala jeera to deal with hepatitis or asthma.<sup>3</sup>

At present, provisions that either overtly or covertly safeguard TK can be found within the confines of the existing intellectual property regime itself. The Indian state, therefore, like most other countries subscribes to the view that the existing intellectual property regime provides indigenous communities a potent shield as well as a sword.<sup>4</sup> The strongest manifestation of the legislature's desire to protect TK can be found in Section 3 (p) of the Indian Patents Act, 1970 which states that any invention which, in effect, is TK or is an aggregation or duplication of the properties of traditional components is not patentable. Section 10 (d) of the Act requires an applicant to disclose the geographical source of origin of any biological substance that is sought to be patented. This provision, along with the Geographical Indications (Registration and Protection) Act, 1999, has been designed with the *raison d'être* of ensuring that due attention is paid to the peculiar features of geographical regions, that are often inextricably intertwined with the communities that inhabit them, while granting intellectual property protection. Another important provision which seeks to protect traditional biological resources is Sec. 6 (1) of the Biological Diversity Act, 2002 which makes it mandatory for anyone seeking intellectual property protection for a biological resource obtained in India to acquire the approval of the National Biodiversity Authority. Furthermore, a

<sup>2</sup> Daniel J. Gervais, 'Spiritual but not Intellectual? : The Protection of Sacred Intangible Traditional Knowledge', 11 *Cardozo J. Int'l & Comp. L.* 467 (2003).

<sup>3</sup> R. V. Anuradha, 'Biopiracy and Traditional Knowledge', *The Hindu*, 20<sup>th</sup> May, 2001, available at <http://ip.aaas.org/tekindex.nsf/2a9c4e44835b04ea85256a7200577a64/829083df1408817f85256bd70057e296/Body/M1?OpenElement> (last visited Dec. 10<sup>th</sup>, 2014).

<sup>4</sup> Megam M. Carpenter, 'Intellectual Property and Indigenous Peoples: Adapting Copyright Law to the Needs of a Global Community', 7 *Yale Human Right and Developmental L. J.* 51 (2004).



declaration stating that the approval has been duly obtained must be made in Form 1 of the application for the grant of a patent. Section 7 of the aforementioned Act makes it mandatory for any person or corporate body which wishes to commercially exploit a biological resource to obtain the explicit consent of the concerned State Biodiversity Body (SBB). Notably, the Indian Patent Office issued comprehensive guidelines in December 2012 which define the standards in accordance with which patent applications pertaining to TK have to be dealt with. They emphasize the need to grapple with such applications in accordance with International Patent Classification (IPC) and set a relatively higher threshold of 'non-obviousness' and 'inventive step' to prevent improper commodification and commercialization of TK.<sup>5</sup> The Protection of Plant Varieties and Farmers Rights Act, 2001 is yet another benevolent social legislation which intends to safeguard the creations of indigenous farmers and communities by empowering local communities to file a claim to gain recognition for their substantive contributions to the field of agriculture. Although the Indian Copyright Act, 1957 does not explicitly deal with the subject of TK, Section 57 of the said Act embodies the concept of 'moral rights' which enables an individual to prevent any mutilation or modification of his work which harms his honour or reputation. Even though this remedy was not designed to safeguard TK, it can potentially be used to prevent the representation of traditional cultural expression in a manner inconsistent with the beliefs and values of indigenous communities. In addition to the aforementioned legal provisions, India has also taken some unique steps for the defensive protection of TK. This is best exemplified by a collaborative project between the Council of Scientific and Industrial Research (CSIR) and the Department of Ayush called 'Traditional Knowledge Digital Library' which bears emphasis for 3 important reasons. First, this is a first of its kind initiative which was primarily designed to avoid costly and protracted disputes akin to controversies associated with the grant of patents for inventions designed to harness the power of turmeric and neem.<sup>6</sup> Second, it is a treasure trove of information on India's TK which has been translated into multiple languages and is used by patent offices across the globe as 'prior art' to ensure that they do not inadvertently end up granting patents that result in the misappropriation of TK. Finally, reports indicate that the TKDL has allowed India to protect

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<sup>5</sup> Madhulika Vishwanathan, 'Traditional Knowledge Patent Applications: Need for Deliberation', Spicy IP, 23<sup>rd</sup> December, 2012, available at <http://spicyip.com/2012/12/guest-post-traditional-knowledge-patent.html> (last visited Dec. 10th, 2014).

<sup>6</sup> Zoya Nafis, 'Protecting Indian Traditional Knowledge as Intellectual Property', Mondaq, 6<sup>th</sup> October, 2014, available at <http://www.mondaq.com/india/x/344510/Trade+Secrets/PROTECTING+INDIAN+TRADITIONAL+KNOWLEDGE+AS+INTELLECTUAL+PROPERTY> (last visited Dec. 10<sup>th</sup>, 2014).

approximately 0.226 million medicinal formulations from being wrongly patented thus far.<sup>7</sup> While the aforementioned measures have been able to offer some degree of protection to the rich heritage of indigenous communities, it is submitted that they are woefully inadequate for 3 principal reasons. First, the Indian Government has not clearly defined and articulated the policy goals that should undergird any system for the protection of TK thus far. In such a policy and legal vacuum, measures to protect TK will continue to remain misguided and unimaginative steps that may help in diffusing temporary conflicts, but would be simply untenable in the long run. Second, these measures do not recognize the simple fact that intellectual property law and TK are diametrically opposed to each other-- while the former is predicated upon the grand notion of romantic individualism, the latter focuses on communitarian creations. We can reconcile these two sets of interests only by putting in place a robust and impartial framework within the auspices of which a concerted effort can be made to promote the goals of both systems while undermining the essence of neither. Finally, there is considerable ambiguity about the level of confidentiality that is maintained by the TKDL. More than 1200 formulations that the TKDL contains are believed to be open to all.<sup>8</sup> Lack of confidentiality of the TKDL can exacerbate, as opposed to alleviating, the problems of indigenous communities by paving the way for the improper use of their sacred and secret knowledge in more innovative and, consequently, more destructive ways. The upshot of these flaws is, as the United Nations Environmental Programme notes, "Intellectual property rights systems either encourage the appropriation of TK for commercial use without the fair sharing of benefits or violate indigenous cultural precepts by encouraging the commodification of such knowledge."

### **Principles Underpinning Sui Generis System for Protection of Traditional Knowledge**

In light of the foregoing, I would like to delineate 5 cardinal principles that should underpin a sui generis system for promoting the twin imperatives of respecting the interests of indigenous communities and fostering the growth of our knowledge economy. First, the sui generis legal framework must be firmly rooted in Article 29

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<sup>7</sup> World Intellectual Property Organization, '*Protecting India's Traditional Knowledge*', June 2011, available at [http://www.wipo.int/wipo\\_magazine/en/2011/03/article\\_0002.html](http://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html) (last visited Dec. 10th, 2014).

<sup>8</sup> Prashant Reddy, '*Is the TKDL a 'Confidential Database' and is it Compliant with Indian Copyright Law?*', Spicy IP, 29th March, 2012, available at <http://spicyip.com/2012/03/is-tkdl-confidential-database-and-is-it.html> (last visited Dec. 12th, 2014).

of the Indian Constitution which explicitly empowers every community to preserve its distinctive language, script and culture. As TK would squarely fall within the ambit of the term 'culture' in Article 29, the sui generis framework should be designed with the primary goal of institutionalizing and statutarizing the mandate of the suprema lex. Second, TK is a dynamic concept which is not trapped in amber and can, therefore, mean different things to different people. Therefore, any sui generis system for its protection should not seek to rigidly and exhaustively define what constitutes TK; instead, it should merely delineate some of its salient features such as its inextricable linkages with an indigenous community, its sacrosanct nature, the unique modes of its transmission, etc. Moreover, the idea of TK must be conceptualized through the lens of cultural relativism<sup>9</sup> which would lend it some much-needed flexibility to subsume within its fold the idiosyncrasies of every community. Third, it is critical to respect the sacrosanct nature of TK and to unequivocally recognize the fact that protecting TK does not merely mean curbing improper misappropriation of such knowledge but also includes protecting the essence of the knowledge. More specifically, it is necessary to accept that TK is essential for the survival of indigenous communities and lies at the heart of their cosmovision. The concept of collective bio-cultural heritage, which subscribes to a holistic view of TK and recognizes its transcendental nature, should form the basis of the sui generis system.<sup>10</sup> Fourth, the sui generis system must be participative in nature and must promote wide-ranging consultations amongst all stakeholders before arriving at any conclusion. Far too often, wealthy businesses offer alluring benefits to individuals belonging to indigenous communities and thereby elicit the knowledge that they need for serving their own parochial interests. It would, therefore, be apposite to emphasize the fact that no single individual has the power to decide the fate of traditional forms of creative expression that are created, maintained and revered by the community as a whole. Finally, even though it is imperative that we pay heed to the emotive appeal of the plight of indigenous communities, we cannot lose sight of the fact that a lopsided framework can stultify the growth of our rapidly burgeoning knowledge economy by denying IP protection for refinements to TK that substantively improve its efficacy and utility. Therefore, any creation that fills knowledge gaps in traditional medicinal formulations, art or culture must be adequately protected by the intellectual property regime.

<sup>9</sup> Sociology Central, 'Cultural Relativity', available at <http://www.sociology.org.uk/p2d4.htm> (last visited Dec. 11th, 2014).

<sup>10</sup> Information for the Secretariat of the Convention on Biological Diversity, 'Sui Generis Systems for the Protection of Traditional Knowledge', 31<sup>st</sup> October, 2005, available at <http://pubs.iied.org/pdfs/G02378.pdf> (last visited Dec. 14th, 2014).

## Contours of the Proposed Action Plan

Indigenous groups have highlighted 5 fundamental areas of concern which must be suitably addressed for the effective protection of TK. First, Unauthorized copying of works by other indigenous groups and communities. Second, Infringement of copyright of individuals belonging to indigenous communities. Third, Appropriation of indigenous themes and images, especially those of a sacred nature. Fourth, Inappropriate representation of indigenous styles and images in a manner inconsistent with the cosmovision of indigenous communities. Finally, Lack of compensation to indigenous communities for the commercial benefits derived from their creations.<sup>11</sup> Public discourse on the protection of TK generally revolves around 2 alternative approaches, based on 2 distinct theories. The first approach is predicated upon the property rights theory which seeks to respect individual skill and labour and forms the bedrock of the existing intellectual property regime across the globe. Viewed through this lens, measures for the protection of TK must be within the auspices of the existing intellectual property framework and should be crafted in the form of user rights or the imposition of stricter norms with regard to the granting of intellectual property protection in cases where TK is involved. On the other hand, the second approach is predicated upon the commons theory which supports communitarian ownership of resources. I have already delineated the flaws in the former approach in section 1 of this article which make it unsustainable in the Indian context. As regards the commons approach, it would not be prudent to institutionalize that approach in India on account of the problem commonly referred to as the 'tragedy of the commons' which explains how the collective ownership of property can result in its widespread misuse in a socially pernicious manner.<sup>12</sup> Institutionalization of this approach may result in the use of TK in culturally and spiritually improper contexts and would run counter to its sacrosanct nature. As a result, we must put in place a framework that combines the best features of both approaches and yet is competent to grapple with the broader ramifications that issues pertaining to the use of TK entail.<sup>13</sup> I would like to recommend the institutionalization of a 3-tier hierarchical structure at the national, state and local level to monitor and control the use of TK and to fashion remedies to

<sup>11</sup> World Intellectual Property Organization, 'Roundtable on Intellectual Property and Traditional Knowledge', WIPO/IPTK/RT/99/3, paper prepared by Michael Blakeney, October 1999, p. 4.

<sup>12</sup> See Garret Hardin, 'The Tragedy of the Commons', 162 *Science* 1243-7 (1968).

<sup>13</sup> Prakruthi P. Gowda & Ushasi Khan, 'Sacred but Vulnerable: a Critical Examination of the Adequacy of the Current Legal Framework for Protection of Tribal Sacred Traditional Knowledge', 1 *Nujs L. Rev.* 119 (2008).

resolve all disputes pertaining to its use. The responsibilities of such a machinery would be fivefold. First, it would be required to conduct a fact-finding exercise, such as a census, to identify all the indigenous tribes that form a part of the Indian diaspora.<sup>14</sup> Subsequent to this, it would be necessary to determine what forms of TK are linked with each of the identified communities. Second, a collective property right must be granted to every community to maintain and control its TK. Third, this machinery would act as a connecting link between authors, researchers and business houses that wish to draw upon TK and the community that controls the said knowledge. It would be tasked with the responsibility of brokering solutions that are in consonance with the needs and aspirations of both parties. Fourth, after such a solution is reached, it would be required to ensure that TK is not used in a defamatory or derogatory manner and to take substantive steps to clamp down on those who engage in such disrespectful conduct. Finally, it would be required to work closely with the National Biodiversity Authority and stakeholders in the Indian intellectual property regime to foster a culture of respect for TK and to lay down the standards, best practices, etc, pertaining to the use of such knowledge. In a country as vast and culturally diverse as India, a single body cannot be expected to handle all disputes connected with the use of TK, so it is necessary to empower local and state bodies to perform the first 3 of the aforementioned functions. The body at the national level would be required to oversee the functioning of all local and state authorities, resolve disputes whose resolution by the local and state bodies is not to the satisfaction of both parties and broker solutions related to TK that is owned by a community which is not confined within the geographical limits of a single state. Let us consider one example where the intervention of the national body would be required. A tribe located in the Agastyamalai forest of Western Ghats, known as Kani, is believed to have pioneered the internationally renowned anti-fatigue berry called Arogyapacha. However, the Kani tribe is not confined within the state of Kerala alone; many of its members also live in Tamil Nadu. In such a case, a national-level impartial body would be required to take cognizance of the interests of Kanis living in both states while structuring a solution for the proper use of their knowledge.

At this juncture, it would be apposite to mention that the state of Kerala is the first state in India to have put in place a *sui generis* framework to protect TK that is based upon the creation of a 'knowledge commons' consisting of the TK of all tribes in

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<sup>14</sup> Ibid

Kerala.<sup>15</sup> Members outside indigenous communities are free to use the knowledge for strictly non-commercial purposes and are required to deposit whatever refinements they make to the TK in the 'knowledge commons'. However, my action plan differs from the Kerala model for 4 important reasons. First, the Kerala model does not contain any concrete provisions for safeguarding the confidentiality of the TK that would form a part of the 'knowledge commons'. This not only discourages communities from disclosing their zealously guarded knowledge but can also lead to the misuse of the knowledge by parties that do not come within the jurisdiction of the sui generis framework. On the contrary, confidentiality is a core principle upon which my action plan is based in accordance with which TK would only be revealed with the explicit consent of the concerned community. Second, an anti-industry sentiment permeates the Kerala model which is best evidenced by the fact that any refinement to the knowledge, howsoever significant it may be, cannot be patented. My action plan is predicated on the belief that this is not a zero sum game, so it would seek to reconcile both sets of interests and would, therefore, allow for the IP protection of advancements that fill major knowledge gaps. Third, the Kerala model subscribes to the view that 'nationalization' of TK offers a silver bullet solution and, therefore, calls for complete state control of the 'knowledge commons'. However, the machinery that I propose would merely act as an intermediary between parties and would give considerable autonomy to both parties to protect their own interests. Finally, the Kerala policy allows ministers to act as members of the sui generis machinery and thereby paves the way for undue political interference. On the other hand, the action plan that I suggest would give considerable autonomy to the 3-tier machinery and would ensure that the members of these bodies would contain an appropriate mixture of indigenous community representatives, business representatives, scientists/ researchers and intellectual property experts. In particular, members belonging to organizations such as Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI), Federation for Revitalisation of Local Health (FRLTH), M.S. Swaminathan Research Foundation and National Innovations Foundation (NIF) would form the pillars upon which the edifice of this framework would rest. Furthermore, it is essential to clearly define the jurisdiction of each agency under this framework. At present, some forms of TK, such as biological resources, are protected by the existing legal framework, so it would be essential to ensure that all cases pertaining to the use of TK are forwarded to the appropriate authority under this framework to avoid any conflict of jurisdiction.

<sup>15</sup> Shamnad Basheer, '*Break with Tradition*', the Indian Express, 05 July, 2008, available at <http://archive.indianexpress.com/news/break-with-tradition/331482/3> (last visited Dec. 12th, 2014).

I am of the considered opinion that it would not be prudent to exhaustively delineate the modalities of the solutions that these bodies would be tasked with the responsibility of structuring. This is because of two reasons. First, the imperatives, impediments and irreconcilable tensions that the body would be required to grapple with would vary from case to case based on a large array of factors such as whether the knowledge is of a sacred or profane nature, the nature of the proposed use, the track record of both parties, etc. Second, these bodies would be required to show a great degree of dexterity and legal ingenuity to come up with solutions in cases that are of an intractable nature. This point can be illustrated with the help of an influential case study. As mentioned earlier, the Kanis are believed to be the pioneers of the Arogyapacha herb. Around 15 years ago, the Kanis, led by three of their most influential members, entered into a settlement with scientists from the Tropical Botanical Garden and Research Institute (TBGRI) for the commercial exploitation and refinement of a drug named Jeevani that was based on the Arogyapachha herb in accordance with a benefit-sharing mechanism. A benefit-sharing mechanism, which provides for the sharing of profits emanating from the commercial exploitation of TK between the indigenous community and those who use their knowledge, is often regarded as the most workable and sustainable solution for adequately compensating indigenous communities while allowing for the dissemination and commercialization of their knowledge. This agreement was globally hailed as an ingenious solution for using TK; the TBGRI received the United Nations Equator Prize in 2002 for its role in the creation of the Kerala Kani Samudya Kshema Trust for the sharing of commercial benefits.<sup>16</sup> However, the benefit-sharing system did not work for long; the interests of the Kanis were largely ignored after some initial payments. Their cherished heritage is now being systematically plundered and variants of their herbs are being freely patented.<sup>17</sup> Therefore, it would not be advisable to sacrifice legal ingenuity at the altar of blind uniformity.

It would be instructive to refer to three case studies to understand what kinds of workable solutions should be sought. First, a Suriname-based tribe called Maroon is widely known for its ancient healing traditions. The International Cooperative

<sup>16</sup> T Shiras Khan, 'Kani Tribals Reap Financial Benefits from Wonderdrug Jeevani', *Infochange India*, October 2002, available at <http://infochangeindia.org/agriculture/changemakers/kani-tribals-reap-financial-benefits-from-wonderdrug-jeevani.html> (last visited Dec. 14th, 2014).

<sup>17</sup> Roy Mathew, 'A Benefit-Sharing Model That Did not Yield Desired Results', *the Hindu*, 18<sup>th</sup> October, 2012, available at <http://www.thehindu.com/todays-paper/tp-national/a-benefitsharing-model-that-did-not-yield-desired-results/article4007676.ece> (Last visited Dec. 9th, 2014).

Biodiversity Group (ICBG) which wanted to use these healing techniques obtained the Prior Informed Consent (PIC) of the chieftain of the Maroons vide a letter of intent and established a trust for the sharing of benefits with the Maroons.<sup>18</sup> Second, a renowned pharmaceutical company in Australia called Amrad Pvt. Ltd. was able to gain exclusive access to the plants belonging to the Aboriginal Tiwi community by structuring an agreement with the Tiwi Land Council in accordance with which Tiwi gets a fixed portion of the profits resulting from the sale of products that are based on Tiwi plants.<sup>19</sup> Finally, Shaman Pharmaceutical has shown great ingenuity in harnessing the power of TK while respecting the wishes of indigenous communities. In Peru, for example, they have entered into an agreement with an indigenous federation called Consejo Aguaruna Hauambisa as per which they are provided access to TK in return for supplying a sustainable harvest and a revenue sharing model under the aegis of a nonprofit organization called Healing Forest Conservancy.<sup>20</sup>

## Conclusion

Countries across the globe are increasingly realizing the utility and relevance of TK as an engine of growth and sustainable development in all sectors of the economy, especially food, healthcare, education, agriculture and resource management. The sui generis framework that I have proposed is a lucid synthesis of the innovative approaches that countries like Panama, Peru, Australia, the United States and others have adopted for harvesting the potential latent in TK and is based on the belief that what we protect -- and how we protect it -- must reflect the diversity and values of a 21<sup>st</sup> century India. At a time when TK is being married with western scientific developments to grapple with the most pressing problems of our times, this framework would act as a potent tool for promoting locally based sustainable development in accordance with a bottom-up approach. A failure to act at this juncture would perpetuate the enslavement, extirpation and entombment of indigenous people and would ensure that they continue to remain culturally fragmented, economically confounded and politically sequestered.

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<sup>18</sup> Raju Narayana Swamy, 'Protection of Traditional Knowledge in the Present IPR Regime: A Reality or A Mirage', LX Indian Journal of Public Administration 56 (2014).

<sup>19</sup> Id at 57

<sup>20</sup> Ibid



# **A Study of Intellectual Property Management in Industries & Academics & Ways for Collaboration in India**

*Shubham Srivastava<sup>1</sup> and Pallavi Shahi<sup>2</sup>*

## **Abstract**

*Intellectual property (IP) has emerged as a key driver in knowledge economy. Firms view IP as a valuable corporate asset and a strategic business tool. The future focus of research will be on mutual relationship with academic institutions/university & industry cooperation. It will be how to bring together the disciplines of IP and management & to identify the communication gaps in academic & industries for technology sharing / mutual research etc. It will avoid duplication of research work & will introduce Basic IP education. In Indian contest, most companies and academic institutions under-utilize the IP system & its potential benefit due to lack of awareness of IP system. This is attributed due to complexity of IP system & lack of easily accessible teaching, training and/or professional assistance. The proposed Protection and Utilization of Public funded IP Bill pending before Parliament will impose obligations & creates rights to optimize the potential of public funded R&D. It will further provide incentive to create IP and mechanism for its protection and utilization, simultaneously enhancing awareness, greater interaction among universities, academic and research institutions & their collaborations. This will pave the way in India like other developed countries to avoid duplication of research work & create immense resources through IP for social development.*

**Keywords :** Intellectual Property, Universities, Academic, Education, Industry, research, technology transfer, collaboration, Protection and Utilization of Public funded IP Bill Intellectual Property.

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## **Introduction & Significance of Intellectual Property (IP)**

Intellectual property (IP) has emerged as a key driver in knowledge economy & the firms view IP as a valuable corporate asset and a strategic business tool. Recent research indicates that over 50% of the value of many business organizations or assets is attributed to IP. The purpose of IP system mostly, patents are to protect and promote the development of science & technology (S&T) and to promote the dissemination & use of S&T. Intellectual Property means the property represented by the product emanating from creativity of the human mind, human intellect and creative ideas i.e. creative ideas and expressions of the human mind (intellect) that creates commercial value. It can be an invention (Patents), Design, Trademarks, artistic creation etc. In earlier times, physical or tangible assets like movable and immovable properties fetched the maximum value and the owner had an exclusive right over it. The property right, pertaining to such intangible assets, is called as Intellectual Property. The IP is an asset and, as such, it can be bought, sold, mortgaged, licensed, exchanged or gratuitously given away like any other form of the property. IP facilitates exclusive right to make, use, exercise, sell or distribute an invented article or Process in India i.e. these rights can be shared, licensed or sold. Thus IP serves as an indicator of achievements in Research & Development institutions and ability of individual researcher.

## **Significance of Intellectual Property Management (IPM) to Industries & Academics**

Intellectual Property management (IPM) has become as important as IP managers needs decision support information related to R&D, innovation technology, finance, industrial economics, business strategy litigation, technology analysis, portfolio maintenance, licensing, acquisition analysis, evaluation etc. For instance, a patent portfolio may contain a large number of patents of less quality / high quality and on other end, a smaller number of exceedingly high quality patents, hence IP evaluation, audit is required. In India, most companies and academic institutions under-utilize the IP system due to lack of awareness and its usefulness due to complexity & lack of easily accessible teaching, training and/or professional assistance. Modern IPM provides essential tools for managing intangible assets like Patents, Designs and Trademarks, etc. IPM allows to handling risks & an uncertainty related to R&D and it facilitates the interaction between the public & the private sector. Market value of any enterprise is determined by its portfolio and optimal use of IP assets. In this competitive world, creating, protecting and

managing IP rights and avoiding infringement of IP rights by others are crucial task of any firm or organization. Hence the main goal of patent management is obtaining and maintaining patents.

### ***IPM Identifies, Precautions to be Taken After Inventing the Technology***

- ◆ *not to publish the research work anywhere before filing of patent application,*
- ◆ *file provisional / complete specification in patent offices,*
- ◆ *check for technical/commercial viability of inventions*
- ◆ *after complete development of invention file request for examination (within 48 months),*
- ◆ *get patent & maintain the enforcement of patent by paying the renewal fee,*
- ◆ *commercialize the invention (make / sell / license / assign, etc.),*
- ◆ *field watch (regular search of patent / non-patent documents & watch on technological advancements)*

### **Collaboration of Industries & Academics for IP**

In competitive world, it is necessary for India to innovate & promote creativity which needs to protect and utilize the IP created out of public funded research and development (R&D), in which Government has invested large funds. The proposed Protection and Utilization of Public funded IP Bill, imposes obligations & creates rights to optimize the potential of public funded R&D & it provides incentive to create IP and mechanism for its protection and utilization. The above bill encourages innovation in small and medium enterprises, promotes collaboration between Government, private enterprises and non-Government organizations & commercialization of IP created out of public funded R&D and the culture of innovation in the country.

At present, government funded Universities & autonomous research Institutions cannot commercialize the fruits of their research. However, after the approval of above bill by the Government would alter the existing IP rules by allowing academic institutions, rather than the government, to patent publicly funded research and would reward institutions and inventors with a share of the royalties i.e. around 30% and licensing fees generated from the commercial products to the inventor and commercialization of the invention. This bill will enhance awareness of IP in universities, academic and research institutions. It will also increase the responsibility of universities, academic and research institutions to encourage

students, faculty and scientists to innovate. Such innovations can be utilized for raising financial resources of these establishments, through royalties or income. The income from IP will promote self-reliance and will minimize dependence of universities, academic and research institutions and other recipient organizations for Government funding. This bill would allow government funded academic institutions to patent their inventions & it should result in greater interaction between Industry, Academia and Government.

### ***Significance of Proposed Protection and Utilization of Public Funded IP Bill to Industries & Academics***

- ◆ *The above bill facilitate commercialization of IP generated out of Government funded R&D*
- ◆ *Innovations in private sector as well as in universities, academic and research institutions that receive grants from Government will be encouraged & increase the innovation culture in the country*
- ◆ *Collaboration between Government, non-governmental organizations and private sector will be promoted.*
- ◆ *This bill mandate to constitute an IPM Committee within the organization within 180 days of the receipt of public fund*
- ◆ *This bill give guidelines to share IP of Government agencies, like Defense, Space etc for civilian application and such a development could immensely benefit the industry and the society.*
- ◆ *Dependence of universities, academic and research institutions and other recipient organizations for funding on the Government will be minimized as the bill provides for utilization of a portion of royalties or income, generated out of the public funded IP, for research and educational purposes. The Bill provides for the utilization of public funded IP and sharing of income or royalty earned between the IP Creator and the recipient. Not less than 30% of the income or royalty has to be given to IP creator due to which it will give rise to number of IP's (patents) & increase the flow of knowledge to industry.*
- ◆ *The bill will also encourage research institutions to establish their own technology licensing offices and to adopt their own policies on IPM and technology transfer.*

### **Scope of Research**

The focus of research will be on, academic institutions/university & industry

cooperation such as academic exchange agreements / joint research work. Also on, to identify the communication gaps in academic & industries for technology sharing / mutual research etc. to avoid the duplication of research work. In India, IP awareness is very less. Many scientists, highly educated persons don't know about patents, hence there is urgent need to increase the awareness of IP in academic & industries. In India there are huge research potentials, talented persons but comparatively Indian patent filing is very less hence there is need to find out the gaps & to identify the problems in academic & industries for filing IP's / Patents.

### **Methodology & Analysis of Collaboration of Industries & Academics**

The expertise of central originations like CSIR/NRDC/TIFAC /NIIPM etc. to be made available for technology transfer to university/ Institutes & Industry for avoiding the risk of duplication of R&D and providing assistance during development of new products. Universities/Institutes & Industries collaborate with each other to promote the use of university research & sharing the data mutually.

Hence, infrastructure shall be provided to University/ academic Institutes for utilization of Patent Information. Secondly, link IP cell, technology transfer department, Patent Information, R&D etc. to academic Institutes & Industry. It is necessary to provide technical problem & information for research by industries to University/academic Institutes & carry out research on that & identifying solutions to technical problem from the universities / Institutions. Thereafter patenting the inventions & prepare the agreements on technology transfer. After that, IP enforcement by licensing & publicly disclose will ideally avoid the duplication of research.

IP is never given much importance in India, but after 1995 i.e. end of GATT & 2005 (India signed international agreement like TRIPS / WTO, PCT / WIPO etc & allowed pharma product Patents after 2005, there is need in institutions & Industries to create an independent "IP cell" to protect their IP's and increase IP awareness culture in organization. Effective IPM can allow research institutions to use their own research to benefit the public at large and to enter into public-private partnerships. With the joint research consignments to work together the benefits for Industries resulting from the universities / academic institute are, availability of the extensive network of University / Academic Institutes , availability of University/ Academic Institutes officials, network and knowledge for technological support.

## Statistics

Table 1: Filing of IP in last 5-6 years* in India: Patents application received		Designs application received		TM application received		GI application received	
2004-05	17466	4017	78996	29			
2005-06	24505	4949	85699	16			
2006-07	28940	5521	103419	33			
2007-08	35218	6402	123514	37			
2008-09	36812	6557	140172	44			
2009-10	34287	6092	141943	40			

<b>Table 2: Comparison of Patent filing in year 2008-09 by Indian Industries * Indian Industries</b>	<b>No of patent filed</b>
Samsung India	205
Council of scientific & Indusial Research	165
Dr Reddy's Laboratories	147
BHEL	119
Rainbaxy Laboratories	101
Infosys Technologies	81
Avesthagen Ltd.	66
Tata steel	65
Cadila Healthcare Ltd.	57
Matrix Laboratories Ltd.	54

<b>Table 3- Comparison of Patent filing in year 2008 09 by Indian Academics* Indian Academic university / Institutes</b>	<b>No of patent filed</b>
Indian Institute of Technology	91
Amity university	33
Indian Institute of Science	21
Central Institute for Research on cotton	12
National Institute of Pharmaceutical Education & Research	8
National Institute of Immunology	7
University of Delhi	7

From the above tables it is observed that, due to collaborations between university-PRO there is increase in trend in obtaining the IP, also there is increase in Patent filing after 2005. It is expected that the joint collaboration programs on IP amongst PRO & university will not only avoid duplication of research activities and wastage of time, resources but also will have a strong & enhanced IP regime. Hence there is need to manage these IP efficiently, so that technology will be fruitful & there will be effective use of academic research work for industries and duplication of research can be avoided. Hence IP management plays vital role in industries and academics & thus Collaboration between Government, non-governmental organizations and private sector, academic institutes, university shall be promoted.

Table 4: Comparison of Patent filing in year 2009-10 by Indian Scientific & Research Development organizations * Scientific & Research Development organizations	No of patent filed
CSIR	162
Defense Research & Development organization	80
ICAR	55
Indian Space Research Origination	17
Central Institute of Fishery Technology	13
National Institute of Pharmaceutical Education & research	10
Centre for Development of Advance computing	07
National Institute of Immunology	07
Indian Council of Medical Research	06
SAMEER	06

Table 5: Comparison of Patent filing in year 2009-10 by Institutes, Academics/university* Indian Academic Institutes / university	No of patent filed
Indian Institute of Technology	109
Amity university	81
Indian Institute of Science	45
Serum Institute of India Limited	12
The Energy & Resource institute	07
Institute of Life Sciences	06
Dalmia Institute of Scientific & industrial Research	04
Jadavpur University	04
Krishna Institute of Medical Science	04
Manipal Institute of Technology	04

University and PRO patenting is on the rise

World PRO and university PCT applications, absolute numbers (left) and as a percentage of total PCT applications (right), 1980-2010

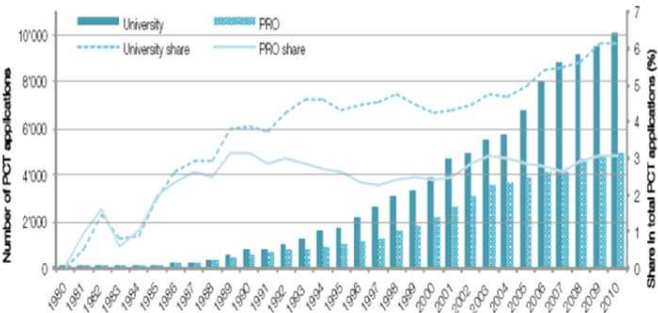
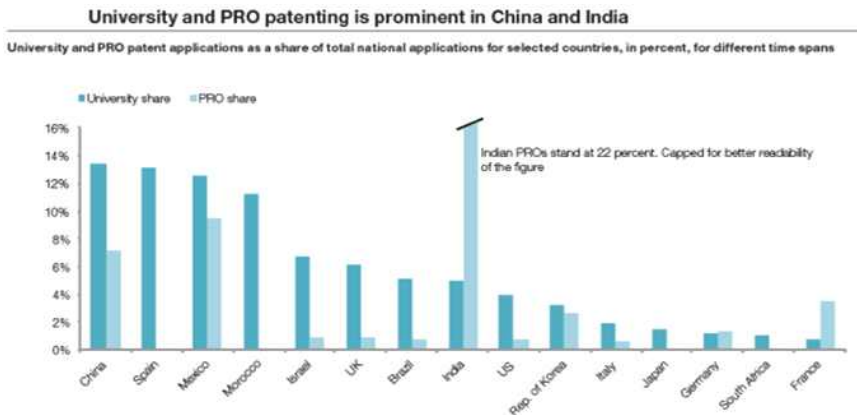


Figure 1- Percentage Share of University & PRO Patenting 1980 to 2010



**Figure 2- Percentage Sharer of University & PRO Patenting in China & India in 2011**

As per figure 1, it is observed that there was increased in the percentage of share of total PCT application filed by University & PRO Patenting from 1980 to 2010. Thus university & PRO collaboration increased the Patent filing.

As per figure 2, there was increase in university and PRO filings of the total patents obtained by Indian assignees during 2011, about 22% patents were jointly owned by industry, university or government sectors. Thus now a day's universities and PROs have also experienced growth in licensing revenue by way of mutual agreements.

## Findings & Conclusion

This study discusses the opportunities and challenges offered by IP to foster technology transfer from government funded research institutions. It is observed that from various originations that, there are strong scientific capabilities but there is no adequate Academic/university-Industry collaboration. There is a weak industry science linkage in the country hence, there is need to develop internal IP management capabilities, the formulation of comprehensive national IP policies, strengthening their IP court systems and IP offices, enforcement mechanisms, etc. The interactions shall be take place by the licensing of patents, R&D collaboration, scientific publishing & participation of conferences etc.

In India, IP awareness is very low hence IP culture is required to an enabling environment. Many scientists, highly skilled & technocrats educated persons don't



know about patents. Hence there is urgent need to increase the awareness of IP in academic & industries. Further basic IP education can be provided at school level and undergraduate level and form uniform IP course structure in India & increase the IP resources. Many universities do not having technology transfer policy, IP cell /department etc., guidelines for managing technology transfer activities. Hence there is need to allow academic institutions, rather than the government body, to patent publicly funded research and would reward institutions and inventors with a share of the royalties i.e. around 30% and licensing fees generated from the commercial products to the inventor and commercialization of the invention. Technology transfer offices between the university & Industry and mechanisms to enhance technology commercialization are required with financial support for which IP bill shall be approved by the Government. Further, it is highlighted that there may be special fee reduction for the university or students to boost the research activity.

There are several difficulties the universities face in the implementation of patenting and patented technology commercialization. They do not have operative guidelines about disclosure and patenting. Increasing autonomy of institutions, decentralizing recruiting, providing performance based incentives and acknowledging technology transfer activities in researchers' career is essential. There is a need to redraft the university regulations on IP. Performance incentives for researches are needed for balancing entrepreneurial activity and scientific achievements.

Patent plays an important role in fostering technology transfer as countries develop their research capabilities. Technology transfer by patent licensing, collaboration can entail cross-fertilization between academics and industry, synergies in research and new ideas for science, avoiding wasteful duplication of efforts, and create employment and new market opportunities for firms. Hence there is a need to have substantial private investment in developing such a strategy.

### **Abbreviations**

IPO- Intellectual Property office

IP- Intellectual Property

IPM- Intellectual Property Management

TM- Trademark

GI-Geographical Indications

UN-United Nation

WIPO- World Intellectual Property organization, WTO World Trade  
Organization

TRIPS- Trade Related Aspect of Intellectual Property Rights

GATT-General Agreement on Tariffs and Trade

S&T- Science & Technology

NIIPM- National Institute for Intellectual Property Management

PRO- Public research organizations

PCT- Patent Cooperation Treaty

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10. Proposed Protection and Utilization of Public Funded IP Bill

# Awareness and Understanding on Intellectual Property Rights: A Pilot Study of Library Patrons

*Bhakti S. Badigannavar<sup>1</sup> and P.G. Tadasad<sup>2</sup>*

## Abstract

*Intellectual Property Rights (IPR) and Library Services have gained significance over recent years. This paper examines the basic awareness on Intellectual Property Rights of library patrons. Attempt has been made to understand the user behavior during library usage and fair use. Study also focused on patrons need towards understanding IPR laws in using library services without infringement. With the advancement of technology, Intellectual Property Rights have added new dimensions and there is a strong need for awareness and understanding on Intellectual Property Rights for library patrons. Intellectual Property Rights Policy regarding library services to be framed to guide the users in using library services without infringing the IPR Laws.*

**Keywords:** Intellectual Property Rights, Copyright, Fair use, Library Users Awareness, Library Policy

## Introduction

Library is a temple of knowledge. Advancement in technology have increased the role of library with its diversified services to the users. Libraries will continue to grow, only the services of library will change with the added technological advancements and has created challenges regarding implications of Intellectual Property Rights in Library Environment.

Intellectual Property Rights is the intangible property which consists of a bundle of rights in relation to certain material object created by the owner. IPR includes

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Copyright, Patents, Industrial Designs, Trademarks, Geographical Indications. Copyright affects libraries at a very basic level as the material used by libraries is governed by copyright provisions.<sup>1</sup> Copyright is the form of protection provided under various national laws to the authors of original works of authorship. It is an unregistered right (unlike other forms of intellectual property such as patents, trademarks). Copyright comes into effect immediately, i.e. as soon as something that can be protected is created and 'fixed' in some way, e.g. on paper, on film, as a sound recording etc.<sup>1</sup> Basically copyright is the right to copy or reproduce the work in which copyright subsists.

Section 52(1), Indian Copyright Act, 1957 provides that a fair dealing (fair use) with any work for the following purposes does not constitute infringement: 1) private or personal use, including research 2) criticism or review, whether of that work or of any other work 3) reporting of current events and current affairs including the reporting of a lecture delivered in public.<sup>2</sup>

With the advancement of technology, Intellectual Property Rights have added new dimensions and there is a strong need for awareness and understanding on Intellectual Property Rights for the library patrons. With the growing need, library professionals have to gain knowledge on Intellectual Property Rights and have to provide the proper platform to the users to access information without infringement copyright.

## **Review of Literature**

Madhava Menon (1996) expresses in an editorial literature that, there are many issues which come up for consideration regarding copyright in relation to library services. Technology is changing fast making the pre-existing law inadequate to negotiate disputes fairly keeping public interests in focus. Ahuja (1996) discussed that Copyright protection in relation to library services would imply a need to examine the kinds of infringement which may crop up in library services. Ananda & Reddy B (1996) says that, attempts could be made to create awareness about intellectual property rights and to alter the situations in developing countries with international conventions and treaties, trade sanctions, contractual agreements, better education, etc.

Agarwal (1996) discussed that in India legal position under the act is that only very specific activities are permitted as regards libraries and library services and much

needs to be done in this infant area when the information and technological revolution is on the rise as is copyright awareness. Shetttar (2010) discussed that to keep pace with the technology law should be amended and there is a need to educate how to handle electronic information and what extent is a fair use by having written copyright policy.

Kaur (2014) expressed that, as academic librarians strive to engage themselves as educators, teaching an understanding of plagiarism and copyright policies to students will greatly influence academic rigor. Yaranal & Ramesha (2012) explains the role of libraries in managing the resources and gets the maximum usage of the resources within the limitation of Intellectual Property Rights (IPR). Badigannavar & Tadasad (2014) noted that with a paradigm shift from print resources to digital resources, it is important to post clear guidelines on IPR and fair use to the users of library on website and conduct orientation programs, so that they can utilize the resources without infringing the Intellectual Property Rights.

### **Objectives of the Study**

The aim of the study is to know the Awareness and Understanding on the Intellectual Property Rights of the Patrons during library usage.

1. To know frequency of visit to the library
2. To know the basic awareness on IPR
3. To examine the understanding by the library patron about library services and fair use
4. To find out the efforts made by the Institution in using library services without infringing the IPR Laws.
5. To understand the view of library patrons in regard to IPR Laws.

### **Research Methodology**

Questionnaire method was applied to collect the relevant data for the study. Keeping in view, the objectives of the study structured questionnaire was prepared and personally distributed to the library patrons.

In this paper, an attempt has been made to analyse and interpret the data collected on the Awareness and Understanding on the Intellectual Property Rights of the

Patrons. Library patrons of the National Law School of India University, Bengaluru and Indian Institute of Science, Bengaluru were involved. Questionnaire was distributed to 40 patrons, out of which 35 were received back, with response.

## Data Analysis

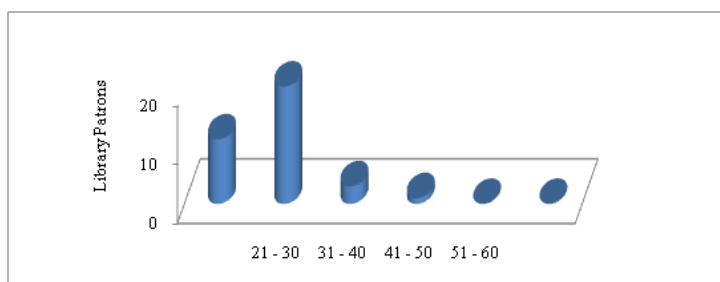
Altogether 40 questionnaires were distributed among the patrons, out of which 35 responses received representing 87.5% of the total questionnaires distributed.

## General Information

### Age-Wise Distribution of Library Patrons.

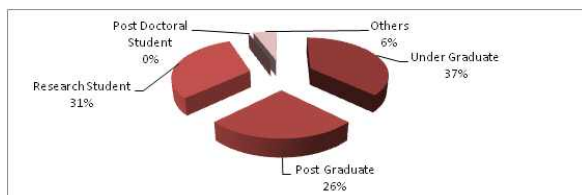
The age-wise analysis of the data indicates the use of library by the library patrons of different age groups. It is evident from the Fig.1 that one third of library patrons (N =11,31%) fall between the age group of Below 20 and majority of the patrons (57%) are belonged to the age group of 21-30, whereas only 9% (N=3) of patrons are in the age group of 31-40 and only one patron (3%) belonged to the age group of 41-50.

**Figure 1: Age-wise Distribution of Library Patrons**



## Level of Study among Library Patrons

Fig. 2shows that, majority of library patrons 37% (N=13) were Under Graduate followed by research students i.e. 31% (N=11), 26% (N=9) patrons of them belonged to Post graduation. Whereas only 6% patrons belongs to other category and Post Doctoral Students present are zero percent.

**Figure 2: Level of Study among Library Patrons**

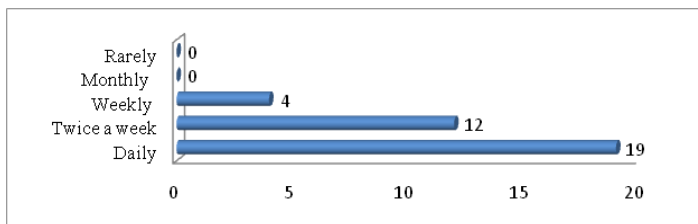
### Subject Discipline

It is evident from the Fig. 3 that, nearly half of the library patrons 48% (N=17) are from law discipline, followed by 40% (N=14) patrons were from Engineering and Technology, 9% of library patrons present in the study are from science discipline and only one respondent (3%) belonged to Management studies.

**Figure 3: Subject Discipline**

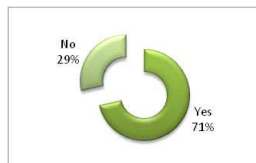
### Frequency of Patrons Visit to Library

When the Frequency of Patrons visit to library was studied, it revealed that 54% (N=19) visit the library daily and 12 (34%) respondents visit library twice a week, 12% (N=4) library patrons visit the library weekly.

**Figure 4: Frequency of Patrons Visit to Library**

### Library Patrons General Awareness on IPR Laws

From the Fig. 5, it is evident that, more than half library patrons (71%, N=25) are aware of IPR Laws and only 29% (N= 10) are unaware of IPR Laws.

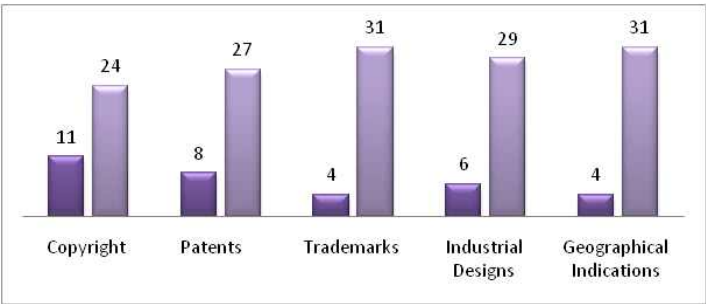
**Figure 5: Library Patrons General Awareness on IPR Laws**

**Library Patrons Awareness on Validity of IPR Laws after Registration**

Fig.6, shows that more than half of the patrons (N=24, 69%) are unaware and only thirty one percent (N=11) knows that, Copyright will remain valid until 60 years after the death of author. The study also shows that, only 23% (N=8) library patrons knows that validity of the patents after registration is 20 years.

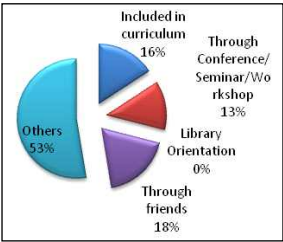
It is also evident from the study that only 11% (N=4) library patrons are aware that, the validity of trademark and Geographical Indications after registration is 10 years. More than half percent patrons are not aware of the validity for trademarks, Industrial design and geographical Indication. Only seventeen percent (N=6) library patrons knows about the validity of Industrial Designs after registration i.e.10 years.

**Figure 6: Awareness on Validity of IPR Laws after Registration**



**Category of Learning pattern (IPR Laws) by the Library Patron**

From the Fig.7, it is found that majority of the patrons 53% (N=12) learnt IPR laws by others (general reading), 16% (N=6) of the library patrons learnt IPR Laws because it was included in curriculum. It also shows that, 13% (N=5) library patrons learnt by attending conferences/seminars/workshops, 18% (N=7) learnt through friends whereas through library Orientation was zero percent.



**Figure 7: Learning pattern (IPR Laws) by the Library Patron**

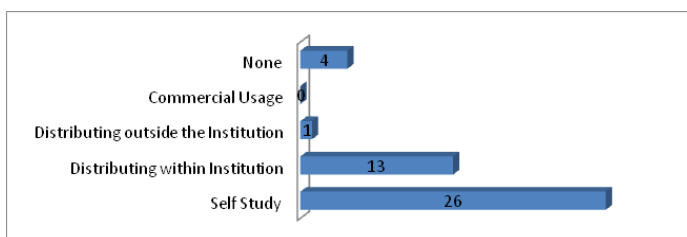


## Understanding by the Library Patrons on Library Services and Fair use

### Photocopying the Whole Book and Fairuse

Fig.8 expresses, majority of the library patrons 74% responded it's a fair use if we photocopy the Whole Book for self study and 37% of the respondents expressed, that distributing within the campus is fair use. Whereas one patron (3%) responded distributing outside the institute also constitute fair use and 11% of the library patrons expressed that they are unaware.

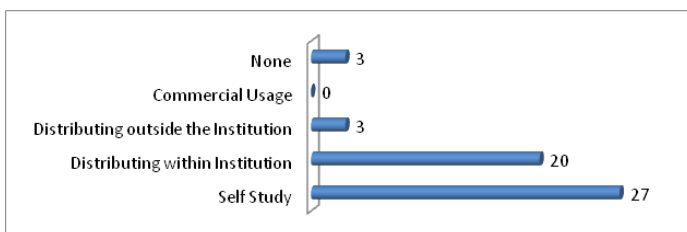
**Figure 8: Photocopying the whole book**



### Photocopying the Part of the Book and Fairuse

From the Fig. 9, it is evident that majority of the patrons 77% assertively said, that it's a fair use if we photocopy the part of the Book for self study. 57% of the patrons says, that the photocopying the part of the Book and distributing within the Institution is fair use. Whereas, nine percent library patrons expressed Distributing outside the Institution is fair use and 9% responded, that they are unaware.

**Figure 9: Photocopying the Part of the Book**

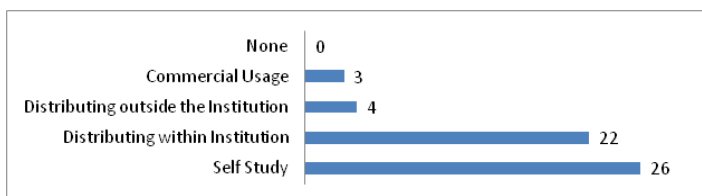


### Photocopying One Article from Journal and Fair Use

From the Fig. 10, it is found that maximum library patrons (N=26, 74%) feel, that it's a fair use if we photocopy **one article from journal** for self study, 63% patrons

(N=22) expressed, that the photocopying one article from the journal and distributing within the Institution is fair use. Whereas, 11% (N=4) respondents expressed distributing outside the Institution is fair use and 9% (N=3) of the patrons responded, that photocopying and using one article from the Journal for commercial usage is fair use.

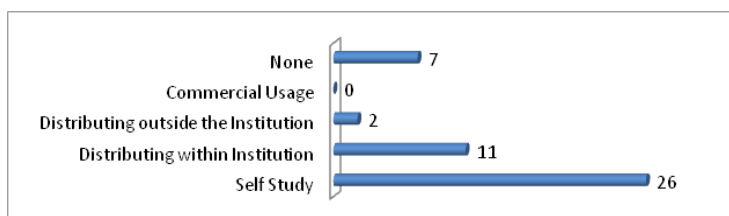
**Figure 10: Photocopying one article from Journal**



### **Photocopying the Whole Journal and Fair Use**

From the Fig. 11, it is found that 74% (N=26) library patrons expressed, that it's a fair use if we photocopy whole journal for self study. 31% of the patrons says, that the photocopying the whole journal and distributing within the Institution is fair use. Whereas two respondents (6%) expressed Distributing outside the Institution is also fair use, and 35% responded, that they are unaware.

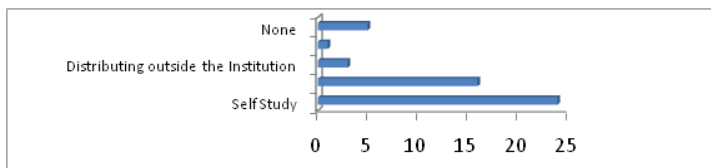
**Figure 11: Photocopying the whole Journal**



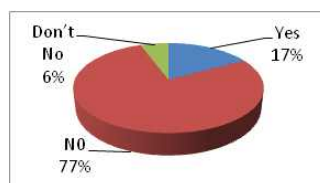
### **Copying the Book through Electronic Media (Scanning/ Taking Photo Images) and Fair Use**

It is found from the Fig. 12 that more than half of the library patrons (N=24, 69%) responded that it's a fair use if we copy the book through electronic media (scanning/ taking photo images) for self study and 46% (N=16) of library patrons says, that copying the book through electronic media and distributing within the Institution is fair use. Whereas, three patrons (9%) expressed Distributing outside the Institution is fair use and 14% of patrons responded, that they are unaware, one respondent (3%) expressed, that commercial usage is fair use.

**Figure 12: Copying the Book through electronic media (Scanning/ taking Photo images)**

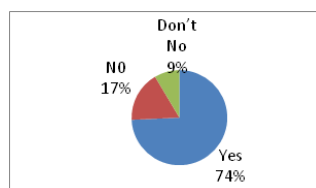


From the Fig. 13, it is observed that only 17% (N=6) library patrons responded, that sharing the login details with the friends who are not part of the parent institution will constitute fair use whereas majority of patrons 77% (N=27) expressed that it is not a fair use, two patrons (6%) responded that they are unaware.



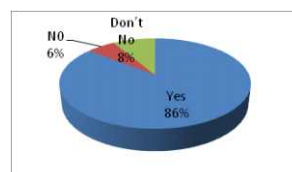
**Figure 13: Sharing the Login Details**

It evident from the Fig. 14 that, three fourth of the library patrons (N=26, 74%) responded, systematic downloading of articles from electronic databases will constitute a fair use whereas only 17% (N=6) expressed its not a fair use and 6% (N=3) of them said they are unaware.



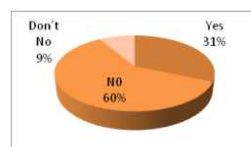
**Figure 14: Systematic Downloading of Articles**

Fig.15 shows that majority of library patrons (N=30,86%) expressed, it is a fair use, if we download E-Books for self study whereas only two patrons (6%) responded that it is not a fair use and 8% (N=3) of the patrons said they do not know.



**Figure 15: Downloading E-Book for a Self Study**

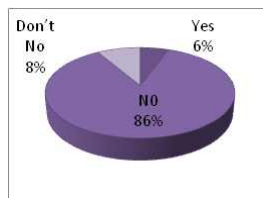
It evident from the Fig. 16 that, majority of the library patrons (N=21, 60%) responded, Downloading E-Book and Sharing with Friends who are not part of Parent Institution will not constitute a fair use whereas 31% (N=11) patrons expressed its a fair use and three patrons (6%) said they are unaware.



**Figure 16: Downloading E-Book and Sharing with Friends who are not part of**

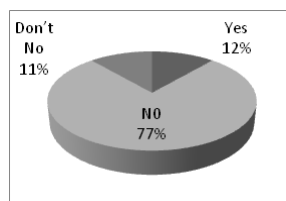
### ***Parent Institution***

Fig.17 shows that majority of the patrons 86% (N=30) expressed, it is not a fair use if we download E-Books and Distribute it for commercial purpose and two patrons (6%) responded it is a fair use, 8% (N=3) of the patrons said they do not know.



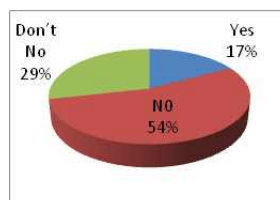
***Figure 17: Downloading E-Book and Distributing for Commercial Purpose***

From Fig. 18, it is observed that, only 12% (N=4) library patrons read fair use guidelines before using e-journals and databases whereas three fourth of the patrons (N=27, 77%) expressed that they do not read the guidelines, and 11% (N=4) expressed that they do not know.



***Figure 18: Fair use Guidelines***

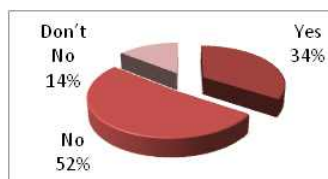
Fig.19 shows that only 17% (N=6) of the library patrons expressed, that DRM technologies are successful in preventing copyright infringement whereas more than half patrons (N=19, 54%) responded that it is not successful and 29% of the patrons said they do not know.



***Figure 19: Digital Rights Management (DRM)***

### **5.6 Information Literacy on IPR Laws and Library**

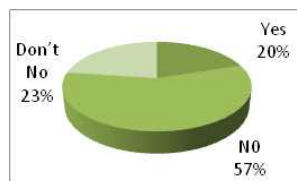
It is found from Fig.20 that only 34% (N=12) of the respondents expressed, their parent library has made efforts to know users rights in using library services without infringing IPR laws whereas majority of the patrons (N=18, 52%) responded that there are no efforts by their parent library and 14% (N=5) of the patrons said they do not know.



***Figure 20: Information Literacy on IPR Laws by Library***

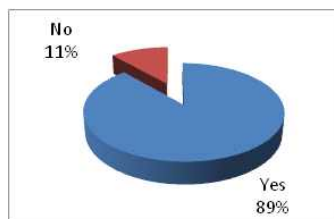
From Fig. 21, it is observed that, more than half library patrons (N=20, 57%)

expressed that there is no IPR policies whereas only 20% (N=7) library patrons have observed IPR policies implemented in regard to library services in their organization, 23% of the library patrons expressed that they do not know.



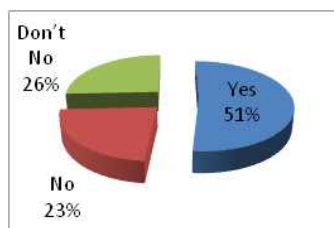
**Figure 21: Implementation of IPR Policy in Library**

It is evident from Fig. 22 that, nearly ninety percent library patrons (N=31, 89%) expressed that there is a need for organizing regular training programs / workshop to know IPR properly in regard to Library usage and only 11% (N=4) expressed there is no need to organize.



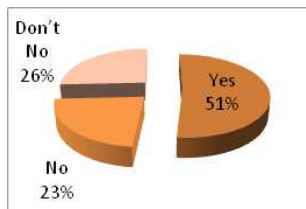
**Figure 22: Organizing Training/Orientation by Library on IPR Laws**

From Fig. 23, it is observed that, half of the library patrons (N=18, 51%) expressed that Indian IPR laws are caught up with technological developments whereas 23% (N=8) expressed that Indian IPR laws are not caught up with technological developments, 26% of patrons expressed that they do not know.



**Figure 23: IPR Laws and Technological Developments**

From the Fig. 24, majority of the library respondents (N=18, 51%) have expressed that there is a clarity in IPR laws related to library usage whereas 23% (N=8) patrons responded that, there is no clarity and 26% (N=9) of library patrons said they do not know regarding IPR laws related to Library usage.



**Figure 24: Clarity in IPR Laws related to Library Usage**

## 6. Discussion and Suggestions:

In today's world information is power and being facilitator of Information, library

professional should be updated with the advancements of technology and its legal know how. Updated library professional can give the proper platform to the users to utilize the maximum resources available in the library without infringing the IPR.

During the study, it was observed that majority of the patrons know the Intellectual Property Rights in general terms but they are unaware of the implications of the IPR in library usage. It was also observed that, most of the respondents are unaware of the Validity of the IPR laws after their registration. In the study it was observed that most of the library patrons have learnt the IPR laws through general means. It was observed that majority of non law students are more illiterate in IPR Laws. Study on Intellectual property rights should be compulsorily introduced in all subject discipline.

From the study it was observed that understanding by the Library Patron about library services and fair use is not clear. There is a strong need to create awareness on using the library services without infringing the Intellectual Property Rights. It was found from the study that, library patrons are interested in regular training programs/ workshop to know IPR properly in regard to library usage. IPR Policies in regard library services is very less observed and efforts should be made to frame IPR Policy in library in regard to library services. The American Library Association advocates the fairuse guidelines, in the same way our library professionals should frame the guidelines in common for Indian Academic Libraries.

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  12. <http://copyright.gov.in/Documents/handbook.html>

# Fair Dealing in Copyright: Corollary of Fundamental Rights

*Dr. Vishal Mahalwar<sup>1</sup>*

*“The progress of arts and sciences and the robust public debate essential to an enlightened citizenry are ill served by the constricted reading of the fair use doctrine.”*

*-Justice William Brennan<sup>2</sup>*

## Prologue

India is one of the strongest democratic countries in the world. Some people who are exception to the mass, mould the “law” according to their own interests. We often talk about disorder in various government offices due to corruption. But who is responsible for the same- system or people who are the governor of system. Unstructured and disordered society is one of the factors for creating complexity in the system. Participation of every member of unstructured society in the system make it privileged. This is the peculiarity of our system. Responsibility of deficiency in system lies in the hands of common man though powerful and influential class of society holds the reins of society. Common man can never be suppressed for illegitimate reasons because they are the one for whom system and law has been enacted. “Time is a great healer”, this is what we have heard from our elders. More than sixty seven years of independence or adoption of Constitution are enough to heal the wounds of insecure mind. In order to strengthen democracy, fundamental rights have been guaranteed to all citizens of India by The Constitution of India”. According to Preamble of the Constitution prime goal of Constitution includes *JUSTICE, Social, Economic and Political; LIBERTY of thought, expression, belief, faith and worship; EQUALITY of status and of opportunity; and to promote among them all FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation*, to secure to all its citizens. In order to comply with the intended components which are supposed to be achieved has been facilitated by the incorporation of Fundamental Rights under

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<sup>2</sup> *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 579 (1985)



part III of the Constitution. With a view to achieve the fundamental rights, various statutes have been enacted for the effective implementation of rights granted under the Constitution of India. Intellectual property laws are also step towards proliferation of fundamental rights. Though, intellectual property can not be claimed as fundamental rights, still, it is corollary and essential tool for the implementation of fundamental rights. The Constitution gives the sanction to the Human rights by incorporating part III on Fundamental Rights. In the modern era, The Universal Declaration of Human Rights being an international instrument serves as mentor for all nations in context of Human Rights. Intellectual property laws and Constitution's part III have a strong logical nexus. According to Art. 27 (2) of The Universal Declaration of Human Rights, "*Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.*" Article 27 clearly saves the moral and economic interest of the author. Further, Art. 27 (1) says that *everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits*. In order to provide the Economic, Social and Cultural rights, Art. 27 has been incorporated. The Copyright Act 1957 is also in consonance with this international instrument which elaborates the economic and non economic rights. The basic rationale behind the copyright law is to protect the expression of thoughts which is a Human Right under the head of Right to speech and expression recognized in the Constitution of India under Art. 19.<sup>3</sup> Every original expression in regard to the literary, artistic, dramatic and musical works is protected under the Copyright Act. Part III of the Constitution of India specifies the Fundamental rights which are synonymously human rights. The right to life and personal liberty is enumerated under Art 21 of the Indian constitution.<sup>4</sup> Scope of this Article has been widened by the Honorable Supreme Court with the inclusion of various rights like right to shelter<sup>5</sup>, right to health<sup>6</sup>, right to livelihood<sup>7</sup>, right to live with human dignity<sup>8</sup> and so many other rights. Such rights can be achieved with facilitation of monetary assistance. Economic position can be strengthened by grant of economic rights which has been facilitated by the Copyright Act under section 14. Section 14 provides various economic rights

<sup>3</sup> Article 19, Protection of certain rights regarding freedom of speech, etc.: (1) All citizens shall have the right—

(a) to freedom of speech and expression;

<sup>4</sup> Article 21, Protection of life and personal liberty: No person shall be deprived of his life or personal liberty except according to procedure established by law.

<sup>5</sup> *U.P. Avas Avam Vikas Parishad v. Friends Co-operative Housing Society Ltd.* AIR 1996 SC 114

<sup>6</sup> *State of Punjab v. Mahinder Singh Chawla* AIR 1997 SC 1225

<sup>7</sup> *Madhu Kishwar v. State of Bihar*, AIR 1996 SC 1864

<sup>8</sup> *Francis Coralie Mullin vs The Administrator, Union Territory of Delhi* AIR 1981 SC 746

which can be exploited by the author himself, by assignment or by license. Such right, somehow, really helps to improvise economic status of the owner of the copyright. The moment, when we talk about right to life and personal liberty, it further includes right to live life with dignity. Art 27 of Universal Declaration of Human Rights emphasizes on moral right of the author. Section 57 titled Author's special right of the Copyright Act also specifies about the right to paternity and right to integrity which are pertinent to moral right of author.<sup>9</sup> Right to integrity strengthens the right to live life with the dignity. Distortion, mutilation, modification or any other work in relation to copyrighted work which would be prejudicial to his honour or reputation shall infringe the moral right of the author.

### **Fair Dealing: A Social Concern**

Human Right of a person never conflicts or curtails other's rights. Copyright also follows the same principle. There must be a balance between public interest and private interest. General Perception among people is that no one can have access to the rights of copyright holders which have been given by virtue of Copyright Act. In order to avoid the inaccessibility of copyrighted work, fair dealing concept has been introduced by section 52, which creates a balance between public interest and private interest. When, some rights conflict with another's interest then those rights can not be pronounced or recognized as Human Rights. By the Copyright (Amendment) Act 2012, section 31 B has been inserted in Copyright Act for the benefit of the disabled persons.<sup>10</sup> Provision for compulsory license has been introduced for the benefit of disabled persons, though Art. 14 of Constitution of India guarantees equality.<sup>11</sup> It can be safely inferred that copyright is a corollary of fundamental rights and supplements the fundamental right. Exercise of economic

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<sup>9</sup> Section 57, **Author's special rights.** (1) Independently of the author's copyright and even after the assignment either wholly or partially of the said copyright, the author of a work shall have the right-  
(a) to claim authorship of the work; and

(b) to restrain or claim damages in respect of any distortion, mutilation, modification or other act in relation to the said work which is done before the expiration of the term of copyright if such distortion, mutilation, modification or other act would be prejudicial to his honour or reputation

<sup>10</sup> 31B. (f) Any person working for the benefit of persons with disability on a profit basis or for business may apply to the Copyright Board, in such form and manner and accompanied by such fee as may be prescribed, for a compulsory licence to publish any work in which copyright subsists for the benefit of such persons, in a case to which clause (zb) of subsection (1) of section 52 does not apply and the Copyright Board shall dispose of such application as expeditiously as possible and endeavour shall be made to dispose of such application within a period of two months from the date of receipt of the application.

<sup>11</sup> Art. 14 Right to Equality: The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India.

rights of owner of copyrighted work can not be exercised by another person unless license is granted and rights have been assigned. For dissemination of knowledge, section 52 of Copyright Act plays a very vital role for appropriation of subject matter of copyrighted work. Right to reproduction has been given to the owner of copyright by the virtue of section 14 of Copyright Act. Right to reproduction includes reproduction of copyrighted work either substantially or fully. Academic world is the biggest exploiter of fair dealing principle. Draftsman of Indian Copyright Act preferred to enlist the subject matter of fair dealing irrespective of non exhaustiveness of list. As far as United State of America is concerned, they have widened the scope of fair dealing named as fair use in American Copyright Act 1976. Basic rational behind the concept of fair dealing is to bring the statute in consonance with socio- economic concern of society. Rights of any person can not be maintained or granted at the cost of suppression of any specific section of society. Ironically, the provision which was incorporated with the view of balancing the interest of society and interest of owner of copyrighted work has been exploited irrespective of achieving its fundamental goal. Fair dealing has become an ideal defense for infringement of copyrighted work. Definition of Fair dealing has not been elaborated anywhere in the Copyright Act. Simultaneously, list of exemptions from infringement of copyright is also a problem because of non exhaustiveness. Fair dealing has created lot of confusion and ambiguity in the mind of researchers that whether it is a right of users or it is defense of infringers? Fair dealing provision is one of the provisions which converts monopoly on the copyright into quasi- monopolistic character. In absence of exhaustiveness, Section 52 leaves enough space for judicial creativity to determine as to what to include as subject matter of fair dealing.

### **Limitations and International Instrument**

International conventions recognize the exceptions to infringement of copyright under certain limited circumstances. Within these limitations, rights which are granted to the owner of copyrighted work can be exercised by person other than copyright holder. Prominent international instrument in the discipline of copyright is Berne Convention which was formed in 1886. Article 9 (2) of the convention is very relevant in this regard. According to Art.9(2),<sup>12</sup>

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<sup>12</sup>This provision was added in Stockholm in 1967

*“It shall be a matter for legislation in the countries of the union to permit the reproduction of such works in special cases, provided that such reproduction doesn't conflict with normal exploitation of the work and doesn't unreasonably prejudice the legitimate interest of the author”*

Article 13 of TRIPS (Trade Related Aspects of Intellectual Property Rights)<sup>13</sup> also provides:

*Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.*

Art.9(2) of Berne Convention is with regard to the reproduction right which refers to “Three Step” test on exception to reproduction right. There are three conditions on application of exceptions. Firstly, exception shall apply in special cases. Secondly, exception must not contradict with normal exploitation of work. Thirdly, exception must not unreasonably prejudice the legitimate interest of the author. WTO members have to comply with “three step test” mentioned in the Berne Convention.

### **Fair Use or Fair Dealing**

In copyright law, term “fair use” and “fair dealing” are synonymous to each other. U.S Copyright Act 1976 enumerates word “Fair Use” rather than “Fair Dealing”. The U.S. Act has much wider scope than section 52 of Indian Copyright Act 1957.

Section 107 of the U.S. Copyright Act 1976 states:

*the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an*

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<sup>13</sup> Agreement on Trade Related Aspects of Intellectual Property Rights was negotiated in 1994. TRIPS provides a minimum standard for many forms of intellectual property

*infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include -*

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for non-profit educational purposes;*
- (2) the nature of the copyrighted work;*
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and*
- (4) the effect of the use upon the potential market for or value of the copyrighted work.*

### **Purpose and Character of the Use**

In order to determine the “fair dealing”, one thing has to be observed that for what purpose copyrighted work has been used. If copyrighted work has been used for the purposes which are mentioned in section 52, then it will not be considered as infringement of copyright. According to section 52 of the Copyright Act, private study, research<sup>14</sup>, teaching, criticism, and review<sup>15</sup> are such purposes which are exempted from using copyrighted work. New jurisprudence of copyright includes the transformative use of the copyrighted work within the ambit of definition of fair use. “Transformative work” means conversion of existing work into new expression, meaning and message. Transformative use doctrine has been propounded in U.S which really helps to figure out that whether work is fair use or not irrespective of four determining parameters of fair Use mentioned in section 107 of Copyright Act 1976.<sup>16</sup> Character of use of copyrighted work has to be observed to determine fair use. Commercial use of work can not be considered as a fair use. Owner of copyrighted work has economic rights over the work which can be exploited by the owner except economic rights which have been assigned or licensed to any other person. In the context of Library, copyrighted work may be reproduced for library purpose. Thus the purpose and character of use are education and non commercial respectively.

<sup>14</sup> *Williams & Wilkins Co v. United States* 487 F2d. 1345 (1973)

<sup>15</sup> See *Chancellor Masters and Scholars of university of Oxford v. Narender Publishing House* 2008(38) PTC (Del); *V. Ramaiah v. K. Lakshmaiah* (1989) PTC 137

<sup>16</sup> See, *Campbell v Acuff-Rose Music Inc* **510 US 569** (1994).

## Nature of the Copyrighted Work

Meaning of Fair use shall also depends upon the nature of copyrighted work. The moment, we talk about nature of copyright work, it includes whether work is published or unpublished and whether work is informative or creative in nature. Unpublished and private circulation of the work pretends to be fair use. Similarly, the work based on factual information has probability of being covered under the definition of fair use. Only original works may be entertained as subject matter of copyright. Those works which lack originality can not claim copyright. To determine the nature of work, several theories have been propounded like *sweat of brow*<sup>17</sup>, *modicum of creativity*<sup>18</sup>, *merger theory* etc. After the analysis of nature of work, it becomes convenient to ascertain whether work falls with in the ambit of fair dealing or not.

## Amount and Substantiality

Third parameter to determine the fair use or fair dealing is qualitative and quantitative. First of all, we have to see the amount which has been taken out from the copyrighted work. Diverse views have been given by judiciary and legislature on *amount*. At the first instance, *amount* plays an important role to figure out fair use. When *amount* fails to determine the fair use, then we have to observe the substantiality of the work copied from copyrighted work. For instance, if someone prepares an annual report collecting certain objective facts relating to working of marginalized group of people. Subsequently, another person copies the concluding part of report. Even though, whole report or big amount has not been copied by the infringer, still it shall be considered as infringement of copyright. Similarly, Copying of big amount of work may not be considered as infringement if it is not substantial. Section 14 of Copyright Act 1957, gives an economic right to the owner of copyright which includes right to reproduction of substantial part thereof or whole. It means, if some one encroaches into the rights of others it will be held to be infringement of copyright. Taking of substantial part of copyrighted work can

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<sup>17</sup> See *University of London Press Ltd. v University Tutorial Press Ltd.* (1916) 2 Ch. D. 601; *Eastern Book co v. Navin J. Desai* (2001)PTC 57 (Del) 94

<sup>18</sup> *Feist Publication Inc. v.Rural Telephone Services* 499 US 340 (1991)

never be covered in fair use. In this regard *totality of impression test*<sup>19</sup> and *untrained ear test*<sup>20</sup> have been laid down by the judiciary.

### **Effect of The Use**

Effect of use of copyrighted work upon the potential market would be the most important parameter to figure out, whether any specific use of copyrighted work is fair or not. As already mentioned, economic and non economic rights have been given to the owner of copyright. If some one uses copyrighted work unauthorizedly and due to which it causes an impact on market of original copyrighted work then such use shall not qualify to be pronounced as fair use.

### **Library and Fair Dealing**

In above mentioned parameters, it can be said that library may make a reproduction of copyrighted work without prior permission of owner of copyright by the virtue of fair dealing provision. First parameter of fair dealing is purpose. Purposes enumerated under the Act are eligible to be pronounced as fair dealing. Education, research and teaching are few of them. Indirectly, library of any educational institution may reproduce any copyrighted material with certain limitations. Those libraries which are commercial in nature may not do so, but as far as non commercial libraries are concerned much liberty has been bestowed on them. Supreme Court of Canada has widened the meaning of research. Research which has been done for the advice of client, giving opinion, arguing cases and preparing brief is qualified as fair dealing despite the fact that it is for commercial profit.<sup>21</sup> Most relevant factor is the *effect of use* which has to be observed by the library. Libraries can not overlook the economic rights of owner of copyright. Reproduction of material which may be easily available at reasonable price for library shall not be covered under the definition of fair dealing. As far as photocopies of copyrighted material are concerned, fair dealing shall be determined on the basis of amount of copying and substantiality of the work. Libraries may make reproduction of copyrighted material into electronic medium on certain conditions.<sup>22</sup> These Conditions are - Firstly, Library must be non

<sup>19</sup> *Civic Chandaran v. Ammini Amma* 1996 PTC 670 (Ker.)

<sup>20</sup> *Ram Sampath v. Rajesh Roshan* 2009 (40) PTC 78 (Bom.)

<sup>21</sup> *CCH Canadian Ltd. v. Law Society of Upper Canada*, 2004SCC13 [CCh].

<sup>22</sup> Section 52 (1)(n) of The Copyright Act 1957

commercial public library. Secondly Library must possess non digital copy of the work before the reproduction. Thirdly, Reproduction must have taken place with the view of preservation of material. Another Liberty which has been given to the librarian is to make reproduction of copyrighted material which has not been available for sale in India.<sup>23</sup> Librarian may make three copies of such material.<sup>24</sup> This provision is only applicable on non commercial public library.<sup>25</sup>

## Epilogue

Jurisprudence of intellectual property has been expanded by the liberal interpretation of statutes. Fair dealing doctrine strengthens fundamental rights enumerated under the Constitution of India. Right to equality can't be granted unless and until equal opportunity is given to each section of society whether belonging to High class, middle class or lower class. Rule of law enumerates equal access to justice. Justice may not be achieved in the absence of fair dealing provision mentioned in Copyright Act. Photocopy cases and digitization of copyrighted book are few emerging and burning issues which are supposed to be resolved by the Honorable judiciary in the absence of explicit provisions. Factors to determine fair use mentioned in U.S Copyright Act are similarly adopted by Indian judiciary in various cases. Copyright law has left a large field for the judiciary to wider interpretation of statutes for the aggrieved one. Non exhaustiveness of list of exceptions to infringement of copyright gives leverage to judiciary to evolve new approaches for the society. In nutshell it can be stated that, fair dealing doctrine has proved as a boon and worked as a tool for rendering great service to society and welfare state..

<sup>23</sup> Section 52 (1)(o) of The Copyright Act 1957

<sup>24</sup> Ibid

<sup>25</sup> Id.



# Copyright Fair Use and Libraries

*Madhu K. S<sup>1</sup> and Gagan K<sup>2</sup>*

## Abstract

*Fair use exceptions in copyright law facilitate the use of copyrighted works for the purpose of research and education. These exceptions protect the academic community from the offence of copyright infringement. Fair use exceptions are limitations on copyright law and have helped librarians in carrying out their work of dissemination of knowledge. This paper discusses the various theories that support copyright protection and the need for fair use. By analysing the fair use exceptions under Indian Copyright Act, 1957 that are relevant to libraries, this paper takes a view that the law needs to provide better protection for libraries in matters of fair use.*

Keywords: Copyright, Fair Use, Libraries, Access, DRM.

## Literature Review

Libraries act as intermediaries between the readers and book publishers. However, both libraries and publishers look at each other with suspect when it comes to matters of copyright (Nick Moore, 2000). Knowing about copyright and the exceptions such as fair use are very important to librarians (Fisher, 2010). The importance of DRM and its implications on libraries have been documented (Denise M. Davis & Tim Lafferty, 2002). Research on copyright fair use have been made in many ways (Anderson & Brown, 1992; Patterson, 1987). We can find some literature on Indian copyright law and fair use (Ayush Sharma, 2009). However, research on libraries and Indian copyright law are not found.

## Origins of Copyright Protection

Having copyright over a work gives the author of the work exclusive right to deal with that work in the present day legal systems in most of the countries today. This

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was not the case in the 17<sup>th</sup> century. In fact, most of the countries passed copyright legislations only in the 20<sup>th</sup> century. After the invention of printing press, works of authors were easily duplicated by the printers and the authors were not paid any royalty, thereby depriving them of their livelihood. The British Statute of Anne which was passed 1710 is one of the earliest known copyright legislations of the world. It mandated that the printers to take the consent of the authors before replicating them. This type of legal protection was later extended to other works such as photographs, maps, sound recordings, cinematograph films etc.

### **Theories of Copyright**

There are broadly four theories which support copyright protection. They are: fairness theory, welfare theory, personhood theory and culture theory. Each of these theories are examined below. Firstly, fairness theory has two constituents – labour-desert theory and equity theory. The labour-desert theory was propounded by John Locke. Copyright is one type of intellectual property right. John Locke said that a property can be acquired by any person who applies labour over a plot of land that is not owned by any person. This theory has been extended to copyright and it is argued that the author of a work applies his creative labour to produce a work and hence shall be entitled to have exclusive ownership over it. The equity theory argues that each contributor to a work is entitled to his share of fruits (or rewards) and hence the author is entitled to enjoy the fruits of his work such as exclusive right to sell the work and gain economic benefits from it (Yen, 1990).

Secondly, welfare theory is based on the Utilitarian philosophy of Jeremy Bentham and John Stuart Mill. This theory argues that the law should be organised in a way that promotes welfare of all in the society. Going by this theory, the authors create “public goods” that are beneficial to the society and hence their welfare should be ensured. If there are no incentives for the authors, then they will abandon their creative endeavors and the society will be deprived of their works (Posner & Landes, 2003).

Thirdly, personhood theory argues that by creating a work, the authors put into it their personality into it. For instance, a painter expresses his ideas on a canvas; a poet expresses his emotions through a poem. This theory is more supportive for the authors when it comes to their moral rights. Some of the moral rights are - the right of the author to be identified as the creator of the work, the right to be notified about the work and the right of the author to withdraw his work from public (Radin, 1982)

Fourthly, the culture theory argues that copyright promotes culture. Music, literature, paintings, movies and books help in shaping cultures of the people. If the authors are not given any rights, they will hesitate to participate in the process of contributing to the common pool of culture (Netanel, 1996).

### **Fair Use Doctrine**

Legal scholars are of the opinion that the Intellectual Property Rights balance the rights of various stakeholders. For example, the patent law provides the exclusive right to inventors and also enables patients to affordable medicine by way of compulsory licensing. The same way, in copyright law also, there are fair use provisions. Fair use provisions are exceptions to the general rule of copyright. While copyright provides exclusive right over the work to the author, fair use provisions provide that in certain circumstances the exclusive right can be violated.

Copyright gives exclusive right, but it is limited to certain number of years after the death of the author. In India, for literary works, copyright subsists for 60 years after the death of the author. Every intellectual property right lapses after a certain period. This is known as “sunset clause”. Every exclusive right is limited by time. After the stipulated period, the copyrighted work goes to the public domain. It is often argued that the inspiring ideas for the authors come from the “commons” and hence it has to go back to the commons pool. For example: the sound recording of a Hindustani singer will have copyright, but the singer has developed his music after getting trained by many teachers, who in turn got trained by other teachers. Another example would be an English professor giving a new form to Shakespeare's drama by adapting the plot to Indian circumstances. Many of the stories we read are the adaptation stories found in folklore.

Fair use doctrine is based on “fairness”. The relevant question to be asked is “whether it is fair in certain circumstances to copy the works of an author without his or her permission?” The copyright law recognises certain uses of copyrighted works that are considered “fair” and not violative of the rights of the authors (particularly the economic rights).

Due to the existence of fair use, it is possible to do news reporting without any hurdles. Otherwise, there would be copyright infringement suits every time a

newspaper reported about a movie or a book. Without fair use, book reviews would never be possible. Usually, every academic work discusses the existing literature in the particular field and then proposes the new ideas. Academic works usually cite passages from prominent works. All this would never be possible without fair use.

### **Libraries as Storehouse of Knowledge**

Libraries were formed with a noble objective of storing books in one place and facilitating the public to access them at reasonable costs. The American Library of Congress after gaining the status of National Library was given a special privilege to get copies of every book that was submitted for copyright approval. Under the copyright laws of 1865 and 1870, deposit of books to the Library of Congress was made mandatory to gain copyright registration. This practice was derived from the British Statute of Anne (1710) that mandated deposit of copies to libraries in order to get copyright protection. Libraries around the world have been doing exceptional service to the mankind by cataloging and preserving the books and hence deserve special privileges (Cole, 1971).

### **Fair Use as Backbone for Libraries**

As discussed above, libraries are storehouses of knowledge and deserve special privileges. Fair use in a way becomes the backbone of libraries. Libraries use the information from the book cataloging. This falls under fair use exceptions. With the advent of electronic cataloging system, some libraries even catalogue the text found in the 'blurb' of the book. This too falls under fair use exceptions. Apart from this, libraries also have the responsibility of producing course packs for students. Even this falls under fair use exceptions. However, the law is still controversial in India when it comes to the legality of course packs. This issue will be discussed in the later part of this paper.

### **International Legal Regime on Fair Use**

Berne Convention and TRIPS Agreement state that the copyright laws of the Contracting Parties can have fair use exceptions. Article 13 of the TRIPS Agreement lays down a three step test. Firstly, the exception must be special; secondly, it must not conflict with the normal economic exploitation of the work; thirdly, it must not unreasonably cause prejudice to the legitimate interests of the

rights holders. In the European Union, the Copyright Directive has provided that the national governments can make copyright exceptions for the purpose of scientific research, news reporting, private use, cultural / educational copying, criticism, review and for the benefit of disabled persons.

In USA, Section 107 of 17 US Code states that the reproduction of copyrighted works for the purpose of criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research will not amount to copyright infringement. In determining fair use, it gives four factors namely – purpose of use, nature of copyrighted work, amount of substantiality in proportion to the complete work and effect of use on the market value of the work. Most of the nations have fair exceptions embodied in their copyright laws.

### **Fair Use in India**

Fair use is entrenched in Section 52 of Indian Copyright Act, 1957. In 2012, the most recent amendment was made to Indian Copyright Act and several changes were brought into Section 52 as well. Fair dealing is now allowed with any work that is not a computer program under Section 52(1)(a) for three purposes:

1. Private or personal use including research;
2. Criticism or review; and
3. Reporting current events

Discussed below are some of the provisions under Section 52 that are related to libraries and academic research. Under Section 52(1)(i), reproduction of any work by a teacher or a pupil in the course of instruction is considered as fair use. Section 52(1)(n) gives special privilege to non-commercial public libraries to store works in electronic medium for the purpose of preservation, if the library already possesses a non-digital copy of the work. Section 52(1)(o) allows non-commercial public libraries to make not more than three copies of a book, if such book is not available for sale in India. Section 52(1)(p) states that for the purpose of research, unpublished works kept in libraries and museums can be reproduced.

### **Course Packs**

Course packs are compilation of course materials collected from different sources such as books, journals and newspapers. The courses in graduate and post-graduate level prescribe several books and journals. To make it easier for the students, some

institutes compile the materials in the form of course packs. These come under the fair use exceptions. Librarians have a role to play in the course packs. Librarians help the teachers in collecting the materials from various sources. In the United States of America, in the case of *Cambridge University Press v. Becker* (ongoing case), the judges have held that course packs made without the consent of the authors do not infringe copyright, provided they do not go beyond the threshold limit of 10 percent.

However in India, recently, Delhi High Court has passed an order declaring course packs illegal. The Indian copyright law is very clear that photocopying for the purpose of educational and research activities are permitted. It has been pointed out that the Indian copyright law, unlike the U.S. counterpart does not prescribe a threshold limit for fair use when it comes to educational and research purposes (Amlan Mohanty, 2014). This is an ongoing legal battle and till the matter is settled it will affect the academic community adversely. It is submitted that producing course packs comes under the fair use exceptions and if the judiciary does not uphold the spirit of our copyright law, the Parliament will have to clarify about the legality of course packs.

### **Fair Use and Disabled Persons**

Section 52(1)(zb) which was added by the amendment of 2012 provides that the “adaptation, reproduction and issue of copies or communication to the public of any work in any accessible format” to facilitate persons with disability to access the works is not an infringement of copyright.

In June 2013, World Intellectual Property Organization (WIPO) passed “Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled” which recognized the rights of the visually impaired persons to access the books in a format they can read. The treaty allows members to provide copyright exceptions, so that the printed books are converted into formats that are accessible by the visually impaired (“Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled,” 2013).

However, some of the foreign publishers of electronic materials are not ready to recognize the rights of visually impaired persons under Indian Copyright Law. The

International Federation of Library Associations and Institutions in its “Licensing Principles (2000)” has recommended that the national law of the licensee should be preferred as applicable for the contract (IFLA, 2004). Until other nations ratify the Marrakesh Treaty and provide exceptions in their copyright laws for visually disabled, these problems will persist while libraries deal with foreign publishers.

### **Fair Use and Digital Rights Management (DRM)**

Since digital content can be replicated easily and at a lower cost, publishers have now started relying on Digital Rights Management (DRM). The electronic resources are now encrypted and can be controlled by the publishers as per the terms of the license. For example, an E-book can be licensed to one single user and the file will work only on one single device. This is markedly from the way in which traditional printed books work. With the printed books, we usually share them with our friends and colleagues. However, such sharing is not possible if DRM measures are put in place (Denise M. Davis & Tim Lafferty, 2002). Several rights groups have termed DRM as “digital restrictions management”.

Indian Copyright Act, 1957 has incorporated Section 65A which is titled “protection against circumvention of technological measures”. Under this provision, tampering with the DRM measures is a punishable offence. DRM measures restrict the scope of fair use possibilities for libraries and academic community. For example, a book though copyrighted can be photocopied fairly for educational purposes. But, an E-book which is protected from being printed cannot be printed unless the technological measure (such as the encryption) is circumvented. This act becomes punishable, although it is allowed as per fair use exceptions under Section 52.

### **Conclusion**

Librarians have always respected the copyright laws and within the limits of law are trying to disseminate information to the society at affordable costs. However, the copyright law on fair use is still not favourable to the librarians. Many of the works done in a *bona fide* manner for dissemination of knowledge may be categorized as infringing copyright. It is suggested that special exceptions are to be made for public libraries in the copyright law to facilitate better knowledge dissemination.

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# Issues of Copyright Protection in the Digital Era

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## Abstract

*Information communication and digital technologies have drastically changed the collection of libraries, their function and method of collection, storage and retrieval of information for user community. The digital age presents new challenges to fundamental copyright issues that are legal corner stones of library services, Libraries are leaders in trying to maintain a balance of power between copyright holders and users. As a result a result it becomes necessary to conceptualized copyright issues of digital information for information professional. In the last few years much concrete progress has been made towards describing and understanding the inevitable but seemingly elusive digital future.*

Keywords. Digital technology, Community, Copyright issue, Library services

## Introduction

Copyright has initially been formulated to grant economic right to those who have put efforts in creative work like fine arts, writing or composing and yet balance these individual with social interests, copyright is the legal concept that concern right to copy. Copyright protects the labour skills and judgments that someone. Author Artist or some creator expends in the creation of an original piece of work whether it is a so called 'literacy work' a piece of work a painting , a photograph a TV Programme or any other created work. Copyright is a legal protection for a limited period against unauthorized reproduction of any published/unpublished scientific/artistic work. With the current digital technology we can build comprehensive collections and with digital networks we can make these available to users all over the world. The current challenges are establishing the roles, rights and responsibilities of our libraries and achieve providing public access to this information. In this situation how copyright will, if it can deal with the new world

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of electronic publishing. Electronic publishing includes not only online publishing but also CD ROM and related technologies such as CD interactive of these two CD ROM and related technology are much more analogous to classic publishing than online publishing. They involve the physical transfer from the publisher to the reader of a tangible thing on which the published work is embodied. On line publishing is a very different of its kind. Manuscript are submitted, edited, reserved and displayed on line. The document is available through a central file site and is available article by article for a friend annual subscription price for subscription we have fashioned what we think for subscriber we have fashioned what we think is an unusually short and user- friendly license agreement. After all on line publishing give us the opportunity to communicate things to our customers that we have never had the opportunity to say before. In fact, when we established a licensing agreement with a recipient of materials, we have an opportunity to educate.

### **Rights under Copyright**

Copyright comprises of two main rights relating to economic rights, the rights of reproduction, broadcasting, public performance, adaption, translation, public relations, public display distribution etc.

### **Moral Rights:**

It is author's right to object to any distortion mutation or other modification of his/her work that might be prejudicial to his/her honors or reputation. Both sets of right belong to the creator who can exercise them he/she can use the work himself/herself can give permission to someone else to use the work or prohibit someone else from using the work. The general principle is that copyrighted works can't be used without the authorization of the owner of rights. The registration of a work under the act is not compulsory, but once the particulars of a work are entered in the 'Registered of Copyright' it constitutes the prima facie evidence of ownership in the work. It is desirable to mark, print or display the copyright registration of any work with the symbol (c) "copyright" along with copyright registration number year of registration and the name of the owner of copyright to inform the public about the existence car of copyright in the work and warn them from illegal use or copying the work.

## Types of Copyright

According to copyright design and patents Act, UK (1988) the following categories of works are covered under copyright.

- **Literacy:** songs, lyrics, manuscripts, manuals, computer programmes, web page designs commercial documents, leaflets, newsletters article etc.
- **Dramatic:** play, dance etc.
- **Musical:** recording and score etc.
- **Artistic:** photography, painting, sculptures, architecture, technical drawings, diagrams, maps, logos etc.
- **Sound Recordings:** may be recordings of other copyrights work eg musical and literacy.
- **Films:** documentary and feature films broadcasts and cable programmes.
- **Typographical arrangement of published editions:** magazines or periodicals etc.
- **Computer Programmes:** the copyright (computer programmes/ Regulations 1992 extended the rules covering the literary works to include computer programme.

## Copyright and Internet:

Internet is well known is a threat to copyrighted material because it enables global ubiquity of information through technologies that allow people to make perfect copies of content as described. On the other hand the Internet enables many new types of "infomediary" second tier content business that can create new revenue streams for publishers. Those business are analogous to bookstores, book clubs, clipping services or libraries in the real world, they can reticul aggregate repackage, or redistribute content online.

Such businesses provide value by offering information in forms that consumers find comment therefore publishers need to encourage those new types of business to foster their growth, publishers can made it easy to do business electronically with all publishers in the same way in other words to offer some degree of interoperability among publishers in the online environment. It might be technically easier to create a digital infrastructure without copyright, just throw

works up on the internet and let anyone get to them for any purposes, but such system have been suggested and roundly by those who create and own works of value, so we need to build an electronic infrastructure that works with copyright and takes advantage of the digital environment.

### **Copyright- Indian Scenario**

In 1914, the first copyright act was passed in India which was a copy of the British act of 1911. It codified and consolidated the earlier acts and different work to make it applicable to British it also abolished the common law copyright and introduced a term of the life the author plus forty years. On 04th June 1957 the copyright Act 1957 was passed by both the houses of parliament and ratified with the assent of the president. This act was amended in the year 1983, 1984, 1987, 1992 and both the houses of parliament passed the last amendment on 11th and 13th may 1994. The result was the enactment of Indian copyright act of 1957 replaced the act of 1914. Act of 1957 came into force on 21st century 1958 with the intention to cope with the new problems in the law of copyright created by advances in communicated broadcasting, motion pictures litho photography microfilming, cinema, sound recording etc. it was according to universal copyright convention, but at that time, it was not well in force as most of the population was illiterate. This act covered books periodicals, music cinematographic works and latest reprographic techniques and computerized storage.

### **Copyright Act & Libraries**

Authors create the thought contents of the documents while the publishers create a market to "distribute and sell the works libraries at the one round as a social and cultural institution acquire, process, organise, preserve, disseminate and provide access to the works of intellectual contents in order to satisfy the information hunger of its user to the works including those that have lost market availability/out of print and at other hand are intended to support the needs of authors/copyright owners to obtain a fair economic return on their intellectual property. Considering two such circumstances. IFLA on the one side support the effective enforcement of copyright and recognize that libraries have a crucial role play in controlling as well as facilitating access to the increasing number of local and remote electronic/digital information resources and on the other hand maintains that overprotection of copyright could threaten democratic tradition and impact on social justice principles by unreasonably restricting access to information and knowledge.

## Conclusion

We tend to forget that copyright is a social contract; more than any other type of property, it depends for its existence on the consent of all parties. Libraries and information professional can play valuable role as the organizes and facilities of digital property beyond the transformation of information to an electronic state, library professionals are in best position to evaluate the value of information in any form to an individual or to an organization a role under ably ignored now. Indeed, this role the "Capacity to make use of information effectively" will be cruel in the digital environment. The library and information professionals should have a four use after deal arrangement as in the case of printed works.

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# Remedies against Breach of Copyright

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## Abstract

*Intellectual property rights are a bundle of exclusive rights over creations of the mind, both artistic and commercial. The copyright laws, protect creative works such as books, movies, music, paintings, photographs, and software and gives the copyright holder exclusive right to control reproduction or adaptation of such works for a certain period of time. The purpose of this study is to explore remedies against breach of copyrights.*

**Key Words:** Copyright, Interlocutory Injunction, *Anton Piller* and *John Doe* Order, *ex parte*

## Introduction

Over the past several decades there has been an increasing awareness globally – and within India – of the importance of 'knowledge societies' which, in contrast to earlier industrial or agrarian societies, leverage 'information' as the key raw material and output of a range of productive activity.<sup>3</sup> In their eagerness to provide the best supportive conditions to usher in this coveted knowledge society, nations have been tightening their Intellectual Property regimes – including copyright law. Copyright is a form of intellectual property protection granted under Indian law to the creators of original works of authorship such as literary works (including computer programs, tables and compilations including computer databases which may be expressed in words, codes, schemes or in any other form, including a machine readable medium), dramatic, musical and artistic works, cinematographic films and sound recordings.<sup>4</sup>

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<sup>3</sup> <http://cis-india.org/internet-governance/front-page/blog/privacy/copyright-enforcement> - accessed on 11-12-14

<sup>4</sup> <http://www.legalserviceindia.com/article/1195-Copyright-Law-in-India.html> – accessed on 11-12-14

In India the first *Copyright Act* was passed in the year 1914. At present, *the Copyright Act, 1957* governs copyright law in India. The original Act of 1957 has been amended in the year 1983, 1984, 1992, 1994, and recently in 1999. A copyright is an intangible property. The subject matter of copyright, the thing protected is called a “work”. Copyright subsists throughout India in (a) original literary, dramatic, musical and artistic works (b) cinematograph film and (c) sound recording (Section 13). These terms are defined in the Act. Apart from these works, no other work is entitled to copyright under the Act. Section 14 of the Act defines a Copyright for the purposes of the Act. A Copyright means the exclusive right to do or authorize the doing of acts in respect of a work or any substantial part thereof.<sup>5</sup> These rights can be exercised only by the owner of copyright or by any other person who is duly licensed in this regard by the owner of copyright. These rights include the right of adaptation, right of reproduction, right of publication, right to make translations, communication to public etc.<sup>6</sup>

*The Copyright Act, 1957* provides copyright protection in India. It confers copyright protection in the following two forms:

**(A) Economic Rights:** The copyright subsists in original literary, dramatic, musical and artistic works; cinematographs films and sound recordings. The authors of copyright in the aforesaid works enjoy economic rights under Section 14 of the Act. The rights are mainly, in respect of literary, dramatic and musical, other than computer program, to reproduce the work in any material form including the storing of it in any medium by electronic means, to issue copies of the work to the public, to perform the work in public or communicating it to the public, to make any cinematograph film or sound recording in respect of the work, and to make any translation or adaptation of the work. In the case of computer program, the author enjoys in addition to the aforesaid rights, the right to sell or give on hire, or offer for sale or hire any copy of the computer program regardless whether such copy has been sold or given on hire on earlier occasions.

**(B) Moral Rights:** Section 57 of the Act defines the two basic “moral rights” of an author. These are:

- (i) Right of paternity, and
- (ii) Right of integrity.

<sup>5</sup> <http://www.majmudarindia.com/pdf/Law%20governing%20copyright%20in%20India.pdf> – accessed on 11-12-14

<sup>6</sup> *Supra* Nt. 3

The right of paternity refers to a right of an author to claim authorship of work and a right to prevent all others from claiming authorship of his work. Right of integrity empowers the author to prevent distortion, mutilation or other alterations of his work, or any other action in relation to said work, which would be prejudicial to his honour or reputation. The proviso to section 57(1) provides that the author shall not have any right to restrain or claim damages in respect of any adaptation of a computer program to which section 52 (1)(aa) applies (i.e. reverse engineering of the same). It must be noted that failure to display a work or to display it to the satisfaction of the author shall not be deemed to be an infringement of the rights conferred by this section. The legal representatives of the author may exercise the rights conferred upon an author of a work by section 57(1), other than the right to claim authorship of the work.

### **Copyright Infringement**

Copyright infringement or copy right violation is the unauthorized use of material that is covered by copyright law, in a manner that violates one of the copy right owner's exclusive rights, such as the right to reproduce or perform the copyrighted work, or to make derivative works. For electronic and audio visual media, unauthorized reproduction and distribution is occasionally referred to as piracy. The infringement of copyright takes place by reproducing the work in any material form, issuing copies of the work to the public not being the copies already in circulation including the work in any cinematographic film, making an adaptation of the work, communicating the work to the public, if aware that such act shall amount to infringement of copyright, making, selling, letting on hire, distributing, importing or holding trade exhibits in public of the infringed work. The true test to determine infringement is when a trader, spectator or viewer after having read or seen both the works should get an unmistakable impression that the subsequent work appears to be a copy of the first.<sup>7</sup> When there is a violation or an infringement of an intellectual property, it becomes the sole right of the Intellectual property holder to obtain a remedy for the infringement of something that he has acquired with a lot of hard work and tremendous efforts. Hence, it is necessary to grant remedies to the intellectual property holders. The remedies granted to the

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<sup>7</sup> Kumar, Davey Hemi Paresh, *Criminal Implications of Intellectual Property Infringement under Indian Legislations* Available at: [http://www.altacit.com/pdf/Criminalimplicationsofintellectualproperty\\_%20infringement.pdf](http://www.altacit.com/pdf/Criminalimplicationsofintellectualproperty_%20infringement.pdf) – accessed on 11-12-14



Intellectual Property holders are of three types: Criminal, Civil and Administrative Remedies.

### **Remedies against the Infringement of Copyright**

The Copyright Act provides for both civil and criminal remedies for infringement. Section 55 provides for civil remedies and declares that, upon infringement, "the owner of the copyright shall be entitled to all such remedies by way of injunction, damages, and accounts and otherwise as are or may be conferred by law for the infringement of a right." Civil suits are instituted at the appropriate district court having jurisdiction – including where the plaintiff resides.<sup>8</sup>

### **Civil Remedies**

The most importance civil remedy is the grant of interlocutory injunction since most actions start with an application for some interlocutory relief and in most cases the matter never goes beyond the interlocutory stage. The other civil remedies include damages - actual and conversion; rendition of accounts of profits and delivery up.<sup>9</sup>

### **Interlocutory Injunction**

In order to secure immediate protection from a threatened infringement or from the continuance of an infringement, a plaintiff may apply for an interlocutory injunction pending the trial of the action or further orders. An application for such relief is made along with the plain supported by affidavit evidence. Very often an ex parte injunction is also sought, i.e. a temporary injunction granted for a short period, for a week or so, before the defendant has notice of the suit or is heard. For obtaining an interlocutory injunction the plaintiff has to establish a prima facie case and that the balance of convenience is his favour and that if the interim order is not granted it will cause irreparable injury to the plaintiff.<sup>10</sup>

The defendant if injured as a result of the injunction, will be entitled to compensation by virtue of an undertaking as to the damages by the plaintiff which

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<sup>8</sup> *Supra* Nt. 1

<sup>9</sup> <http://www.mondaq.com/india/x/1825/Civil+and+Criminal+Remedies+in+Copyright+Infringement+Part+2+Remedies> – accessed on 11-12-14

<sup>10</sup> P. Narayanan, *Intellectual Property Law*, Eastern Law House, 2007, p. 350

is an invariable condition of the granting of such an injunction. An interlocutory injunction will not be granted where the defendant might suffer irreparable injury from an injunction pending trial and the plaintiff can be protected by the defendant being ordered to keep an account, nor will it normally be granted where a bona fide defence of fair dealing has been pleaded, or if the plaintiff has been guilty of undue delay in coming to the court or his conduct amounted to acquiescence in the infringement or if there is any substantial doubt as to the plaintiff's right to succeed. It has been held that in considering whether to grant an interlocutory injunction the court must look at the whole case. It must have regard not only to the strength of the defence and then decide what is best to be done.<sup>11</sup>

### **Damages or Accounts of Profit**

There are two types of damages available to a successful plaintiff, one under Section 55 for infringement and the other under Section 58 for conversion. The copyright owner is entitled to treat all infringing copies of his work as if they were his own property. He will have to take civil proceedings for the recovery of possession thereof or in respect of conversion thereof. The plaintiff may also claim special damages for the flagrancy of infringement. As an alternative to damages a successful plaintiff may claim account of profits.<sup>12</sup>

### **Criminal Penalties**

Chapter XIII (Sections 63-70) provides a range of criminal penalties for infringing copyrights which are typically punishable with terms of imprisonment that "may extend up to three years" along with a fine. These offences would be taken cognizance of and tried at the court of the Metropolitan Magistrate or Judicial Magistrate of the First class<sup>13</sup> in the same manner as all cognizable offences in India i.e., by following the procedures under *the Code of Criminal Procedure*, 1973. Section 64 of *the Copyright Act* dealing with police powers was amended in 1984 to give plenary powers to police officers, of the rank of a sub-inspector and above, to seize without warrant all infringing copies of works "if he is satisfied" that an offence of infringement under section 63, "has been, is being, or is likely to be, committed".

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<sup>11</sup> *American Cyanamid v. Ethicon* [1975] RPC 513 at pp. 539-542 (HL)

<sup>12</sup> *Supra* Nt. 9

<sup>13</sup> Section 70

In *Girish Gandhi & Others v. Union of India*,<sup>14</sup> a case before the Rajasthan High Court, the petitioner, who ran a video cassette rental business, challenged the constitutional validity of the wide powers granted to police officers under this section. Citing various instances of violations of privacy that the abuse of the section could occasion, the petitioner contended: *"The provisions of section 64 itself gives arbitrary and naked powers without any guidelines to the police officer to seize any material from the shop and thus, drag the video owners to the litigation. He has given instances in the petition that police officer usually demands for video cassettes to be given to them free of charge for viewing it at their homes and in case, on any reason either the video cassette is not available or it is not given free of charge, there is likelihood that police officer shall misuse his powers and try to seize the material for prosecution under the various provisions of the Act."* Although the High Court dismissed the petition on the grounds that it did not disclose any actual injury to the petitioner, it upheld the constitutionality of the section by reading the word "satisfaction" to mean that the "police officer will not act until and unless he has got some type of information on which information he is satisfied and his satisfaction shall be objective."

In May 2011, the Delhi High Court struck down a notification issued by the Commissioner of Police which had instructed all subordinate functionaries of the police to "attend to and provide assistance" whenever any complaint "in respect of violation of the provisions of the *Copyright Act, 1957*" was received from three companies: Super Cassettes Industries Limited, Phonographic Performance Ltd and Indian Performance Right Society Ltd. This virtually amounted to the commandeering of the criminal enforcement system by a few private owners for their own private interests. In their suit,<sup>15</sup> the petitioner — Event and Entertainment Management Association — had contended that the police machinery "cannot be made to act at the behest of certain privileged copyright owners". The court struck down the notification as unconstitutional.

Section 65 of the Act says that any person who knowingly makes, or has in his possession, any plate for the purpose of making infringing copies of any work in

<sup>14</sup> AIR 1997 Raj 78 <<http://indiankanoon.org/doc/661363/>>; <http://cis-india.org/internet-governance/front-page/blog/privacy/copyright-enforcement> accessed on 11-12-14

<sup>15</sup> *Event and Entertainment Management Association v. Union of India* (Delhi HC) Order dated 2nd May 2011 <[http://courtnc.nic.in/dhcorder/dhcqrydisp\\_o.asp?pn=84697&yr=2011](http://courtnc.nic.in/dhcorder/dhcqrydisp_o.asp?pn=84697&yr=2011)>. Harkauli, S., 2011. HC nullifies police circular on copyright issue. *The Pioneer*. Available at: <http://www.dailypioneer.com/336974/HC-nullifies-police-circular-on-copyright-issue.html> : <http://cis-india.org/internet-governance/front-page/blog/privacy/copyright-enforcement> accessed on 11-12-14

which Copyright subsists is punishable with imprisonment which may extend to 2 yrs. and with fine. Section 66 provides that the court trying the offence may order that all the copies of the work which appears to be infringing copies or plates, for the purpose of making infringing copies in possession of alleged offender, be delivered up to the owner of the Copyright without any further proceedings, whether the accused is convicted or not.<sup>16</sup>

### **Administrative Remedies**

Administrative remedies consist of moving the Registrar of Copyright to ban the import of the infringing copies into India and the delivery of infringing copies confiscated to the owner of the copyright.

### **Anton Piller and John Doe Orders**

Apart from the above civil, criminal and administrative remedies a plaintiff has other remedies too, for example, *Anton Piller Order* and *John Doe*. The 'John Doe' order is used to describe an injunction sought against a person whose identity is not known at the time of the issuance of the order. It thus, enables an IP owner to serve notice and take action against anyone, whose identity is unknown and found to be infringing the IP Rights. In other words, the order does not specify any one defendant in particular. The John Doe order allows the plaintiff's solicitor to search the premises and deliver up evidence of infringement of the rights of the plaintiff by the unknown Defendant (John Doe).<sup>17</sup>

The John Doe orders are descendants of the "defendant-specific" Anton Piller injunction that originated in the 1976 decision of the English Court of Appeal in *Anton Piller KG v. Manufacturing Processes Ltd.*<sup>18</sup> In this case, the Court of Appeal was required to judge the legality of certain ex parte orders, being passed by lower Courts, ordering the Defendants to allow Plaintiffs to enter the premises of the Defendants for an inspection and removal of critical evidence which could be easily destroyed by the Defendant, if it had a forewarning of any legal action. In this particular case, it was the trade secrets of the Plaintiff that were being illegally traded by the Defendant and the Plaintiff needed to search the premises of the

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<sup>16</sup> [http://www.legalserviceindia.com/articles/In\\_Copy.htm](http://www.legalserviceindia.com/articles/In_Copy.htm) - accessed on 11-12-14

<sup>17</sup> Devgan, Priyanka, A Comparative Case Law Analysis Of John Doe And Anton Piller Orders, Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2224153](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2224153) – Accessed on 11-12-14

<sup>18</sup> [1976] 1 All E.R. 55(C.A.)

Defendant, without prior notice, in order to seize the material intact. If prior notice had been issued to the Defendant, it is likely that the Defendant would have destroyed the critical evidence in order to evade legal action.

Lord Denning, the presiding judge, explained in detail that such orders were extraordinary, since in England the citizenry has always had the right to privacy of their own homes and a man was often considered the king of his own home. Most importantly, Lord Denning took the pains to clarify that these orders were not the same as 'search warrants' and that such orders did not authorize the Plaintiff to forcefully enter the premises of the Defendant. Keeping in mind the extraordinary nature of remedy, Lord Denning stated in no uncertain terms that Defendants could resist entry of the Plaintiff into premises, with the caveat that such resistance is bound to be treated as "contempt of Court" and accordingly punished. The grant of such orders were justified only in instances where the Plaintiffs demonstrated a strong *prima facie* case of infringement and where there was the possibility of the Defendant destroying the evidence that was required by the Plaintiff to establish its case at trial.

The first such order was passed in the case of *Taj Television v. Rajan Mandal*<sup>19</sup> where the Plaintiffs owned an Indian sports-broadcasting channel and also the Indian broadcasting rights for the Football World Cup organized by FIFA. The Plaintiff had filed this law-suit against 6 known cable-operators and another 14 unknown cable-operators and had sought injunctions against not only the 20 cable-operators but also against all other un-named cable-operators who maybe violating the broadcast rights of the Defendants. In this particular case, the Plaintiff had tried to convince the Court that such an exceptional request had to be accepted since sporting events like the FIFA "World Cup" are time-bound events, wherein it was not possible to identify each and every possible infringer before approaching the Court and that the Plaintiffs would face an irreparable loss if such orders were not granted because cable-operators could easily destroy the infringing evidence. The Judge convinced by the arguments of the plaintiff issued interim injunctions under Order 39 of the CPC (i.e. *prima facie* case, balance of convenience and irreparable loss proved) read along with the inherent powers of a Court under Section 151 of the CPC, against all named and un-named Defendants, who may be violating the broadcast reproduction rights of the Plaintiffs, under Section 37 of the Copyright Act, 1957. In order to ensure that its orders were complied with the Judge also

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<sup>19</sup> CS (OS) No. 1072 of 2002 before the High Court of Delhi

appointed a judicial officer as a Commissioner with instructions to the local police officers that they were to assist the Commissioner in seizing any broadcasting equipment that was being used to violate the Court's order.

In *ESPN Software India Pvt. Ltd. v. Tudu Enterprise and Others*<sup>20</sup> it was observed that John Doe orders are a common feature in the courts of Canada, America, England, and Australia and in some other countries. The judicial systems of all these countries have basic similarity with our judicial system. Therefore looking at the extraordinary facts and circumstances of the case in the interest of justice, the courts in India would also be justified in passing the John Doe orders. In the absence of a comprehensive law and lack of precedents, guidance has been taken from the foreign courts in evaluating these orders and building a strong basis for future reference of Indian Courts.

Justice Ms. K.B.K. Vasuki passed the first-ever 'John Doe' order (called “Ashok Kumar” order in India) in the history of the Madras High Court. This order was passed in the case of *R. K. Production (producers of the film “3”) v. B.S.N.L & 14 other Internet Service Providers (ISPs)*. This order is to prevent anybody from illegally downloading, offering to download, or selling VCDs or DVDs of the movie. The ISP is bound by the order and has to block access to such web sites. The order provides for speedy action against the offender rather than retort after somebody has infringed on the rights of intellectual property owners. Such an order binds all would-be infringers and does not necessitate a copyright owner having to go to court for every individual infringement. The John Doe order is a bonus in the film industry's fight against piracy. But the main bludgeon is technology, which has the ability to monitor web sites for illegal upload of content, and to identify and take action. Armed with a John Doe order, the petitioner will be able to immediately stop the illegal display of copyright protected content. 'John Doe' is a general American term used to refer to anonymous or unknown individual. This order is famous in USA, UK and Canada but still in its promising juncture in India.<sup>21</sup>

### **Copyright and Information Technology Act, 2000**

The following provisions of the Information Technology Act, 2000 are relevant to

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<sup>20</sup> CS (OS) No. 384 of 2011 before the High Court of Delhi

<sup>21</sup> India, Chennai, March 29, 2012, Available at: – accessed on 11-12-14

understand the relationship between copyright protection and information technology:

- (a) Section 1(2) read with Section 75 of the Act provides for extra-territorial application of the provisions of the Act. Thus, if a person (including a foreign national) violates the copyright of a person by means of computer, computer system or computer network located in India, he would be liable under the provisions of the Act.
- (b) If any person without permission of the owner or any other person who is in charge of a computer, computer system or computer network accesses or secures access to such computer, or downloads, copies or extracts any data, computer data base or information from such computer, computer system or computer network including information or data held or stored in any removable storage medium, he shall be liable to pay damages by way of compensation not exceeding one crore rupees to the person so affected.
- (c) While adjudging the quantum of compensation, the adjudicating officer shall have to consider the following factors:
  - (i) The amount of gain or unfair advantage, wherever quantifiable, made as the result of the default;
  - (ii) The amount of loss caused to any person as a result of the default;
  - (iii) The repetitive nature of the default.

Thus, if the copyright is violated intentionally and for earning profit, the quantum of damages will be more as compared to innocent infringement.

- (d) A network service provider (ISP) will not be liable under this Act, rules or regulations made there under for any third party information or data made available by him if he proves that the offence or contravention was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence or contravention.<sup>22</sup>

## Conclusion

Intellectual property plays a significant role in an increasingly broad range of areas,

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<sup>22</sup> *Supra* Nt. 2

ranging from the internet to healthcare to nearly all aspects of science and technology, literature and the arts. Understanding the role of intellectual property in these areas often requires significant new research and study. Thus this is an earnest effort to promote awareness among the people regarding the fundamental issues of intellectual property. With the software in almost every walk of life, the demand for protection of IP has increased. Now, there is need to strike a balance whereby online copyright infringement is prevented without interfering with Legitimate users of copy right work offered by digital technology and internet.

Protection of living special the traditional knowledge addresses the debatable issues that need resolution. The tasks ahead in the knowledge economy will demand new competencies and commitments of innovators, technocrats, governments and members of the society.

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# Protecting Unrestricted Photocopying: The Doctrine of Fair Use?

*Arihant Jain<sup>1</sup>*

## Abstract

*Copyright law is based on the very principle of striking the balance between the rights of the copyright owner and promoting learning among the masses. Fair use is plays an important role to achieve this very principle of copyright law. Though this doctrine has come under a lot of criticism recently due to the ambiguities and problems attached to its implementation, still the role it plays cannot be overlooked. In this research paper we understand the doctrine of fair use and copyright protection by analyzing an ongoing case in the Delhi High Court between a group of leading publishers and a small photocopy shop named Rameswari photocopy service attached to Delhi University. This has generated enormous public debate regarding the extent to which user can photocopy the work of a copyright owner. The dispute is whether such photocopying of copyrighted material is prejudicial to the interest of the publication house/author or is against the larger public interest that is fundamental right to education. We also try to find solutions to the ambiguities in the doctrine and the role Indian Reprographic Rights Organization (IRRO) can play in dealing with unrestricted photocopying.*

Keywords: Fair use, copyright, infringement, defense, photocopying, public interest.

## Introduction

Since the introduction of the Xerox copier in 1954 it has become noticeably easier to make copies of printed material. Copyright owners are alarmed by the growth of technology that makes the task of copying their intellectual property this easy. There is a need to come up with an appropriate legal solutions pertaining to mounting levels of unauthorized photocopying and turning it into a lawful activity by restriction of access to users and remunerations to authors and publishers has

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been in debate since late 1960's.<sup>2</sup> Copyright law is often deemed to be taken as a balance between the rights conferred to copyright owners and the rights granted to the users of copyrighted materials.<sup>3</sup> One of the most important counterbalances to the rights granted to owners of the copyrighted material and the right guaranteed to the copyright's users is to make "fair use" of copyrighted material. The doctrine of fair use is an integral part of copyright law.<sup>4</sup> Fair use is a defence to a claim of infringement provided in legislation of various countries when the copying is done for purposes such as research, teaching, news reporting etc. The right of fair use shields the public from the copyright monopoly, which at times becomes so expansive that it obstructs the very progress of learning and knowledge. Copyright law is, in fact, constitutionally mandated to promote knowledge acquisition and learning.<sup>5</sup>

Copyright's fair use doctrine has long been targeted by criticism and complaint, in recent years critics have further raised their voices and have become more persistent, they have expressed dissatisfaction with the doctrine's ambiguity in implementation. However, despite its importance in the copyright regime in advancement of technology, the concept remains relatively unexplored in India.

### **Fair Use Doctrine**

The defense of fair use originated as an equitable doctrine permitting certain uses of literary works that copyright law would otherwise have prohibited, if prohibiting such uses 'would stifle the very power that the law is intended to foster'<sup>6</sup>. Fair use is an internationally derived copyright principle based on the belief that the public is entitled to freely use portions of copyrighted materials for a variety of purposes that may be identified by individual copyright regimes based on the assessment of social requirement and its contribution to social good. In its most general sense, a fair use is any copying of copyrighted material done for a limited and

<sup>2</sup> Henry P. Tseng, 'Ethical aspects of photocopying as they pertain to the library, the user and the owner of copyright', 72 Law Library Journal. 86 (1979).

<sup>3</sup> Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, (citing Lord Mansfield: "[We must take care to guard against two extremes equally prejudicial; the one, that men of ability, who have employed their time for the service of the community, may not be deprived of their just merits, and the reward of their ingenuity and labour; the other, that the world may not be deprived of improvements, nor the progress of the arts be retarded.]

<sup>4</sup> The Chancellor Masters and Scholars of the University of. Oxford v. Narendra Publishing House and Ors, [IA 9823/2005, 51/2006 and 647/2006 in CS(OS) 1656/2005].

<sup>5</sup> Lydia Pallas Loren, "Redefining the market failure approach to fair dealing in an era of copyright permission systems", Journal of Intellectual Property Law, Vol. 5, No. 1, (1997).

<sup>6</sup> Harper & Row Publishers v. Nation Enterprises, 471 US 539(1985).

“transformative” purpose, such as to comment upon, criticize, or parody a copyrighted work. “Fair Use” is a privilege that allows limited uses of copyrighted materials in ways that would otherwise be an infringement of copyright. When the use of a copyrighted work for such a purpose has been judged a “Fair Use,” it is not an infringement of the copyright, even if the use was made without permission of the copyright owner. India's fair dealing doctrine taken from Britain has been perceived as having the weak imperial import. Fair dealing, as found within the United Kingdom's copyright framework has been widely characterized as restrictive, that includes a thoroughgoing list of outlined exceptions.<sup>7</sup> Its United States 'cousin', fair use, has been seen as a sturdier vehicle for users.<sup>8</sup>

### **Delhi University's Photocopying Case<sup>9</sup>**

In the year 2012, the prestigious Delhi University and a photocopying store on its Campus, Rameshwari Photocopying Services were accused of having infringed the copyright laws laid down by The Copyright Act of 1975 by publishers Oxford University Press, Cambridge University Press and Taylor & Francis.<sup>10</sup> The publishers have alleged that the reproduction and issuing of their publications in the most “illegal and unauthorised manner” by the photocopiers at the instance of the University.<sup>11</sup> The publishers thereby initiated a suit against the University and the photocopiers for permanent injunction, restraining infringement of copyrights, damages, and rendition of accounts of profits. This ongoing litigation has generated enormous public debate regarding the extent to which user can photocopy the work of a copyright owner. The issue at hand is that Rameswari Photocopy Service attached to Delhi University regularly compiles extracts from copyrighted books and makes it available to students in form of a 'course pack'. Hence, the dispute is whether such photocopying of copyrighted material is prejudicial to the interest of the publication house/author or is against the larger public interest.

On one side are the interests of large publishers and prestigious authors who have written these books using their intellect and on the other side is the very heart of our

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<sup>7</sup> Jayakumar Sing, Hansard Parliamentary Debates, 78 (2004) 10.

<sup>8</sup> Craig Carys J, 'The Changing Face of Fair Dealing in Canadian Copyright Law in Michael Geist, ed., *In the Public Interest: The Future of Canadian Copyright Law*' (Irwin Law, Toronto), 2005, p. 437.

<sup>9</sup> The Chancellor, Master and Scholars of the University of Oxford and Ors v. Rameshwari Photocopy Services and Anr. CS (OS) 2439/2012.

<sup>10</sup> Staff Reporter, 'Delhi University, photocopy service in the dock over piracy', The Hindu, August 14, 2012.

<sup>11</sup> *Ibid.*

constitutional guarantee i.e. fundamental right to education for all,<sup>12</sup> which the copyright law seeks to achieve. This photocopying disseminates information, which in many cases is unavailable to scholars and students, due to the high price of the books. By allowing this educational photocopying, the copyright law will fulfill one of its primary goals of access to knowledge and cultural progress. A balance needs to be carved out that protects the interests of owner of intellectual property and the public. The photocopying guidelines in India are yet to crystallize in some concrete form; the reason being that the threshold level is yet to be defined either by the legislature or by the judiciary. But the recent orders have been in favor of the publishers and there has been temporary ban on photocopying of the books which shows a need for a concrete grounds on which such case can decided.

### **Right to Photocopy for Educational Purposes under Indian Copyright Act, 1957**

The Indian Copyright Act follows the notion of fair dealing. The word 'fair dealing' has not been defined under the Indian Copyright law. The Indian judiciary has on numerous occasions referred to the English case of *Hubbard v. Vosper*<sup>13</sup> on this matter. The following words of Lord Denning provide a pathway to understand the concept of fair dealing:

*"It is impossible to define what is "fair dealing". It must be a question of degree. You must first consider the number and extent of the quotations and extracts.... then you must consider the use made of them....Next, you must consider the proportions...other considerations may come into mind also. But, after all is said.... it is a matter of impression"*

Section 52 of the Copyright Act, 1957 lays down the ground on which an exception to copyright infringement can be provided. This section provides an exhaustive list and any use not falling within the statutory list is considered as an act of infringement.<sup>14</sup> The judiciary in the country has from time and again reiterated that it is impossible to develop a 'rule of thumb' for cases of fair use as each case depends upon in its own facts and circumstances.<sup>15</sup> Under the Indian Copyright Act,<sup>16</sup> there

<sup>12</sup> Francis Coralie Mullin v. The Administrator, Union Territory of Delhi and Ors 1981, 1 SCC 608.

<sup>13</sup> Hubbard v. Vosper, (1972) 1 All ER 1023

<sup>14</sup> Blackwood and Sons Ltd and Others v AN Parasuram and Ors., AIR 1959 Mad 410 ¶ 84. Also see, Vaibhavi Pandey, 'India: 'Fair Dealing In Copyrights: Is The Indian Law Competent Enough To Meet The Current Challenges?', 13 March, 2014.

<sup>15</sup> ESPN Stars Sports v. Global Broadcast News Ltd and Ors, 2008 (36) PTC 492(Del).

are only three sections dealing with fair dealing in an educational context i.e. 52(1)(a)(i), 52(1)(g) and 52(1)(h). 52(1)(g) provides that the bona fide publication of non-copyrighted work in a collection intended for the use of educational institution would not amount to an infringement of copyright.<sup>17</sup> Section 52(1)(h) of the Copyright Law, 1957 further provides that any reproduction of a literary, musical or artistic work by the teacher or pupil in the course of instruction or in answer to question asked in examination shall not amount to an infringement of copyright. 52(1)(a)(i) provides with a fair dealing of literary, dramatic, musical or artistic work for private use including research.

The above mentioned provisions will lead us to a conclusion that there is no particular provision in our act dealing with the issue of photocopying of copyrighted work for educational purposes. However, the right to photocopy will undoubtedly arise from the plain interpretation of the relevant clause of Section 52. The photocopy will fall under Section 52(1)(i), which mentions about reproduction of any work by a teacher or a pupil in course of instruction.<sup>18</sup>

While considering what amounts to fair use certain factors are weighed in each case to determine whether the social gain that accrues from fair use, or copyright exceptions, are valuable enough to offset considerations of losses of the copyright owner's potential income. To bring some objective standard two considerations have assumed most importance:

1. The purpose and character of use.<sup>19</sup>
2. The amount and substantiality of the portion taken.<sup>20</sup>

These two grounds are of prime importance while dealing with cases relating to copying of educational material and on these basis a court should try to form their opinion.

### **Role of Indian Reprographic Right Organization**

The Indian Reprographic Rights Organization (IRRO) is a copyright society that grants licenses to various organizations in order to enable them to copy and share

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<sup>16</sup> Indian Copyright Act, 1957.

<sup>17</sup> Section 52(1)(h) Indian Copyright Act, 1957.

<sup>18</sup> Section. 52(1)(i) Indian Copyright Act, 1957.

<sup>19</sup> Supra at 14.

<sup>20</sup> *Ibid.*

information efficiently across the organization while minimizing the risk of copyright infringement. It actively supports a wide array of publishers, authors, artists and visual creators and international rights holders to protect their creative content. It grants licenses for a period of 1 year as per law. The Reprographic Right Organization (RRO) was created with an aim to protect the creative works of rights holders. If regulated properly, a robust and powerhouse RRO will tackle the mentioned problem and will act as a bridge between the owner and copyright user.

The RRO Rights organization, which acts as intermediaries between the copyright owner and the user can act as a trouble-shooter in this regard. Apart from defining such threshold level, this organization should come into picture whenever any photocopying is done, which is not covered within the ambit of fair dealing. Eventually, by such intervention, a system will be created which will enable the user to copy lawfully from copyrighted works, even if it goes outside the realm of fair dealing. The profit derived from photocopying of copyrighted material which is beyond fair dealing if shared with the publishers and IRRO can play a vital role in the same. But unfortunately the IRRO in India has not been able to prove its existence and in 2013, the Government of India refused to re-register IRRO.<sup>21</sup>

## Conclusion

Photocopying of copyrighted material takes place everywhere in society and if photocopying is left ungoverned and reproduction of copyrighted material takes place without the consent of publisher,<sup>22</sup> it will be prejudicial to the interest of those all involved in publishing and printing of copyrighted material. However it is impossible to ask permission to photocopy the material directly from publishers from all over the world. The fair dealing reform is in the air and the application of fair dealing pertaining to photocopy of copyrighted material is not settled despite decades of deliberation and litigation.<sup>23</sup>

Hence, the demand is great among courts and scholars for a clear and comprehensible approach to fair dealing. The ongoing litigation in the Delhi High Court should be resolved by the Courts by applying its own grounds rather than

<sup>21</sup> Shamnad Basheer, 'Breaking News: IRRO Registration Refused!'

<sup>22</sup> Shafter, Robert L. 'Photocopy industry and copyright: section 108 of the bill', The Journal of Law and Technology, Vol. 4, No. 35, 1975.

<sup>23</sup> Stephen M. Mcjohn, 'Fair dealing and Privatization in Copyright', San Diego Law Review Vol.35 No. 61, 1998.

borrowing the US 'factor analysis method'<sup>24</sup>, thereby creating a new regime of fair dealing. The court in this ongoing Delhi university litigation, can define the role of fair dealing in the scheme of copyright law, especially with respect the issue of photocopying. Educational photocopying under the umbrella of fair dealing is no doubt a necessity reason being that one of the challenges India faces in the educational sector is the cost of the reading material and the Indian copyright law has a vital role to play in overcoming this challenge. Contrary to the popular perception, the cost of the books in India is not comparatively cheaper than other countries.<sup>25</sup> Keeping this background in mind, educational photocopying has an important role to play. One of the most important ways of promoting access in the area of education is by ensuring that copyright laws have strong exceptions and limitations that enable the fair dealing of material for educational purposes. But unrestricted photocopying needs to be checked as excess of everything is always harmful, in this case the interest of right holder also needs to be paid heed to. No person should be allowed to go on photocopying under the garb of constitutional rights and fulfill their commercial interests.

The delineation of the role of fair dealing in the overall scheme of the copyright law is the need of the hour. Precisely, the Indian copyright jurisprudence is awaiting its equivalent of *Folsom v. Marsh*<sup>26</sup>, which will address to the basic issues of the purpose, meaning and boundaries of fair dealing in Indian copyright law. This ongoing Delhi university litigation can be our '*Folsom v Marsh*'<sup>27</sup>, since it deals with issue which has remained unresolved for several years in India.

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<sup>24</sup> *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151.

<sup>25</sup> Rebecca Tushnet, '*Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*', 114 *Yale L.J.* 535-590 (2004).

<sup>26</sup> *Folsom v. Marsh*, 9. F.Cas. 342 (C.C.D. Mass. 1841).

<sup>27</sup> *Ibid.*



# Photocopying of Copyrighted Works for Educational Purposes- Issues and Concerns

*Isha Wadhwa*<sup>1</sup>

## Abstract

*Copyright law forbids the misappropriation of the copyrighted works; however, it permits the use of copyrighted works for certain specified purposes under what has come to be referred to as 'fair use'. From a long time, the issue of unauthorized reproduction of the copyrighted works by way of photocopying for educational purposes has been raised at both international and national front. An attempt is made to answer whether photocopying of copyrighted works for educational purposes constitute fair use by analysing the cases where the courts in different jurisdictions were confronted with the issue (more specifically, the courts in the USA have decided various cases on this point) and by analyzing statutory provisions in India and considering various situations like, the issue of course packs, multiple copies by teachers for distribution in class, photocopying for research (commercial and non-commercial purpose), photocopying for private or personal use and photocopying of out-of-print book etc.*

Keywords: Delhi University Photocopying Case, Photocopying, Educational Exceptions

## Problem of Photocopying (Reprography)<sup>2</sup>

The unauthorized reproduction by way of photocopying for educational purposes of limited number of copies of copyrighted works has come to present one of the major problems in the copyright law in general and more specifically to the fair use doctrine.<sup>3</sup> The problem becomes more acute with the technological advancement in

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<sup>2</sup> Though the terminology used in the present work is 'photocopying', but the term is not defined in any statute. However, the word 'reprography' which is a wider term has been defined in the Copyright Act, 1957. Section 2(x) defines the term 'reprography'; it means the making of copies of a work, by photocopying or similar means.

<sup>3</sup> Rosalind S. Kurz, "Addressing the reprographic revolution: Compensating Copyright Owners for mass infringement", 15 *University of Michigan Journal of Law Reform* 261 (1982).

methods for making inexpensive photocopies<sup>4</sup> which has led to more tensions between copyright owners and users (especially students, teachers and library)<sup>5</sup>. In India, in August 2012, in *The Chancellor, Masters and Scholars of the University of Oxford v. Rameshwari Photocopy Service*,<sup>6</sup> few publishers filed a copyright infringement case against the photocopier who under implied or express permission by University of Delhi was making photostatted course packs or study materials available to students and researchers alike. The case is still pending before the High Court of Delhi but the temporary injunction was granted by the court whereby the defendant was restrained from making or selling course packs and also reproducing the plaintiff's publication or substantial portion by compiling the same either in a book form or in the form of a course pack. In addition to this, Association of Students for Equitable Access to Knowledge has also been impleaded as a party to the suit. This particular instance brought the educational exceptions in India under consideration. However, the problem of reprography is not *per se* new and has been a matter of debate at both international and national level.

### **Guidelines and Leading Case Laws**

The early fair use guidelines did not embody workable standards, but act as a basis for the development of further guidelines. The earliest example of such a fair-use guideline was the Gentlemen's Agreement, 1935 which has been recognised as one of the most important landmark in the history of the fair use privilege and was a product of long deliberations that started back in the year 1929.<sup>7</sup> Kenneth Crews, calls this agreement as “one of the first attempts to interpret fair use for education” and noted that it “remained the only major copying standard for almost a quarter of a century.”<sup>8</sup>

The agreement allowed library, archives, museum or similar institutions to make single photographic copies of a part of a copyrighted work; however these copies

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<sup>4</sup> Frank L. Duemmler, “Library Photocopying: An International Perspective”, 26 *Copyright Law Symp.* 151 (1976).

<sup>5</sup> Jane C. Ginsburg, “Reproduction of Protected Works for University Research or Teaching”, 39 *Journal Copyright Society of the USA* 181 (1992).

<sup>6</sup> CS (OS) No. 2439/2012.

<sup>7</sup> See generally, Peter B. Hirtle, “Research Libraries, and Fair Use: The Gentlemen's Agreement of 1935”, available at: [ecommons.cornell.edu/.../1/Research\\_Libraries\\_and\\_Fair\\_Use.pdf](http://ecommons.cornell.edu/.../1/Research_Libraries_and_Fair_Use.pdf). (Visited on November 30, 2014).

<sup>8</sup> Kenneth Crews, *Copyright, Fair Use, and The Challenge For Universities: Promoting the Progress of Higher Education* 30-31 (University of Chicago Press, Chicago, USA, 1993).

were not supposed to substitute the purchase of the original work and were meant only to facilitate research. This agreement was a model of consensual voluntary guidelines agreed to by copyright owners and users to identify the limits of fair use and was cited by both the trial and appellate courts in *Williams & Wilkins Co. v. United States*.<sup>9</sup> In this case, the publisher of various medical journals, brought suit against the National Library of Medicine (NLM) for making and distributing photocopies of its journal articles in the name of interlibrary loans. The commissioner held that the copying was beyond the scope of fair use; however on appeal, the decision was reversed. In a review sought by the publisher before the US Supreme Court, the decision of the appellate panel was upheld that the copying in question was fair. This particular case is of considerable importance and had effect on the revision of the copyright law in the year 1976.

In conjunction with the passage of the revised copyright law in the year 1976, the best known of all the fair use guidelines emerged known as Classroom Guidelines. The 1976 revision of the copyright law incorporated fair use doctrine in the statute and allowed copies for teaching but within the limits of the four factors as set out above. However, still there was uncertainty in law and the new law was open to broad interpretation. Consequently, representatives of educators, authors and publishers met during the years prior to passage of the 1976 Act in order to negotiate an understanding of the new law and the product of these meetings was the Agreement on Guidelines for Classroom Copying in Not-for-Profit Educational Institutions. These guidelines allowed, firstly, single copies of short items, such as an article or a chapter of a book to be made by a teacher for research or class preparation and secondly, multiple copies for distribution (single copy per student) subject to the limits of brevity, spontaneity and cumulative effect and copies must include a notice of copyright.

There were certain other limitations to this like students cannot be charged more than the actual cost, copying shall not be used to create anthologies, compilations or collective works and the copying cannot substitute for a purchase of books etc. Apart from the Classroom Guidelines, other guidelines also emerged like Music Guidelines, 1976;<sup>10</sup> and the Off-Air Videotaping Guidelines, 1981<sup>11</sup>. All these guidelines are referred to as early fair use guidelines for educational purposes.

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<sup>9</sup> 487 F.2d 1345 (1973).

<sup>10</sup> These guidelines addressed the copying of music for instructional purposes.

<sup>11</sup> These guidelines allowed a teacher, off-air recording of broadcast programming for educational purposes like later use or performance in classroom teaching.

After a brief introspection of the fair use guidelines, it is essential to discuss various judicial decisions on this point. The first infringement action against photocopying for educational uses arose in *Association of American Publishers v. New York University*.<sup>12</sup> In this case, publishers brought copyright actions against two shops that were indulged in photocopying copyrighted materials for student use. The parties arrived at out of court settlement and the settlement included an agreement that the shops would adhere to the Classroom Guidelines as a limit on fair use. The dispute again arose in *Basic Books Inc. v. Graphics Corporation*,<sup>13</sup> which had the 'course-packs' at issue. The publishers alleged that Kinko's had infringed copyright in their books by making multiple copies of lengthy excerpts and compiling them into 'course-packs' and selling the same to the students. Further, it was alleged that Kinko operated a programme to solicit from professors the business of making and selling copies. The court after analysing the four factors under section 107 concluded that the copying was not fair use. However, the court made it clear that the statute and not the guidelines, is the source of the law, further guidelines would apply to copying by an instructor or an educational institution and not by a for-profit copy shop.

In *Princeton University Press v. Michigan Document Services Inc.*<sup>14</sup>, again the struggle between the meaning of fair use in general and the applicability of the Classroom Guidelines was at issue under the circumstances similar to the *Kinko's case*. The court evaluated the facts of the case in the light of the four factors and concluded that the use was not fair and also pointed out that the guidelines state the minimum and not the maximum standards of educational fair use and the guidelines are not the law. However, it did not address the issue whether course-pack production may be fair use if conducted by a university or non-profit copy shop. Similarly in, *American Geophysical Union v. Texaco Inc.*<sup>15</sup>, the court held that the photocopying of eight articles from the Journal of Catalysis for use (articles would facilitate current or future professional research) by one of Texaco's researchers was not fair use. Though the court noted that photocopying was for researchers own need but concluded that the ultimate purpose was to strengthen Texaco's corporate profits. The court further clarified that its decision applied to systematic institutional copying and not to isolated copying by the independent

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<sup>12</sup> 759 F Supp. 1234.

<sup>13</sup> 758 F. Supp. 1522 (1991).

<sup>14</sup> 99 F. 3d 1381 (1996).

<sup>15</sup> 60 F. 3d 913 (1994).

researchers. However, in his dissenting judgment, Jacobs J., observed that the selection by an individual scientist of the articles useful to that scientist's own inquiries is not systematic copying, and does not become systematic because some number of other scientists in the same institution are doing the same thing.

In *Marcus v. Rowley*,<sup>16</sup> the plaintiff wrote a thirty-five page booklet on cake decorating and used it to teach adult-education classes and sold the same to her students with the inclusion of a proper copyright notice for two dollars. The defendant purchased a copy of the booklet and later developed her own booklet. The booklet so developed by the defendant contained eleven pages of the twenty four pages directly from plaintiff's work and the same was not acknowledged. The court ruled that the use was not fair use and applied the test of brevity, spontaneity and cumulative effect as contained in the guidelines to reach the conclusion that it amounts to copyright infringement. Similarly, in *Bridge Publications Inc. v. Vien*,<sup>17</sup> the defendant was accused of reproducing or instructing students to reproduce literary works and sound recordings for use in a for-profit course taught by the defendant. The court relied on guidelines and held that the defendant's use did not fit within the special guidelines as the defendant's copying was not limited and spontaneous, but was extensive and methodical and consisted of copying from the same author, time after time.

A recent case, *Cambridge University Press v. Mark P. Becker*,<sup>18</sup> goes beyond photocopying of copyrighted works and deals with uploading of excerpts from various books on a website by a university (though website can be accessed only by students). The complaint was filed by the plaintiffs, various publishers alleging that the defendants, officials of Georgia State University had infringed copyrights by allowing unlicensed portions of plaintiff's copyrighted books to be posted electronically and made available electronically to students. The court dealt in detail with every alleged copyright infringed work and majorly holds in favour of the defendants. Of the ninety nine alleged infringements, only seventy five were submitted at the start of the trial. While holding for the defendants the court observed that only the unlicensed use of five excerpts infringed plaintiff's copyright and except these all the alleged use was by a non profit educational institution for the non profit educational purposes of teaching and scholarship; free copies were

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<sup>16</sup> 69 F. 2d 1171.

<sup>17</sup> 789 F. 2d 342.

<sup>18</sup> 863 F. Supp. 2d 1190 (2012).

provided for the exclusive use of students and the portion so uploaded adhered to the limits so prescribed. The publishers have filed an appeal against this decision which is pending for now.<sup>19</sup>

The analysis of the case law depicts that the fair use doctrine in USA is flexible and have adapted itself to the new situations arising out of the technological advancement even in the area of educational reprography.

### **Analysing Various Situations on the Anvil of the Indian Copyright Act, 1957:**

Section 52 of the Copyright Act, 1957 provides copyright exceptions or permitted acts. The educational exceptions under this provision are as follows:

Fair dealing for research and private study:

Section 52(1) (a) (i) provides that a fair dealing with any work not being a computer programme, shall not constitute an infringement for the purposes of private or personal use, including research. Originally, under the 1957 Act, the exception provided 'research and private study'; this was amended in the year 1994 to 'private use, including research'. The object of such amendment was to avoid narrow interpretation of the words private study. However, these words are further substituted by the 2012 amendment to 'private or personal use, including research'. Further there is no definition as to what constitute research under this exception. However what needs to be ascertained is what the legislature wanted to convey by the use of the word 'personal' and whether it includes any legal person like organisation, institution or enterprises or merely an individual. Furthermore, it is an established fact that research for qualifying under this exception is required to be private research and not commercial research.<sup>20</sup>

Use of copyright material in the course of instruction:

Section 52(1) (I) provide that the reproduction of any work shall not constitute infringement of copyright work:

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<sup>19</sup> Jennifer Howard, "Publishers and Library Groups Spar in Appeal to Ruling on Electronic Course Reserves", available at: <http://chronicle.com/article/PublishersLibrary-Groups/136995/>. (Visited on November 30, 2014).

<sup>20</sup> See, *Rupendra Kashyap v. Jiwan Publishing House*, 1996 (38) DRJ 81.

- By a teacher or a pupil in the course of instruction; or
- As part of the questions to be answered in an examination; or
- In answers to such questions.

This particular exception is the most important exception as it allows reproduction of any work by a teacher or a pupil in the course of instruction. However, no definition has been given of 'teacher' and 'pupil' in the Act. In absence of any such definition 'teacher' and 'pupil' may mean any person who gives and any person who receives instructions respectively. Furthermore, it needs to be ascertained as to what will constitute 'course of instruction' and whether in such course of instruction, teacher is allowed to make multiple copies of a work for the purpose of distributing it in the class. This particular aspect is not dealt in any case till now.

With regard to the other exceptions like reproduction of a work as part of the questions in an examination and answers to such question has been explained by the court in the case of *Syndicate of Press University of Cambridge v. Kasturi Lal & Sons*.<sup>21</sup>, wherein the plaintiff who was a reputed publisher with all rights in respect of the publication of a book, 'Advance Grammar in Use by Martin Hewings'. The defendant published three guide books for the benefit of the students which incorporated verbatim the literary work of the plaintiff including complete set of exercises and the answer key to the exercise. The court held that the case was not covered by doctrine of fair dealing under sections 52 (1) (h), 52 (1) (a) (i) and 52 (1) (a) (ii) as the defendant's book could not be termed as questions and answers in an examination or criticism or review of the plaintiff's book.

The analysis of various situations are necessary in reference to the provisions of the fair dealing under the Indian Copyright Act, 1957 before arriving at any conclusion on the problem of doctrine of fair use vis-à-vis photocopying for educational purposes. Such situations are:

- *A researcher/student intends to use a photocopy of an article for her private use:* This particular aspect is very well covered by section 52(1)(a)(i) of the Indian Copyright Act, 1957 i.e. fair dealing of a copyrighted work for private use or research and needs no further discussion.

<sup>21</sup> 2006 (32) PTC 487 (Del). Also see, *Syndicate of the Press of the University of Cambridge v. B.D. Bhandari*, 2009 (39) PTC 642 (Del).

- *A student intends to get a photocopy of a book for his own use because the book is expensive:* The cost of the book cannot be a consideration under the provisions of the act. Some may argue that photocopy of a complete book may be justified under section 52(1)(a)(i) of the act because it is a fair dealing for private use. Other may argue that photocopy of a complete book cannot ever be a fair dealing because of its potential effect on the market. This particular aspect will need due consideration of all other aspects before arriving at any conclusion.
- *Photocopy of a book out of print for private use:* This may very well be considered as an example of private use. Though photocopying the entire book would normally exceed the bounds of fair use/dealing but since the book is out of print and no longer available, the copying is acceptable.
- *A teacher intends to distribute photocopy of an article in a class i.e. multiple copying:* This situation is very well covered under the statutory fair use provisions in the USA, however, in India it is still doubtful whether such multiple copying can be covered under any educational exception.

But if a liberal approach is given to the exception relating to reproduction of work by a teacher or a pupil in the course of instruction and further due consideration is given to the public interest specifically the interest of the students in this particular situation, then it may very well be fair use within the canons of the statutory provision.

- *Issue of course packs* i.e. a teacher copies excerpts of documents, including copyrighted text books and journals from various sources and plans to distribute the materials to his class as a course pack: This situation will require a complete fair use/dealing analysis and consideration will be given to the amount and substantiality of the portion included, its effect on the market etc. In the USA since multiple copying for classroom use is allowed so inclusion of the excerpts in a course pack will not change a fair use to an infringing use. However, one more consideration crops up i.e. when the photocopy shops sells such course-pack then it is essential to look into an important facet, at what price the



shop is selling the course pack, whether there is a profit inclination in it or it is merely recouping its cost.

## Conclusion

Therefore, under the Indian Copyright Act, 1957, though there are various educational exceptions but their scope is not yet clear because of very less judicial pronouncements on the same and the views as to what situations are covered by it may differ according to the facts and circumstances of the case. However, if the courts give purposeful interpretation to the statutory copyright exceptions as done in above mentioned case, then only the educational exceptions can serve its purpose. Even the courts have time and again reiterated that section 52 must receive a liberal interpretation and resort must be made to the principles to identify fair use.<sup>22</sup>

Further, the existing exceptions fail to distinguish between different stages of research and give no clear guidance as to the quantity of material that can be copied in reliance on the exceptions. The position in USA in this regard is clear because of the judicial pronouncements on the same and existence of fair use guidelines which have time and again pointed out the quantity the use of which may be considered fair. In addition to this, it cannot be simply concluded that photocopying for educational purposes amounts to fair use in every situation and it largely depends on the facts and circumstances of every case. Every case is to be judged on various aspects like amount of the portion taken, its effect on the market, commercial or non-commercial use etc.

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<sup>22</sup> *Academy of General Education, Manipal v. B. Manini Mallaya*, AIR 2009 SC 1982.

# Role of Libraries in Leveraging and Maintaining the Copyright Issues

*Dr. Durga Prasad<sup>1</sup> and Vijay Singh<sup>2</sup>*

## Abstract

*Intellectual Property rights are issues gaining popularity and need to be discussed for the sake of fairness and honesty in each type of work. Libraries are playing an important role in maintaining these issues by protecting the authors copyright and other publication related issues. This paper is mainly focused on different types of Intellectual Property Right, their types, misuse by different types of users and role of library in protecting the same. Libraries being the major resource of information need to be more careful in controlling the copyright issues of authors and publication. In this paper researcher would like to draw the attention on the violation of copyright due to unawareness of users.*

Keywords: Intellectual Property right, Copyright, Act, Libraries, Fair use and Fair sale.

## Introduction

The concept of copyright originated with the slogan “To every cow her calf; therefore to every author his copy”, given by Irish King Diarmid in 6<sup>th</sup> century A.D. However copyright evolved as a result of the invention of printing which revolutionized the techniques of reproduction. Copyright are among the many intellectual property protection granted under Indian law to the creators of original work of authorship such as literary works (including computer programs, tables and compilations including computer database which, codes schemes in any others form, including a machine readable medium). Dramatic musical and artistic works cinematographic films and sound recording.

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## **Intellectual Property Right (IPR)**

Intellectual Property Rights are legal rights, which result from intellectual activity in industrial, scientific, literary and artistic fields. These rights safeguard creators and other producers of intellectual goods and services by granting them certain time-limited rights to control their use. Protected IP rights, like other property, can be a matter of trade which can be owned, sold or bought. These are intangible and non-exhausted consumption

### **Types / Tool of IPRs**

1. Patents.
2. Copyrights and related rights.
3. Trademarks.
4. Industrial designs.
5. Geographical Indications.
6. Layout designs for integrated circuits.
7. Trade Secrets.
8. Protection of new plant variety.

### **Basic Principles of Copyright**

1. Copyright vests in original work.
2. Copyright is negative right.
3. Copyright does not vest in ideas.
4. Copyright is a right with limitations.
  - Temporal limitations
  - Compulsory licenses
  - Permitted use or Fair use or Fair dealing doctrine
  - Geographical limitations
5. Copyright is a bundle of rights
  - Moral rights
  - Exclusive economic right
  - Neighboring right

### **Main Features of Copyright**

Monopoly Right; the copyright restricts others from using the work that has been the creation of the author.

Multiple right; copyright is not just one right but rather a whole bunch of right which include right of adaptation, right of reproduction, right of publication, right to make translation, communication to public etc.

Negative Right; copyright is prohibitory in nature where in others are stopped from copying/reproducing the work.

### **Libraries and Copyright Act**

In the libraries providing photocopies to scholars is a common feature. If it is done for reference and research, it is fair use and the copyright law is not violated. If it is done for commercial purposes and result in a major loss to a publisher, it is a violation of the copyright. Libraries will have to be careful about any such violations taking place in their libraries.

Another issue which results in the violation of the copyright Act is to use an author's work as one's own or copy major portion from it and use them in one's own work without quoting the source or taking permission from the author.

In the past academia did not violate intellectual property right to a great extent. There few cases referred to in Indian author the editorial remarks that "our right to physical property are as important as our rights to intellectual property. In fact, when an intellectual experience is written down, printed and published or presented in an artistic form, it takes the shape of a physical property though based on intellectual experience." In the internet era this property is misused to a great extent. Libraries should not be the places from where such violations should take place.

### **Literary Work**

Meaning and Definition of literary work. My area of discussion would be limited to the literary work and its protection. Literary work as defined by Peterson j; reads as "word which is expressed in print or writing, irrespective of the question whether

the quality or style is high. The word literary seems to be used in a sense somewhat to the use of the question whether the quality or style is high. The word literary seems to be used in a sense somewhat to the use of the word literature and refers to written or printed matter." Literary work may include novel, poem short stories, books on any subject, computer programmers, tables' computer databases, Song lyrics. Section 2 (a) of the Act literary work is defined as computer programs, tables and Compilation ,including computer database but it does not set down which works are deemed to be library

### **Library Operation Involving Copyright Issues**

**Photocopies:** Making Xerox copies of documents for wider use when additional copies or reprints are not available.

### **Optical Character Recognition (OCR) Technology**

OCR is technology that enables you to convert types of documents, such as scanned paper documents, PDF files or image capture camera into editable and searchable data. Using OCR converting print material into electronic form for networking. For example, Magazine article, brochure, or PDF contract your partner sent to you by email. Obviously, a scanner is not enough to make this information available for editing, say in Microsoft word. All a scanner can do is create an image or a snapshot of the document that is nothing more than a collection of black and white or color dots known as a raster image. In order to extract and is nothing more than a collection, camera image-only PDFS, you need OCR software that would single out letter on the image, put them into words and then- word into sentences, thus enabling you to access and edit the content of the original document.

### **Archiving**

Rare books, out-of print books, unpublished manuscripts are converted into digital format for archival purposes. Libraries the right to archive unpublished material addresses archiving published materials. The requirements for the two kind of materials are different; to make a copy of an unpublished work, a library's purpose must be preservation or security and it must have a copy it has or used to have in its collection, because the copy has been damaged, is deteriorating , lost or stolen, or the format has become obsolete. Such published work also must be out of print.

## **Print Copies**

One purpose of the archiving right is to allow libraries to make one-of-a kind and out of print books, manuscripts and periodicals available to other libraries.

**Multimedia Products:** Original CR law protects print, audio and visual products separately. All these are clubbed into single Products in multimedia and there is no clear cut policy of CR dealing with them.

**Digital Libraries:** there are virtual libraries with no boundaries limiting their collection. They span across geographical boundaries all over the world. copyright Law, literally speaking, does not approve of this.

## **The Role of LIS Professionals**

We do consider that research is a continuous process and everyone must have freedom to develop from earlier thought and scientific or technological invention or discoveries. Library and information science (LIS) professional can play an important role in supporting the need of researchers and also in protecting the right of copyright holders. The academic professionals should be educated in this regard. Downloading, copying or making available copyrighted works in electronic form have to be performed under license from copyright owner since copyright violations lead to revenue loss of publishers and authors. Fair use generally includes use of a copyright work for personal research, criticism or review. Keeping in view large scale violations of copyright, LIS professional should do the following;

- Create awareness amongst users about copyright, IPR, patents, etc.
- Track technological advance in particular micro fields.
- Provide comprehensive literature searches form various databases, both free and commercial on particular micro subjects.
- Provide full-text of patents, etc. for R&D, study, teaching, etc.
- Provide translation of documents to users.
- Offer SDI service on any micro-aspect of a subject, either form global or national resources.
- Information about various patenting agencies in the world be given.
- Help in finding new licenses for new technologies developed.

- Help finding licensors of needed technologies.

Infect any copyright –related service to academic staff and student will help in reducing the violations. The above service can be provided in electronic form or hard copy form as per requirements of users. There are so many patents databases, which are available free of charge though the internet. LIS professionals must have information about all of them and also about commercial databases on patents etc.

### **First Sale**

According to Russell, C. (2003)"Once a library or an individual has lawfully acquired a copy of a work, the first sale doctrine of the copyright law (17 U.S.C section 109) allow that the library or individual may exercise another exclusive right of copy right –the right to distribute the copy- without permission of the copyright infringement." However, the library or individual must also observe provisions of "fair use."

### **Fair Use**

The provision of RA 8293 (Philippines) Will be cited here. Comparison with provision in other countries with provision in other countries will be made as appropriate.<sup>5</sup> in general, these provision are similar to those in other countries although there be variations in certain specific applications. The fair use of a copyrighted work for criticism, comment news reporting, teaching (including multiple for classroom use), scholarship, research, and similar purpose is not an infringement of copyright. Decompilation, which is understood here to be the reproduction of the code and translation of the form of the computer program to achieve the inter-operability of an independently created computer program with other programs, may also constitute fair use. In determining whether the use made of a work in any particular case is fair use, the factors to be considered shall include; The purpose and character of the use, including whether such use is of a commercial rapture or is for non- profit educational purposes; <sup>5</sup> Philippines. Republic Act 8293, June 6, 1997. Part IV chapter viii sec. fair use of a copyrighted

### **Not Fair**

- All the articles of a conference proceeding transferred to a re-writeable CD-ROM disk in a CD-ROM drive attached to one's computer so he can

keep and read them at home.

- Transmit by computer network of the whole of an electronic publication for the purpose of permanent local electronic storage, reading on screen, and printing on individual request
- To put an interesting group of journal articles up on the department web site for his colleagues to read. He must get permission of the copyright owner first.
- To the article into electronic form. It needs the permission, if granted would cover whether the library could retain a copy permanently.
- To post part or all of an electronic publication on the department web site for his colleagues to read. He must get permission of the copyright owners first.

#### **The 4- factor test for fair use**

- What is the nature of the copyrighted work? Is it fact, or is it imaginative? If it is fact, the use principle could probably be applied.
- Will the use of the material have impact on the potential market for the material?
- What is the character of the use? Is it nonprofits, educational or personal? If your answer is yes, it could be considered fair use.
- What is the amount and substantiality of the portion used? Is it just a small amount relative to the whole? Is it a big portion of the work? If the answer is yes and it is a small amount, then fair use could apply.  
If the answer is yes and the creator of the work will lose money substantially, then the Use is not fair.

The private reproduction of a published work in a single copy, where the reproduction is made by a natural person exclusively for research and private study, shall be permitted, without the authorization of the owner of the copyright of the work. Copying however shall not extend to;

- The reproduction of an entire book, or a substantial part thereof, or of a musical work in graphic form by reprographic means.
- A compilation of data and other materials.
- A computer program.
- Any work where reproduction would unreasonably prejudice the



legitimate interest of the author. The copying or adaptation of a computer program is limited to the necessity for.

- Archival purposes, and for the replacement of the lawfully owned copy of the computer program if lost, destroyed or rendered unusable.  
The guidance for “fair use” is limited content (small portion of the work), limited time (used in a semester of the class).
- The use of the computer program in conjunction with the computer for the purpose, and to the extent for which the computer program has been obtained.

## Conclusion

Copyright is a serious issue for protecting IPR. There is a big market of piracy literature today. This kind of piracy has become a major threat for the author of a copyrighted work. As academic librarians strive to engage themselves as educators teaching an understanding of copyright policies to students will greatly influence rigor. Education will not only lead to a decrease in cases copyright violations.

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# Digital Technology, Libraries and Copyright Issues

*Lagdhir Rabari<sup>1</sup>*

## Introduction

Acquisition, organization, dissemination and preservation these are the main activities of today's library, which are being performed from manuscripts to printed collections and same activities shifted in digital libraries also. Increasingly, libraries are utilizing digital technology to fulfil users need and preserve library collection for generation to generation. These contents may be or may not be available to the public. Libraries also create, manage, host and offer digital content services using latest technology. The digital content and digital technology raises significant copyright issues for libraries as they acquire, host and disseminate them for their users.

Enhanced search features, multiple access, anywhere, anytime access, huge resources, easy access, latest, these are the silent feature of digital libraries. Technology wise advance development took place. But same advance changes did not happen in copyright law. Still copyright law speaks only for print collection, no amendment in copyright law as it would happen parallel to technology.

Until recently libraries did not worry about copyright, the rules were pretty clear and the ways we functioned were much anticipated and approved in the copyright laws. In the time of print and photocopy machines the rules for fair use were clear and commonly understood. But those rules becomes absolute now. Today's library faces many challenges in lieu of copyright laws like fair use, digital archives, ILL, DDS, licensing, and so forth. Copyright law should not always in favour of creator, owner; does not always restrict a patrons to access literature for knowledge and creativity, but should help a patron's fear, provide legal guidelines, understanding and give best solutions in the interest of owner and patron both.

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## **Digital Technology**

The **Digital Revolution**, also called the **Third Industrial Revolution**, is the change from analog, mechanical, and electronic technology to digital technology which began anywhere from the late 1950s to the late 1970s with the adoption and proliferation of digital computers and digital record keeping that continues to the present day. Implicitly, the term also refers to the sweeping changes brought about by digital computing and communication technology during (and after) the latter half of the 20th century. Analogous to the Agricultural Revolution and Industrial Revolution, the Digital Revolution marked the beginning of the Information Age.

Library had adopted the digital revolution in absolute form. Library adopted digital technology in its all from, digital contents, digital communications, digital storages and digital processing, digital content generation and archives. Digital library, electronic library, virtual library, library without walls these all new terms are used for today's library. Users do not know where content is stored, or from where they access the library resources. Library content is on cloud, in addition to physical and paper based collection the library collections are stored in digital format.

There had been tremendous changes in the world of libraries in this age of digital technology. The previous concept of libraries is no more as convenient and faster as the present digital concept. Digital libraries are characterized by equitable access, reduced barrier of distance, timeliness, shared resources and content delivery. They can provide access to a large quantity of collection. In this digital technology any users, at any place, at any time can access the contents of large and vast resources

## **Intellectual Property Rights**

Intellectual property refers the creativity of minds like inventions, literary and artistic works includes symbols, images and names. Intellectual property is divided in two parts.

1. Copyright
2. Industrial property

Copyright covers literary works, artistic works, films, music, dramatics works, architectural design etc. and industrial property includes patent, trademark, industrial design and geographical indications.

Intellectual property is treated like any other type of property. This intellectual property is protected under the laws to promote creativity and inventions. Intellectual property rights allow creators or owner to take benefits from their own work created or generated by them. The base of this protection is mentioned in Universal declaration of human rights also. Then after Paris convention, WIPO Treaty, Berne convention, TRIPS these are many international conventions and agreement regulates the intellectual propriety rights protections laws.

### **Copyrights**

Copyright (or author's right) is a legal term used to describe the rights that creators have over their literary and artistic works. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs, databases, advertisements, maps, and technical drawings.

Copyright laws provide protections to authors, artists and other intellectual property (copyright categories) creators to protect their literary, dramatics and artistic creativity. Copyright protection is given only to expressions, and not to ideas, procedures, methods of operation or mathematical concepts.

There are two types of rights under copyright law is available. One is economics rights and second is moral rights. Under the economic rights owner to derive financial reward from the use of his works by others and in moral rights which protect the non-economics interest of the author. This bundle of rights can be exploited or licensed separately or together. The copyright owners enjoy certain basic rights under the copyright law. They hold the exclusive right to use or authorize others to use, reproduction, broadcasting, adaption etc.

Copyright protection is obtained automatically when intellectual property takes place. No, need of registration or other formalities to get protection under the law, but it is advisable to register it with copyright registration office. Most countries have system in place to allow voluntary registration. Such registration can help while any disputes arise over the ownership or creation or financial transfer, sales and other assignment, transfer rights.

Fair use doctrine. Copyright is not absolute; they are subject to a number of limiting principles and exceptions. These exceptions come under the fair use doctrine of

copyright law. Fair use is a limitation and exception to the exclusive right granted by copyright law to the author of a creative work. Fair use is a doctrine that permits limited use of copyrighted material without acquiring permission from the rights holders. Examples of fair use include commentary, criticism, news reporting, research, teaching, library archiving and scholarship. It provides for the legal, unlicensed citation or incorporation of copyrighted material in another author's work under a four-factor balancing test. The term "fair use" originated in the United States. A similar principle, fair dealing, exists in some other common law jurisdictions. Civil law jurisdictions have other limitations and exceptions to copyright. Fair use is one of the traditional safety valves intended to balance the public's interest with the property interests of copyright holders.

Copyright is to promote creativity not for to curb creativity but the way copyright cases happens or publishers impose restriction to access their content is look one side development. Here the another questions arise, even original creators do not have major role but the protection layer systems developed by the publishers for only financial gain is under question mark.

Before the current act of Indian copyright act, 1957 the Indian copyright act, of 1914 was totally governed by imperial copyright act, 1911 which was the copy of British copyright act, 1911. Even the current copyright act still carries the fair dealing concept same from UK copyright act.

Copyright means the sole right to produce or reproduce the work or any substantial form thereof in any material form whatsoever. The copyright legislation of India confers the exclusive right upon the owner of the copyright to reproduce or authorize reproduction of the work in any material form including the storing of it in any medium by electronic means. The copyright law is concerned with the negative right, preventing the copyright of physical material existing in the field of literature and arts. Its object is to prevent the writer and the artist from unlawful reproduction of his/her material.

The copyright 1957 defines infringement in relation to a literary, dramatic, musical or artistic work, a reproduction thereof. Reprography that is the act of reproduction has been defined in the act as a means the making of copies of a work, by photocopying of similar means. The moment one places a book on the scanner for the purpose of duplicating it, it shall be an act of reprography. For the purpose of

law, the scanner would then assume the status of duplicating equipment which under the act, means any mechanical contrivance or device used or indented to be used for making copies of any work.

The right of reproduction of the work is the exclusive prerogative of the right holder of the copyright subsisting in the work, if any person or entity duplicates a work, it shall be an infringement of copyright subsisting in the work and such unauthorized duplication shall make the person/entity legally liable for infringement of copyright law.

Now, reproduction can result in two forms – either commercial exploitation of the work or for purposes of private non-commercial use. The act of copying or reproducing would constitute a cases of infringement even if it is for non-commercial purposes unless specifically saved by the fair dealing clause of the copyright statute which permits a degree of copying of work or reproduction of full works under certain circumstances where overriding social interest are involved.

### **Indian Copyright law**

The first copyright act was passed in 1914 in India. It was nothing but a copy of the law from the UK copyright act, 1911 with few changes to make it applicable to the India. The next act which is the current statue it was the copyright act, 1957 with adopted many principles and provisions contained in the UK act of 1956. The act also created copyright societies which collect and disburse royalties and instituted civil and criminal penalties for infringement. The copyright act, 1957 was enacted to amend and consolidate the law relating to copyright in India. The act has been amended five times. Since then amended once in each year 1983, 1984, 1992, 1994 and 1999 to meet the national requirements.

### **Infringement and fair use provisions in Indian Copyright act, 1957**

Under the India copyright act, 1957 section 52 certain acts not to be infringement of copyright and in description it had mentioned that 52 (a) a fair dealing with a literary, dramatic, musical or artistic works (not being a computer programme) for the purpose of (i) private use including research, and (ii) criticism or review, whether of that work or of any other work. (b) a fair dealing with a literary, dramatic, musical or artistic work for the purpose of reporting current events in a

newspaper, magazine or similar periodical, for the purpose of judicial proceeding or for the purpose of a report of a judicial proceeding, reproduction or publications by the secretary of either house of the legislature, exclusively for the use of the members of that legislature, reproduction made or supplied in accordance with any law for the time being in force, reading or recitation in public for any reasonable extract, (g) use of educational institutions, so described in the title (h) the reproduction by a teacher or a pupil in the course of instruction, as a part of questions to be answered in an examination, (n) the publication in a newspaper, magazine, or other periodicals of a report of a lecture delivered in public, (o) the making of not more than three copies of a book (including a pamphlet, sheet of music, map, chart or plan) by or under the direction of the person in charge of a public library for the use of the library if such book is not available for sale in India. (p) The reproduction for the purpose of research or private study, or with view to publication, of an unpublished literary, works kept in a library, museum or other institution to which the public has access.

Amendments made in 2012 added the term non-commercial public library before only public library. Now public library means the library, which gets grants from government and tax exemption.

(iii) for clause (n), the following clause shall be substituted, namely: "(n) the storing of a work in any medium by electronic means by a non-commercial public library, for preservation if the library already possesses a non-digital copy of the work;"; (iv) in clause (o), for the words "public library", the words, "non-commercial public library" shall be substituted;

Explanation for the purposes of this clause, a "non-profit library or non-profit educational institution" means a library or educational institution which receives grants from the Government or exempted from payment of tax under the Income tax Act, 1961. (43 of 1961)

In section 52 of the principal Act, in subsection (1), (i) for clause (a), the following clause shall be substituted, namely: (a) a fair dealing with any work, not being a computer programme, for the purposes of (i) private or personal use, including research; (ii) Criticism or review, whether of that work or of any other work; (iii) The reporting of current events and current affairs, including the reporting of a lecture delivered in public. Explanation. The storing of any work in any electronic

medium for the purposes mentioned in this clause, including the incidental storage of any computer programme which is not itself an infringing copy for the said purposes, shall not constitute infringement of copyright.";

From the above analysis of Indian copyright rights act, 1957 and amendment 2012 it looks that the copyright law is absolutely failed to solve the digital libraries problems. Still this copyright act, talk or define traditional libraries provisions only. What the main issues of copyright laws in the digital age; No provision or clarification for digital archives, confusion for inter library loan, many issues with public domain resources archives, ownership of digital resources, doctrine of fair dealing, digitization, No library association, copyright societies or any national organisation is active on this. On the other side on behalf of copyright owner publishers are so active to restrict their content from public use. They see only their financial gain, how to restrict the others common man from this intellectual output and increase their profit. And that is the result publishers have created one more layer in this system called licence agreement. There is no applicability of copyright law in the license agreement. Only those register students can access that content then what about fair use provisions because other from general public cannot access it. Which law is superior in this situation copyright or contract (license agreement) imposed by the publisher. On the other side general public does not have much awareness about the new development. Who has a time to go in court and make it clear whether we should follow contract law or copyright law in these issues? Since this is not well defined in copyright law itself than what we can expect from others.

### **Copyright Issues in Digital Age**

It took 57 years' time to amend the word for fair use eligibility libraries from public library to non-commercial public libraries. It was clear that public libraries in India are non-for profit organisation. Other things still is unclear in this non-for profit library term, in clarification those libraries which are getting the government grants or excepted under the income tax act, for taxation are comes under this category. Still this act, is not able to clear the definition of libraries those are eligible for this fair use provision. Amendment of 2012 cleared the word public library alone but not academic library or research libraries. Research and academic activities are done in academic and research libraries. Other thing about those private universities/academic institutions libraries, which neither get grants not exception under income tax act, but the users are from public. Though public have find out



their way, any researcher, faculty members or student is eligible under doctrine of fair use benefits but why not clarity in act. At international level this provision is defined with commercial and non-commercial libraries. All academic, public and research libraries are treated as non-commercial libraries and others are commercial.

### **Preservation Provision**

Indian copyright law does not able to make changes according to the technology advances. The base theory and practice of protection, and fair use doctrine is completely changed with the development of digital technology. But still our act define preservation, protection and fair use doctrine based on the print materials only. If books is not available in India for sell then, library can make three copies but it is not clear about not available in India means what? If book is not with publisher in India but available through online distributors from abroad/online and ready to delivery in India then, what we will say about this clause. It is extremely impossible to define what fair dealing means. What should we can do and what not. What with print copy and what with digital copy.

### **Entry of Contract Law**

Copyright law is not enough to define or support the interest of the public for research or creativity. Whereas in digital age more and more acts are taking place which impose restriction to access literary works. Online digital contents are offered by the publisher. In the purchase process whether it is subscription base or perpetual access so called life time access library sign licence agreement with publisher. Means the digital content now in the purview of contract law. All access rights including digital preservation and use after preservation be controlled through contract law. Earlier it was clear on inter library loan issues. Library can land the books to nearby libraries under the boundary of fair use dealing. But in license agreement if publisher mention the inter library loan access rights for other users then it is ok, otherwise as per common license clauses these digital content is for registered users of that particular institution only. You cannot give anything to others. Even as per copyright act, under the fair dealing clause public have rights to access for personal teaching and research purpose. But here publishers have no concern with what copyright law say. Unless and until if Indian copyright act, will not define these issues clearly it is going to become more complicated and the interest of public right will be lost.

### **Inter Library Loan Provision**

In print collection there is a practice of inter library loan services followed by libraries. If library does not possess the book or journal article, which need by their users then the library can acquire or bring the books or photocopy of article from other library for the users. These practice are followed under the provision of fair use for purely academic and research purpose. Here it was practised easy because in print collection after purchasing the book library get absolute ownership of that physical copy of book to sell or pass the book to other users. There is no restriction to pass that book to other users under inter library loan provisions. But in digital library there is no absolute ownership over that eBook or eJournals. Also the digital library contents are accessed under the special licence agreement and that agreement restrict the library to pass that content to users other than register users of that particular institution. There are some publisher give the relaxation to provide the inter library loan services in the digital environment with some condition but not all publishers allow this. Sometimes same publisher use double norms for two different libraries/countries. It allows the ILL access in one county and same publisher restrict this provision in other country. This is the very big dilemma in the digital environment.

### **Digital Archives**

It seems that the copyright law obstructs the purpose it was designed to promote the science and the useful arts creativity. Copyright law hinders the advancement of knowledge in the digital realm because it has failed to keep up the balance between creator and users both.

One of the major obstruction here is to convert the print collection in digital format for preservation. But the law says no during the copyright protection period. There is a provision but with strict condition, if materials is under rare books category, not available in market for sale in India, damaged or lost than. We see the court cases against Google eBooks project, HathiTrust digitization project and many more in this regards. But why such a strict restriction. Libraries are ready to promise that their interest is only preservation. We know libraries will scan only those books which are available in their library. Other thing except text books other books do not come in multiple copies in library. So, it will not affect the publishers business

because one copy if already sold in the library, then library will not purchase another copy or copies. There will be no effect on any type of commercial loss to publishers in this preservation practice by library. Other side benefit to library and library user are lot. Best solution of preservation. All qualified users of that particular library can access it same time all, access chances will increase, no chance of damages, lost etc. Good indexing and search from content by key words is possible, which is good for retrieval purpose. More beneficial for research. If the technology has provided these opportunities than why not libraries are allowed to do it.

Also this preservation method is not violating the doctrine of fair use. Intention is good and fair, no commercial gain, no business loss etc.

### **Digital Archives from Public Domain Works or Orphaned Works**

The copyright term extensions have failed to “promote the progress of science, creativity and preservation of our natural heritage in the digital time. We know the copyright protection is for limited period and after that it becomes open for all, comes on public domain category, no copyright at all but the corporate companies or publishers use that public domain works and with some modifications they sell it with copyright warning. With some modification in digital format or metadata design they put these content under their control and it becomes their property. Same which happen in patent with Ayurvedic medicine. Some of the pharmaceuticals company claim for Patent on some plants, leaves, roots or like that as an inventor of medicine. But that was already invented by Munies, ancestors, kept open without any claim in ancient books of Ayurveda, Yogdarshan, Upanishad, Vedic texts etc. Copyright law should define clear direction and protection for those open source resources or public domain resources that should not come again in fake copyright control. As an example this type of practice is followed by digital database provider. Sometimes they put open access content from blogs or newspapers and claim it as a copyright materials, you cannot copy from this, prior permissions should be taken before re-generating the same, now who is copyright owner here, the person who had written in newspaper, the publisher of newspaper, blogs or the database owner (publisher) who has copied and put in their database. Publisher and aggregator mixed these open access materials with their copyrighted works to gather.

Sometimes contents are available as an open access or public domain but it is not clear that, it is open only for access or library can download and put that content in its digital archives. Even websites and blogs are open but they write copyright by so and so. What does it means. Today's open content may become copyrighted by tomorrow. Here the public rights or access rights and copyrights need to define in different way. In eBooks and e Journals, Blogs there is embedded links, photos, videos how library can treat with this digital content. These issues need to be addressed by the copyright law.

### **Dark Archives**

Some library staff digitized the collection but put the digital copy on dark archives, instead of available for users. No permission from owner but purpose is purely preservation. Copyright study group in USA were also in favour of this practice. After digitization if copyright owner object, library need to remove it otherwise they can keep. Copyright law can suggest some policy or ways as a preservation solution.

### **Copyright Permission Mechanism**

In some cases copyright status is unclear. Copyright boards, copyright societies need more active to keep and update copyright holders' database, so if library want to know or want to contract them, they can do it. There should be fast and effective mechanism for library or fair use purpose beyond that fair use limit so, library can contact easily and get benefit for the academic, research point of view.

### **Disabled Peoples Provision**

I will mention that, is fair use will allow facilitating access by reproducing materials for the disabled. The national federation for the blind has intervened in the HathiTrust case and asked to be a defendant. They believe fair use for libraries is primarily important to serve the needs of the disabled by expediting reading for the blind. There is controversy over the scope of these provisions. Publishers always think on doubtful towards library initiatives. And we know without certain clarification or intervention through law this would be difficult to implement.

## **E-Reserve**

The study of the any students filled with heavy casebooks, reference books, handbooks, journals and many other literature resources. Regardless of the class, typically professors assign same reading materials by compilation from various materials available in the library. Publisher have objection in the practice followed by professor in academic institutions. In April 2008, three publishers Oxford Uni. Press, Cambridge Uni. Press and Sage publications filled a copyright infringement law suit against Georgia state university. The suit claim ninety nine specific instances of copyright infringement in the digitisation of the complied course pack.

## **Document Delivery Services (DDS)**

DDS is the services offered by the libraries finding the new ways to take advantages of digital and communication technology. The services has come to enhance the librarian offering of “Just in time” research methods to reach out at the fingertip research capabilities to their faculty, students and research scholars. In this services library scan and delivery the digital copy to the users. In the traditional system there was no much issues in this service but in digital age some publisher object this services. Scanning the materials in such a big quantity for research work does not allow under fair use provisions. In Indian copyright right law there is not clarification on digital advancement issues faced by the libraries.

## **Acquisition of Born-Digital Content**

Libraries also acquire direct digital content by subscription or perpetual purchase. It is general practice that research journals and other digital database are accessed on subscription model. Whereas books are purchased in perpetual access or permanent access. Some of the traditional issues of copyright are resolved with this direct digital access content because here the term of license agreement trump copyright like multiple access, printing, downloading, sharing content among peers, lost, damage etc. but there is need to negotiate license for digital content that provide the access and rights, which users need. Recently I observed one condition in this perpetual access for e-journal copy. In this condition publisher had written that you have perpetual access right, which you have subscribed even after discontinue of current subscription. But here again it was mentioned that if the journal transferred to other publisher than you have to negotiate with that publisher.

What happen if we purchase lakhs of books and after some time you have to re-negotiation and re-enter in agreement with other publisher and that publisher want everything in their favour. What is the guarantee for this? Even for perpetual access publisher charges some fees as an annual maintenance cost for archives access. Currently they want more and more business that is why fees are in limited amount but publisher have right to change it and definitely it will go up. When time will come that. Copyright law need to define the issues associated with born digital content also, this is the latest trend of libraries and it will goes beyond imagination situation. Clear clarification, guidelines and direction is needed to deal in copyright matters with born digital content.

In addition to above subscription and perpetual purchase model, there may be other type of digital acquisition in which publisher deliver the eBook to library, with full ownership right just like a print copy ownership. This content could be treated like other collection acquired by library. There are also copyright issues associated with the e-copy

### **Legal Depository Libraries**

Government of India had made a legal provisions to preserve the Indian publications in recognized public libraries. Which functions as a depository by holding copies of all Indian publications under the statutory provisions of the delivery of books act, 1954. But due to lack of awareness and willingness small publishers and individual authors, institutions, societies do not follow the direction of this act. Whereas international depository libraries like Library of Congress and other national libraries have started to accept direct digital copies under this legal provision. These depository libraries are open for public access and the same copyright issues for ILL, DDS, photocopies, downloading, printing and sharing of digital content among the groups are face by the depository libraries. The main issue is with digitization. Preservation of original print collection in digital format and open them for public access need more clarification and justification from copyright point of view.

### **Conclusion**

There are many points of discussion on these issues. Copyright owners and Lawyers do not understand what libraries are about and what would be lost without

the libraries contribution to the society. Library is a fundamental part of the pedagogical process. Effectively advocate the digital technology advancement for future adjustment and revisions in the law that will improve access to information and dissolve barriers currently facing by libraries and their users. Without adequate knowledge, awareness and movement from libraries, library association and academic community copyright issues becoming very complicated. On behalf of the library users, general public and academic community library professionals need to become more active and take a leadership role to define, develop, and implement copyright law keeping the interest of both copyright owner and users in mind, as followed internationally.

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# **An Overview of Copyright Issues in Digital Libraries**

*Nazrul Islam Azmi<sup>1</sup>*

## **Abstract**

*Intellectual property of digital resources of the library is the crucial issue because more and more of print resource of the libraries are replaced by the digital resource. These resources are either born digital or it may be digital equivalent of existing print resource. Moreover the digital resource has one more dimension, i.e. accessed online or through internet. Copyright and license for access to number of users etc are the issues arise. This paper has taken an overview of the problem of the copyright laws of the digital contents of the modern day's libraries.*

**Keywords:** Digital Resources; Copyright; Digitisation

## **Introduction**

### **Intellectual Property and Digital Libraries**

A digital library is a collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, micro form, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection. Due to growing computing power and development in digital storage capacities, digital libraries are gaining much importance in current scenario of social and professional lives. According to WIPO (World Intellectual Property Organisation), Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. Intellectual property covers a wide range of branches that includes; copyright, trademarks, trade secrets and patents. Because of complexity of the digital collections, one or more branches of intellectual property may apply. All digital collections have had to deal with the intellectual property issues, especially the issue of copyright. The

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digital collections poses even more challenges when it comes the intellectual property consideration. The Copyright is a mix of two major theories; the economic right or economic protection theory and the moral rights argument. The economic right theory says the creativity in the society is a good thing. But to simulate that creativity, creator needs some incentives. Such incentives may include providing limited monopolies with an economic value, such that a author may sell or otherwise dispose of his or her creation for monetary or other value moral right theory asserts there is an intangible relationship between an author and that author's creation. This relationship remains even after the sale of the physical embodiment of the creation. Copyright and Intellectual Property Rights initially developed to give a publisher control over right to publish (copy) a work. They were extended to give right to authors, painters, photographers, film producers, software writers, and many others.

Digital resources of the libraries cannot be made over restrictive through the technology means like DRM. The provision of access of these resources by the scholars, researchers as library exceptions and fair use must be assured. For better literacy, economic growth and quality of life, "Access to Information" is a crucial factor. Information hubs/houses like archives, libraries and museums, etc. have had a fundamental role to play in the development of a democratic society by enabling access for all members of the community to a wide range of knowledge, ideas, opinion as well as cultural, and scientific and educational information. Libraries provide access to digital material through a variety of legal constructs; license agreements, exceptions under national copyright law, legal deposit, and the public domain. Digital rights management (DRM) poses a threat. At worst, it can block access, at best it can inhibit by making access time-consuming and costly to arrange. Today, these institutions are crippled by a parallel harmonisation of limitations and exceptions thrust upon them by technology (digital) that serve the public interest, glorifying the "rights" and de-meaning "fair-use" (Hombal, 2012).

### **Copyright of Digital Resources of the Library**

Libraries deals with the copyright laws, but in the digital environment it is not the same. For the purpose libraries has to get the path from the case laws that court must also evaluated for potential impact to libraries. Statutory and case law determine the path libraries must take to accomplish their mission. Copyright law is complex and ambiguous. It poses many challenges for librarians, but it is crucial that

librarians have a basic understanding of the various provisions of the law in order to make informed decisions. However, the law is only one part of the equation. The interpretation of the law by the courts must also be constantly evaluated for potential impact to libraries (Ferullo, 2004).

Once the library has decided to digitise the library materials, it has to deal with various legal problems. Digital technology gives libraries an excellent opportunity to improve their services and provides new ways of preservation and dissemination of library collections. However, the different stages of digitization of the materials in a library involve many copyright issues. There are legal problems and purely practical ones such as locating the owner of copyright. Librarians need to take note of these problems and explore possible solutions (James, 2005). In the digital environment of the libraries, it is also felt that there should be a balance between interest of the copyright owners and general public users. The trend towards international harmonisation of copyright laws based on international standards set down by the international conventions, agreements and treaties, and the use of copyright works by libraries also advocates that libraries should keep abreast of international copyright standards and domestic case law to ensure that their interpretation legislation maintains a balance between the "public interest" and the rights of copyright owners to earn a living from their works (Sheat, 2004). The way libraries are serving to their users is changing according to the advancement of the technology. Now it is e-books, e-journals and various other e-resources with the print resources. Now legalities i.e. copyright are not the same as to the print resources only. There is copyright as well as licenses for access right etc. Digital technologies are changing the way libraries make books, articles, and other materials available to the public. These services are clearly in demand and provide numerous benefits to both libraries and their patrons. However, the use of digital media such as books or articles in electronic form, e-books, and audio books may have legal implications that are otherwise nonexistent with the use of traditional printed materials. These legal issues can be categorized as either copyright or contract. Librarians look at the copyright and licensing issues that libraries must consider when acquiring digital copies of books or making them available to the public (Sookman, 2010). The treatment of the materials for copyright differs considerably. Urs (2004) discusses copyright within the scholarly communication process and the role of libraries in providing access to copyright materials in the digital age. The argument is made that the balance of "rights" and "exceptions" that has been maintained for 300 years needs to be reconsidered for scholarly

communications, such as theses and dissertations, as well as for articles in electronic journals. This type of information is fact-based, often resulting from public funds, and is part of the intellectual heritage of academic institutions, and so is very different from creative works within the entertainment industries. The archival repositories are serving the user online through digitised contents. To serve digitised resources online have the legal liabilities i.e. copyright and license to access. These repositories have to go for very difficult process of getting copyright before to serve the users. Archival repositories are increasingly considering mass digitization as a means of meeting user expectations that materials be available online, remotely. Copyright is frequently noted as a significant obstacle to these efforts, but little empirical data exist on the copyright permissions process in archives. Akmon (2010) reports the findings of a study of the copyright permissions process for the Jon Cohen AIDS Research Collection at the University of Michigan. The study found that significant time is required to contact and negotiate with rights holders and that the biggest obstacle to getting permission is non-response. Of those requests that get a response, the vast majority are to grant permission. While few of the requests were met with denial, the data suggest that commercial copyright holders are much more likely to deny permission than other types of copyright holders. The data also show that adherence to the common policy of only displaying online those documents with explicit permission will likely result in substantially incomplete online collections. The reuses of the archival material deposited with the repositories are very common. The awareness of about the copyrighted materials of the depositories are most of the times nil. Dryden (2012) presents the findings of an exploratory study that investigated how users of archival material deal with the copyright-like restrictions that archives place on reuse of their holdings. In interviews with seventeen historians and genealogists, the author explored their awareness of copyright when reproducing archival holdings, their reactions to rights management measures encountered, and the extent to which they want to be educated about copyright. Although study participants are aware of copyright issues, their knowledge is incomplete and sometimes muddled. They are often annoyed by the controls repositories place on reuse and will ignore them. Although some think archives should make more efforts to educate users about copyright, others are not interested in educational efforts that will slow their research. The academic libraries manage their digital information use through a policy framework for the legalities. The digital resources are either born digital" or digitised resources. Koulouris (2012) present a policy decision tree for digital information management in academic libraries. The decision tree is a policy guide,

which offers alternative access and reproduction policy solutions according to the prevailing circumstances (for example acquisition method, copyright ownership). It refers to the digital information life cycle, focusing mostly on its creation (digitized or born-digital), acquisition, copyright and availability. The resulting decision tree is based on a policy model, which was initially divided into two branches -- one for digitized and one for born-digital information. The decision tree simplifies and unifies commonly adopted rules which were identified through a questionnaire survey on the access and reproduction policies of 67 digital collections in 34 multidisciplinary libraries (national, academic, public, special, etc.) from 13 countries. The results of the decision tree are used to propose alternative policies. There are various projects that deals with copyright management of the content of the digital libraries Nunez, (2011) describe ENCLAVE, a project designed to provide access for users to contents under copyright in digital libraries. ENCLAVE exemplifies the Spanish National Library's commitment to technology as a means to aid public access to information, culture and education. Outline the technical requirements of the works that make up the project are made, and the criteria and procedures are drawn for the integration of copyright works inside the framework of the Spanish Digital Library.

Acquiring copyright permission for digitising the resources is not a very simple process. George, (2005) have conducted a test project with the aim was to explore the issues related to acquiring copyright permission with the goal of determining effectiveness and efficiency using the least complex process. A random sample of books was chosen, relevant information was recorded, request letters were sent and tracked, and results (permission received or denied) were analyzed with respect to publisher, publication data, time required, and issues related to the process. About 52 percent responded with a yes or no with 24 percent yes responses. Nearly 25 percent never responded, addresses were not found for about 16 percent, approximately 7 percent were too complicated to pursue and response time averaged about three months. Results were affected by the limited staff time available to work on the project, the many changes in staff, and the sometimes lengthy time between follow-ups. The low rate of positive responses indicates the need to focus on publications and publishers most likely to provide permission: older and out-of-print materials, non-commercial publishers, special collections, while using designated staff and personal contact to improve effectiveness. The academic libraries promote the use of their digital resources. The faculties and student have the concept of using these digital resources without taking care of

legalities. Wu, Huan-Chueh, (2010) in their study has two primary purposes: to explore common copyright-related problems that arise when librarians promote the use of digital library resources; and to investigate college students' misconceptions of copyright laws that arise when the students use these resources. Four librarians in charge of the management of digital library resources were interviewed regarding student-users' problematic copyright-infringement behaviours that these librarians often encountered when they promoted the use of digital library resources. Also, a semi-structured questionnaire with nine questions about copyright-related behaviours was developed and distributed to college students. Students needed not only to identify whether the behaviour was acceptable, but also to explain the reasons for their identification. A total of 109 valid sets of data were collected from 18 universities or colleges, the sets comprising responses from 48 undergraduate, 56 postgraduate, and five doctoral students. The librarian-interview results indicate that students' problematic behaviours included systematic downloading, distribution to unauthorized users, and going beyond the purpose and character of academic use. The student-survey results indicate that students had four major areas of misunderstanding about copyright laws when using digital library resources: the digital resources should be shared; the downloaded digital resources are all legitimately authorized and permitted; all educational use is fair use; and any downloading is permitted as long as students are paying tuition. This study explores students' understanding and misunderstandings that arose when students used the school digital library resources and discusses implications of these results for librarians and libraries with regard to the design of related instruction.

### **Copyright of Documents of Electronic Delivery Service**

Document delivery services of digitised documents are very much different so far the copyright is concerned. It is not easy to serve the users of electronic document delivery of digitised materials because the legalities are cumbersome. Rosemann, (2010) aims to describe the development and current situation of electronic document delivery by public libraries in Germany, taking into account the impact of the changing regulatory framework of German copyright law and the consequences of law suits against libraries and Subito. Rosemann, (2010) describes the current situation, i.e. the new licensing strategy of the Subito delivery service and the national licensing strategy for electronic media of German libraries and the German Research foundation come into focus. The negative development of copyright law posed a new challenge for document delivery services in Germany

since the statutory licence in German copyright law no longer covers electronic document delivery provided by Subito and other library document delivery services. Licence agreements with publishers or intermediaries such as copyright clearance centres are now necessary to allow delivery of electronic documents. These negotiations have proven to be very complex and controversial, but now a complicated framework of licence agreements has been concluded and will enable German libraries to generally provide electronic documents in the future. DRM-systems, however, still are a challenge for customers and the delivery service. Demand of delivery services has decreased and may decrease even more in the long run due to availability and direct accessibility of electronic documents, together with the national licensing program in Germany.

### **Copyright and “Fair Use”, Library “Exceptions”**

To provide access to digital resources of the library is a new form of service. These digital resources of the libraries are either borne digital or digitised resources. Legal liabilities on these resources also differ. Some are free but needs access permissions and some have the copyright and access right and few resources does not have copyright but digitised in absence of original owners. People are in the midst of a transition to digital libraries. This process is in its earliest stages, but it is at a point where they face key structural choices that can have dramatic long-term consequences. Those choices will influence the types of libraries that will emerge and the extent of competition that they will see in the digital library space. As they build and populate digital libraries, they face critical questions about how those libraries will acquire rights to content. For current purposes, it is useful to have three types of content in mind: 1. the public domain; 2. so-called orphan works, meaning works in copyright where the copyright holder is unidentifiable; and 3. in-copyright works where the copyright holder is known. Each of these classes poses challenges. There are no copyright limits on the use of public domain works, but there are substantial access issues nonetheless (Picker, 2012). The problem of providing appropriate tagging of copyright and access right information to the digital resources are very common. Sometimes it becomes very difficult to identify how much portion of the digital resource comes under fair use. Schlosser, (2009) examines the copyright statements attached to digital collections created by members of the Digital Library Federation. A total of 786 collections at twenty-nine institutions were examined for the presence of statements and their content evaluated for common themes. Particular attention was paid to whether the

institutions in question are meeting their obligation to educate users about their rights by including information about fair use and the public domain. Approximately half the collections surveyed had copyright statements, and those statements were often difficult to distinguish from terms of use and were frequently vague or misleading. The laws devised for the copyright of digital resources and exceptions for the library are liable for the consideration to reform. Copyright Registrar of USA Maria Pallante (2013), argued that reform of Section 108 (copyright exceptions for libraries embodied in Section 108 of the U.S. Copyright Act,) is important for both libraries and rights holders and that libraries play a key role within the copyright system. There are sufficient gaps in implementing the copyright laws to the digital resources so as to tackle the 'fair use' and library exceptions. Dames, (2005) discuss the many grey areas of copyright law and how they apply to librarians and to digital information. Using a hypothetical scenario, topics such as digital fair use, circumstances under which libraries may legally copy material, what materials can and cannot be copied, what responsibilities do librarians have when faced with a patron who makes suspicious requests, and how database licenses may negate privileges given to libraries under copyright law are discussed.

### **Copyright / Access Right of “Orphan Collection”**

At the time of digitization there are many resources that doesn't have copyright original owner so as to get the copyrights from them. These digitised resources heavily accessed. The legality for accessing this type of digital resources is very challenging and efforts are made to take them in legal domain. Papadopoulou, (2012) analyzes the 'orphan' works problem of the digital libraries' perspective. 'Orphan' works, i.e. works of an unidentified -- or unlocated -- author, create a legal uncertainty, mostly affecting the large scale users in their mass digitization projects, that, although they need to use the works and they are willing to obtain a license, they are unable to do so, since they do not know from where to ask it. Aim of Papadopoulou, (2012) is to explore the controversial situation that the 'orphan' works have created and the way that the legislation of the European Union law has decided to deal with this by adopting the Directive 2012/28. Part one will study why, how and when 'orphan' works entered into the modern copyright world. Part two will look through the problems that originate from 'orphan' works: economic, cultural, technical problems and the multi-territorial issue. Next, after analyzing the relevant legal framework for 'orphan' works in relation to digital libraries in part



three and touching upon the legal solutions that exist -or are proposed- to confront this problem (part four), in part five it will be analyzed how the 'orphan' works are treated at the European level and the Directive 2012/28 will be presented. Finally, in the last part (part six) some tools to prevent the creation of future 'orphan' works will be mentioned. (Papadopoulou, 2012)

Libraries, archives and other institutions have the documents to digitised and provide online access to users to fulfil their needs. Sometimes most of the documents known as “orphan work” have get the difficulty to make available for the access to needy users. Fair Us and library exceptions in laws can be utilized to access these resources by the needy users such as scholars and researchers. Many works that libraries, archives, and historical societies would like to digitize are "orphan works," that is, works for which the copyright holder either is unknown or cannot be located after a diligent search. Due to copyright risk if an owner later shows up, non-profit libraries and similar institutions have been reluctant to digitize and make these works available, greatly limiting access to important cultural and historical information. While a legislative fix may soon be proposed Urban (2012) argues that legislation is not necessary to enable some uses of orphan works by nonprofit libraries and archives. Instead, U.S. copyright law's fair use doctrine, which allows certain unpermissioned uses of copyrighted works, provides a partial solution. Though it is an incomplete solution, fair use has some significant advantages over other approaches through which libraries and archives could make publicly beneficial uses of orphan works. Under fair use, there is no need to develop a licensing system, significantly reducing administrative and transactional costs, and eliminating socially wasteful license fees for works that are not on the market, and for which an owner is unlikely to exist. Second, fair use has the flexibility to accommodate change over time as libraries and archives discover the best ways to search for owners, preserve works, and make them available. Finally, allowing fair use of orphans by libraries and archives helps fulfil copyright's critical purposes of promoting the dissemination of knowledge and supporting speech and free expression. The wider access to the books and other materials facilitated overall development of the society. To providing the access to information resources in digital formats is one of the necessities of the modern society. Many efforts are undertaken worldwide. One of them is Google Books, The mass digitization project that has enabled Google Books scan more than 20 million books worldwide (80% from participating libraries and the rest from more than 50,000 publishers participating in the program). The Library of the Complutense

University of Madrid joined in 2006 and 120,574 books were scanned. These are now available in Google, UCM's catalogue and databases, Europeana and Hathi Trust. This has improved the dissemination and preservation of this bibliographic heritage (Magan, 2014).

## **Conclusion**

Digital libraries have gaining much importance since the traditional print media is rapidly replaced by digital media due to various advantages. Intellectual Property of digital contents requires wider consideration. Copyright is one of the branches of Intellectual Property. Libraries provides access to digital material through variety of legal constructs; license agreement, exceptions under national copyright law, legal deposit, and the public domain. Interpretation of the law by the courts must also be evaluated for potential impact to libraries. Librarian needs to take note of locating the owner of copyright. There should be a balance between interest of copyright owner and the general public users. The copyright within the scholarly communication process and the role of librarian in providing access to copyright materials in digital age is also a challenging area. Demand of Electronic Document Delivery Serves is decreased and may decrease even more in the long run due to availability of direct accessibility of electronic documents. Copyright statements are often difficult to distinguish from terms of use and are frequently vague and misleading. Allowing Fair Use of Orphan by libraries and archives helps fulfil copyright critical purpose of promoting the dissemination of Knowledge and supporting speech and free expression. Project like mass digitization of Google Books has improved the dissemination and preservation of bibliographic heritage.

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# Copyright in the Digital Age

*Priyanka<sup>1</sup>*

## *Abstract*

*The advent of digital technology has greatly accelerated the dissemination and distribution of information with great speed and accuracy never seen before. It is much easier to disseminate literary, artistic and scientific work to a very large community of Internet users and users of electronic media. As we move forward into the Digital Age, copyright issues are becoming far more complex. Several issues of concern to liability of internet service providers and library community have been raised and discussed. The librarians in the digital environment have the same responsibility to collect information and help the readers by providing it even if information is in electronic form. The role of librarian is to be protected and enhanced. The copyright protection should be encouraging the use of information for creativity and not for creating hurdles in the use of information. There is urgent need to reconsider the existing copyright law to make it suitable in electronic age to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries. The need for well thought out licensing strategies are required to serve the interest of authors, publishers, and libraries.*

Keyword : Copyright, Information Technology

## **Introduction**

The Digital Age has added new challenges to copyright law enforcement. Digital media are the building blocks of Multimedia authoring. The Internet has made the authorship of digital media a particularly complex issue. New enforcement techniques must be applied. Copyright laws protect original works of authorship that are fixed in a tangible medium of expression. The basic elements are: expression and originality. The Multimedia authors who makes an unauthorized copy of someone else's work, or portion of someone else's work, is probably violating the copyright owner's rights. Works of authorship include literary works

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(including computer programs); musical works; pictorial and graphic works; motion pictures and other audio-visual works; and sound recordings. To codify copyright law as it applies to digital information, the Information Infrastructure Task Force (IITF) was formed in 1993. The IITF in turn established a working group on intellectual property right to examine the intellectual property implications. In 1994, the group published "Green Paper," a preliminary draft report on intellectual property right. The working group recognized the need to review current copyright laws in light of the fact that copying and dissemination of information are extremely easy in the digital age. At this time, copyright law is murky in respect to Multimedia. It may be several years until legislation is passed, and it may be impossible to enforce, particularly for Multimedia materials distributed over the Internet. The World Intellectual Property Organization (WIPO) is a specialized United Nations agency formed to protect intellectual property worldwide. Intellectual property consists of industrial property (trademarks, inventions) and copyrighted works. WIPO attempts to enforce copyright laws by cooperation between countries. More than 170 countries are currently members of WIPO.

## **Cyber Law**

The Parliament of India has passed the Information Technology Act-2000 which provides the legal infrastructure for e-commerce in India. This Act has received the assent from the President of India and has become the law of the land in India. It is the first Cyber Law of the country. Cyber Law is a term which refers to all the legal and regulatory aspects of Internet and the World Wide Web. Anything that concerns with or related to or emanating from any legal aspects or issues concerning any activity of net users and others, on Internet in cyber space comes within the ambit of cyber law.

## **Intellectual Property**

Every human being is endowed with certain but varying degree of intellect. Each individual is uniquely gifted. The word intellect originates from the root "intellectus" in Latin which means the power of knowing as distinguished from the power to feel. Man has the capacity to acquire knowledge and increase his knowledge bank by gathering more and utilizing it as and when required throughout his life time. An intellectual makes his living by selling the product

intellect, which is nothing but the brain child of his original idea, creative thought, which forms a special kind of property known as intellectual property. The intellectual property is ownership of something intangible. A right is legally protected interest and object of the right is the thing in which the owner has this interest. The object in intellectual property right is immaterial property.

### **Intellectual Property Right (IPR)**

IPR connotes the right to literary, artistic and scientific work; performances of performing artists; phonographs and broad-cast; inventions in all fields of human Endeavour; scientific discoveries; industrial designs; trademarks; service marks and commercial names and designations, and all other products resulting from intellectual activity in the industrial, scientific, literary and artistic fields. It is a generic term covering patents; registered design; trademark; copyright; layout of integrated circuits, trade secrets; geographical indicators and anti-competitive practices in contractual licenses [1].

### **Copyright**

Copyright protects the labor, skill and judgment of someone author, artist or some other creator, expender in the creation of original piece of work. It may be given for creators of literacy; dramatic; musical and other artistic work and producers of cinematographs and sound recordings. In fact, it is a bundle of rights, including interlay, rights of reproduction, communication to the public adaptation and translation of work. A copyright is a set of exclusive legal rights; authors have over their works for a limited period of time. In the United States, U.S. Copyright Office works "To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". The main objectives of copyright law are to promote the access and the use for information and protecting the work from infringement and for encouraging the authors for pursuit of knowledge. The library professional should negotiate few electro copying privileges for legitimate non-commercial usage of electronic information similar to the kind of fair use as in the case of printed materials [2]. In the context of new information society the thrust area of economic activity shifted to knowledge based industries and intellectual goods, described impact of piracy of intellectual property act viz. viopiracy, geopiracy and IT products of new information society. The developed countries demand protection

against piracy while developing countries feel that such protection will prevent entry of new comers and felt that in the free flow of information IPR was hurdle to it [3]. There is need to modify the IPR which confers exclusive right to the author to exploit the work created by him/her for monitory gains in compensation of labor, skill and capital investment in generating information. On the contrary, the IPR should not give undue benefit to the author and should not allow him to make excessive profit and should not become a barrier in the free flow of information. The need for well thought out licensing strategies are required to serve the interest of authors, publishers, and libraries [4].

### **IPR in Digital Context**

The advent of digital technology has greatly accelerated the dissemination and distribution of information with great speed and accuracy never seen before. It is much easier to disseminate literary, artistic and scientific work to a very large community of Internet users and users of electronic media. The issues mentioned above are specific to the library community [5]. The libraries as a service have allowed their users to read a document, to browse through the whole collection; to search through the library catalogue; to supply Xerox copy for specific individual research and education purpose; to procure photocopies of articles from other libraries or clearing centers; to widely distribute the re-produced copies of documents requiring public awareness and to provide inter library loan service. Whether all these activities will continue in the digital age? If digitization is considered as reproduction, it is clear that in digitization the initial work is merely changed into the digital form and the process of changing is accomplished by a machine, without any creativity. At the same time if it is considered as a translation from one language to another, the digitization is also a change from natural language of humans in to binary language of machine. In digitization however, there is no creativity involved and it could be considered as an activity similar to reprography. The copyright protects creative works. Simply transformation in to the digital form of an original document cannot be considered as Creativity. The transmission of information on Internet can be considered similar to broad casting and copyright law cannot be applied. Internet transmission is global in nature. A tangible object carrying a traditional work distributed lawfully comes under the principle of exhaustion of distribution right. It is not appropriate to apply this right to a work transmitted on Internet. The transmission on Internet is different from any tangible object fixing of the work.



### **Fair Use Guidelines for Educational Multimedia**

There must be credit and copyright information on all copies. The project must include a notice that the materials are included under the fair use exemption and are restricted from further use. The online use of a Multimedia product distributed over the web requires that access be limited to classroom participants, and the length of time the product remains online be limited. With restricted access the materials may remain available for two years. On an unsecure network one can use the materials for only 15 days. Many institutions have evolved internal policies and guidelines based on an interpretation of the current laws to help answer questions about what materials an instructor or student can and cannot use.

An author of Multimedia content has the same rights as those of other materials and anyone who violates those rights is subject to penalty. What makes Multimedia content different, especially Multimedia content distributed over the Internet - an environment designed for information exchange - is that violating copyrights is so very easy: text can be selected and copied, images downloaded by way of a simple mouse-click. As a Multimedia author, one should to be concerned with establishing and protecting ownership of his/her materials. One must take steps to ensure that Multimedia content is not vulnerable to infringement.

### **Three Ways to Protect Ownership of Materials are as Follows:**

#### **Restrict Access**

For distributing Multimedia material over the Internet, enable user name and password options. To circulate a CD-ROM of Multimedia material, restrict use to classroom participants.

#### **Watermarking**

This is particularly useful while distributing Multimedia material over the Internet. Photoshop provides a method to register contact information with Dig marc Corporation, the company that provides the service, and are assigned a creator ID number. One should use Photoshop to embed the contact ID in the image. Then when users download and open that image in Photoshop, they see an indicator that means the image is copyrighted. To embed a watermark, one must first register with

Dig marc Corporation--which maintains a database of artists, designers, and photographers and their contact information--to get a unique creator ID. Then embed the creator ID in images, along with information such as the copyright year or a restricted-use identifier [6].

### **Copyright Notice and Registration**

A copyright notice informs viewers that the work is copyrighted, which would eliminate the claim of innocent infringement in the case of copyright violation. Registration for large Multimedia projects is a wise. To copyright your multimedia materials, place the copyright symbol and year at the bottom of each page that contains the copyrighted material. Copyright symbols are not required, but are highly recommended because they are often the first line of defense against copyright infringement. Contrary to popular belief, a "general copyright" does not exist. To protect copyright of original material, one must contact the government agency that handles copyrights in the country where he/she reside. In addition, one may use Telnet to access current software program copyrights.

### **Conclusion**

A database is normally defined as the structured storage of data in a computer system. As election of data and arrangement of data in a structured way could be considered as intellectual creation, database, accordingly should be protected by copyright law. The fair use of print material by allowing reproduction in a reasonable way for private study, research or education is well understood. But in the context of digital information, because it is distributed to a larger community, it is difficult to judge, comprehend "fair use", access and control the infringement of copyright law. It is almost impossible for a copyright owner to know which person used his/her work. It is also impossible for the Copyright owner to give permission to use and receive remuneration. In this context it is necessary to modify the copyright law. The librarians in the digital environment have the same responsibility to collect information and help the readers by giving it even if the form is electronic information. The role of librarian is to be protected and enhanced. The copyright protection should be encouraging the use of information for creativity and not for creating hurdles in the use of information. The Librarians should continue to work as catalyst for the free flow of information between the owners of copyright and the users of the information.

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# Strengthening the Content Protection in Electronic Age: Adherence to the Indian Copyright Law

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## Abstract

*The present paper “Strengthening the Content protection in Electronic age: Adherence to the Indian Copyright law”, talks about the mechanisms by the adoption of which online content can be protected to a large extent from the threat of misutilization. The digital era in which we are living is aiding people belonging to different parts of the world to remain interconnected and an enormous amount of information exists in the cyber space. This is subsequently making the huge multinational companies to jump to the cyber space. Online data protection is both a need and a necessity. In India, there exists a copyright law which works for the safeguard of the information existing virtually and hence secures the copyright holder. The paper drills on the protection measures that can be adopted by the digital right holders to make their content secure from any sort of misuse. By length, various other copyrightable objects in a website that stands as a medium of information and exchange in electronic age have also been dealt in the paper.*

Keywords: Copyright law, Misutilization, Online data protection.

## Introduction to the Theme

We all have ideas and concepts and some of us do try to expand and propagate it by publishing it online. Now it's fairly obvious that no one wants their idea to be copied by the others and hence ruin all their hard work. Now, It's a common understanding among the IPR people that not the 'ideas' can be protected but only the expression and expressions can be made in different ways.<sup>1</sup> Such expressions do attract different protections based on their type. These assets are intangible but do enjoy

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legal protection. There are a large number of elements that exist in any website. Counting it, may include a logo, the content and the background elements. The website may also include the design of text and the graphics used, any type of music and image display software used. All these elements are subjected to intellectual property protection.<sup>2</sup> There also includes the database rights (if any) underlying in your website.<sup>3</sup>

Technology has brought all of us even closer. The manner we deal from day to day has undergone rampant changes. The companies have realized that making online presence is equally important. Day by day, brand promotions and advertisements are reaching to its height.<sup>4</sup> Now it has become a common man analysis to observe the physical world moving to the virtual one. Almost all brands in order to grasp the slightest of the opportunity besides owning their own stores also exist virtually for example Reebok, Fastrack, VIP, Puma, etc. One furnished name among them is Flipkart which is an 'online price comparison portal'.<sup>5</sup> The website enables its customers to shop online among a wide range of products.<sup>6</sup> IRCTC online reservation portal is another stoppage which handles online ticketing operations of the Indian Railways.<sup>7</sup> The website is convenient and easy to use.<sup>8</sup>

Unfortunately, there are no E-commerce dedicated laws in our country and dealt grievances are tried under the Information Technology Act, 2000. However as the online popularity of the work increases, the faster increasing are the risks of copying it. As we have discussed above, the contents are not only restricted to the words or documents that are uploaded online. Such content also includes the photographs that are uploaded online, any sort of graphics or music videos. There are again various hidden matters like the source code of a website, the algorithms used, data and flow charts etc. Since the category of contents available online are large and wide, hence the protection available to them. At present, we have in our country a 'copyright law, a trademark law and an equally efficient 'patent law'. These entire laws stand on the line to make the protection regime strong and stronger. However, our discussion at the present paper would be restricted till the ambit the copyright law allows.

### **What do we mean when we are Referring to the Term 'Electronic'**

In reference to the topic, the term 'electronic' can be referred to that computer era where each and every part of the globe is connected to one another by the means of

telecommunication technologies and network which aids towards the transmission of data.<sup>9</sup> This is an open network place where numerous copies of text, images, sound and video files can be easily created and transmitted which brings a great infringement and threat to intellectual property owners.

### **Online World & the Involvement of IPR System**

With the expansion of internet and the remarkable spreading of information and knowledge, the intellectual property system is being propelled towards the debate of future online world and its stability. The maintenance of digital society is at question since information and knowledge available online are gaining the position of major source of value. The most common type of infringements includes hacking of the computer systems and then illegally accessing its records. There needs to be a great involvement of the IPR system in the e-commerce activities which are at a great threat.<sup>10</sup> Users may easily get victimized of the online misrepresentation made by the hackers and the breach of Confidentiality, Privacy and Fraud. Such e-commerce websites on one hand do try to imitate all the basic characters of the parent domain (that may be a well repudiated e-commerce website with a large number of customers follow-up), they also do copy all the contents of the parent website in order to establish the best replica.

### **The Website and the Copyright Issue**

A website may look as a singular entity however the concept is much complex as it seems to be. A collage of components are included in any website. For say, one company may own its copyright over the images used in the website, another company may own copyright over the design applied at one's site. Similarly, the graphics, text designs and backgrounds may be the copyrighted work of an entirely different individual. Hence when an individual is copying any element from a particular website, he should be cautious enough as at the same time he would be infringing the copyright of that person by breaching the law.

### **The Website Developer and the Copyright Ownership**

There are instances where the website has been developed by the employees for any third person. This is a case where basically most of the big companies outsource the creation of their company's website to a private contractor. Normally such private

contractors own copyright over the website unless a contract for agreeing on a different term has been negotiated between the parties. Where no valid agreement has been entered, the copyright ownership of the website rests with the designer and for the purpose of the slightest of the change in the website; the company shall have to contact the designer.<sup>11</sup>

### **Website Materials Owned by Others**

Currently the state of technology is such that website contents can be easily copied and used. However such practice though easy to adopt is illegal. Using materials without getting prior permission breaches the copyright agreements and may lead the infringer to face dire consequences. Hence before copying any content, prior license<sup>12</sup> must be asked to be granted. Similarly there are various online tools available in one's website that are basically provided to increase the website's feasibility. A similar umbrella protection is available to such website tools. However many a times, finding the right copyright owner is not an easy job. Hence what most of the website developers do is that they try to initiate the developing of the website using the materials that is already available in the public domain. For works that are not in the public domain<sup>13</sup>, prior permission needs to be acquired. Such information can be gathered by looking at the *Collective management organisations*<sup>14</sup> that simplifies the process of granting licence.

### **Method of Availing Protection: Letting People Know That the Content is Protected**

As per the assumption of many people, the website contents and materials can be freely used. At the same time there rises the need of warning the users by the means of any disclaimer or notification that appears on the start-up of the webpage. Such start-up disclaimer must clearly distinguish between what matter of the website can be further transmitted and what matter is subjected to copyright. It is equally workable if the proper copyright © symbol is placed next to the copyrighted matter and that will fulfil the business. Similarly, the photographs and images used in the webpage can be 'watermarked' to let the users know that the matter is subjected to copyright.

## **Controlling Access and Use of the Website Content**

For the purpose of controlling the access of the website content for say to limit the audience or to let an age specific population to gain access to the website, the method of 'online agreements' is appreciated. Such agreements let the visitors to surf through the website contents for a limited period of time. Another method is to upload the content into several parts with sufficient details. When the user tries to access the full content, he has to fulfil the login details.

## **Conclusion**

A copyright exists not merely on an idea but on the expression of it. When an individual challenges to develop a new literary work and utilizes to maintain it in his/her personal website, the work must be secured from the threat of misutilization. The cyberspace we are dealing with here engulfs an enormous amount of data and proportionally is the threat of misutilization. Now a day, users find it an easy way to utilize the work that is available online without acknowledging the legal consequences of such attempt. It lies the prior responsibility of the website owners to protect their content. However, there are various methods through which user asses to the website contents can be controlled and managed. The Indian Intellectual property system is various ways through its wings boots the protection which one can utilize. Online data protection is both a need and a necessity and safeguarding the information ensures the maintainability of the right that the Indian copyright law vests in the copyright holder.

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  11. Under the copyright laws of some countries, a modified site may be considered a “**derivative work**” of the original site. Derivative works can only be made with prior permission of the copyright owner of the original work. In most countries, you also have the obligation to respect the **moral rights** of an author. A web designer has the right to have his/her name on the work (where you changed the site, the attribution should state that the site has been changed, unless you have obtained the designer's consent), and it is not permitted to change the site in a way that would prejudice the designer's honor or reputation.
  12. A **license** is an agreement whereby the person who owns the IP (licensor) authorizes another person (licensee) to make certain uses of the IP, under certain conditions and usually in exchange for payment.
  13. In most cases, copyright lasts for the lifetime of the author plus 50 or 70 years. After that, the work enters the “**public domain**” and may be used without authorization of the copyright owner. Some works are in the public domain because the owner has indicated a desire to give them to the public without copyright protection.
  14. **Collective Management Organizations (CMOs)** monitor uses of works on behalf of creators and are in charge of negotiating licenses and collecting remuneration. There is often one CMO per type of work (such as publishing, music, screen writing, film, television and video, visual arts) and per country. Details of the relevant CMOs operating in your country can generally be obtained from the national copyright office, or from your industry associations.

# Copyright in the Information Epoch: An Overview

*Sumeet Handa<sup>1</sup>*

## **Abstract**

*In the present paper we are discussing about copyright in the information era. The paper discusses Indian copyright law, International copyright law, duration of protection, issues related to fair use, and copyright facilitators. The paper also discusses digital technologies and copyright as well as copyright protection technologies.*

Keywords: Copyright, information, Intellectual-Capitalism, Digital Technology

## **Introduction**

It is an epoch of knowledge explosion. With the developments in the fields of information technology and communications, knowledge is being shared without any limitations. It is also an era of globalization. With the emergence of new concept of 'Intellectual Capitalism', capital is no longer in banks but in minds. The return on intellectual capital is considerable and not measurable by any standard. It manifests itself as tangible asset in the form of inventions, technologies, designs, books, etc. The intellectual capital requires protection from piracy and imitation. The Copyright Act attempted to balance the rights of authors to benefit from their writing and stimulate creativity and the needs of the readers to have ready access to information. [1]

Copyright came about with the invention of the printing press and with wider public literacy. As a legal concept, its origins in Britain were from a reaction to printers' monopolies at the beginning of the 18th century. Charles II of England was concerned by the unregulated copying of books and passed the Licensing of the Press Act 1662 by Act of Parliament, which established a register of licensed books and required a copy to be deposited with the Stationers' Company, essentially

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continuing the licensing of material that had long been in effect Copyright is a legal right created by the law of a country, that grants the creator of an original work exclusive rights to its use and distribution, usually for a limited time, with the intention of enabling the creator (e.g. the photographer of a photograph or the author of a book) to receive compensation for their intellectual effort.

Copyright law is a branch of law deals with the rights of intellectual creators like creativity concerned primarily with mass communication. It is also concerned with all forms and methods of public communication, not only in printed publications but also with sound and television broadcasting, films for public exhibition in cinemas, etc. and even computerised systems for the storage and retrieval of information. [2]

### **Definitions:**

According to **World Intellectual Property Organization (WIPO)**, “Copyright is defined as a legal term describing right given to creators for their literary and artistic works. Copyright is a form of protection provided by the laws of any country to the authors of “original works of authorship”, which includes literary, dramatic, musical, artistic and certain other intellectual works.”

According to **Online Dictionary for Library and Information Science** “Copyright is defined as the exclusive legal rights granted by a government to an author, editor, compiler, composer, playwright, publisher or distributor to publish, produce, sell or distribute copies of a literary, musical dramatic, artistic or other work, within certain limitations ( fair use and first sale).”

According to **Oxford English Dictionary** “copyright is defined as the exclusive and assignable legal right, given to the originator for a fixed number of years to print, publish, perform, film or record literary, artistic, or musical material.”

According to **Copyright Act 1968 in Australia** “A simple definition of copyright is that it is a bunch of rights in certain creative works such as text, artistic works, music, computer programs, sound recordings and films. The rights are granted exclusively to the copyright owner to reproduce the material, and for some material, the right to perform or show the work to the public. Copyright owners can prevent others from reproducing or communicating their work without their permission or may sell these rights to someone else.”

However, copyright is the exclusive right of the author to drive economic benefits from his own writing or artistic performance or creative work. Copyright regulation basically protects the interests of writer or creator or performer from commercial exploration from others.

## **Copyright Law**

### **Indian Law of Copyright**

The government of India has passed the international Copyright Order 1958, according to which any work first published in any country which is a member of Brene or Universal Copyright Convention (India participated in both the conventions) will be accorded the same treatment as if it was published in India. As regards the work published in a country not mentioned in the schedule to the order, If the author of the work was a national of a universal copyright convention country, the author will be treated as a citizen of India and he will be entitled to the benefits of the copyright in the work.

The Copyright Act, 1957 came into effect from January 1958. This Act has been amended five times since then, i.e., in 1983, 1984, 1992, 1994, 1999 and 2012. The Copyright (Amendment) Act, 2012 is the most substantial. The main reasons for amendments to the Copyright Act, 1957 include to bring the Act in conformity with WCT and WPPT; to protect the Music and Film Industry and address its concerns; to address the concerns of the physically disabled and to protect the interests of the author of any work; Incidental changes; to remove operational facilities; and enforcement of rights. Some of the important amendments to the Copyright Act in 2012 are extension of copyright protection in the digital environment such as penalties for circumvention of technological protection measures and rights management information, and liability of internet service provider and introduction of statutory licences for cover versions and broadcasting organizations; ensuring right to receive royalties for authors, and music composers, exclusive economic and moral rights to performers, equal membership rights in copyright societies for authors and other right owners and exception of copyrights for physically disabled to access any works.[3]

## **International Copyright Law**

The international Copyright Law provides protection to all creative works or productions of the human mind in the fields of literature, art, and science regardless of their manner or form of expression. There is no copyright of Ideas. It subsists only in the material form in which the ideas are translated. [4]

### **Materials that can be Copyright Include**

- Literary works (including computer programmes);
- Dramatic works;
- Musical works;
- Artistic works (including buildings);
- Films;
- Sound recordings;
- Broadcasts; and
- Published editions.

### **Reasons of Contravention of Copyright**

Some of the important reasons for Violation of Copyright-particularly in Library and Information centres are:

- Shrinking (or limited) budgets.
- Non-availability of books (out of print, ban on books, etc.)
- Delay in supply/procurement of books/journals
- Higher cost of books/journals (particularly foreign publications).
- Urgent need.
- Ignorance of Intellectual Property Rights

### **Berne Convention**

The Berne Convention for the Protection of Literary and Artistic Works, usually known as the Berne Convention, is an international agreement governing copyright, which was first accepted in Berne, Switzerland, in 1886. This was the first and the prime international convention on copyright which was revised for several times at Berlin in 1908, at Rome in 1928, at Brussels in 1948, at Stockholm in 1967, and at Paris in 1971 to meet various challenges posed by the technological developments.

## **Universal Copyright Convention**

The Universal Copyright Convention (UCC), adopted in Geneva, Switzerland, in 1952 and it was revised at Paris in the year 1971. The UCC was developed by United Nations Educational, Scientific and Cultural Organization (UNESCO). The reason for adoption of Universal Copyright Convention was that many states including two most powerful states i.e. United States and the Soviet Union were not the members of the Berne Convention. The countries were not willing to join Berne Convention due to the reason that its level of protection was so high. The copyright system of the United States and many Latin America countries also differed from that of the Berne Union. The United States only provided copyright protection for a fixed, renewable term, and required that in order for a work to be copyrighted it must contain a copyright notice and be registered at the Copyright Office. The Berne Convention, on the other hand, provided for copyright protection for a single term based on the life of the author, and did not require registration or the inclusion of a copyright notice for copyright to exist. Thus the United States would have to make several major modifications to its copyright law in order to become a party to it. At the time the United States was unwilling to do so. The UCC thus permits those states which had a system of protection similar to the United States for fixed terms at the time of signature to retain them. Eventually the United States became willing to participate in the Berne convention, and change its national copyright law as required. In 1989 it became a party to the Berne Convention as a result of the Berne Convention Implementation Act of 1988. The UCC protect literary, scientific and artistic works, including writings, musical dramatic and cinematographic works and paintings, engraving and sculpture. The symbol © together with the year of publication and the name of the copyright owner may be required by any contracting states under the Universal Copyright Conventions satisfying all formalities which are otherwise required by the domestic laws in such contracting states.

## **Silent Features of the Copyright Act 1957**

- a. Establish a copyright office under the control of the Registrar of Copyrights to facilitate registration of copyrights and to settle certain kinds of disputes arising under the Act.
- b. Some new rights also came to be recognized, with the result that some new terms have been incorporated and defined under the Act.
- c. Provision to the first ownership of Copyright.

- d. Term of copyright for different works.
- e. Term of licensing of the copyright including compulsory licensing in certain circumstances.
- f. Broadcasting rights.
- g. International copyright.
- h. Definition of infringement of copyright
- i. Author's special right.
- j. Civil and criminal remedies against infringement.
- k. Remedies against groundless threat of legal dealings.

### **Information Era and Copyright**

In the information Era not only addresses the current complexities that arise with authors and copyright laws when publishing digitally, but it also sheds light on the present processes and procedures in place regarding copyright options for digital publishers. This publication addresses a global viewers in the manner in which it discusses conventional methods used in publishing before segueing into new model and strategies for both a business and an author in this ever-expanding digital world.

Information technologies are coming up very fast. It may be difficult to predict about the Information technology that will come up in the future. It would be suitable if the copyright law is modified to address the issues of protection of exclusive rights of the creators as soon as new technology is emerged. Remedial measures in the law with explanation in a positive manner should provide security by broad statement, which would cover all aspects of copyright. While making the draft during the amendment in the Act, expert opinion of the specialists in the respective areas should be considered to accommodate implications of emerging technologies on the Act. Information technology has created very serious problems to the copyrighted material on one hand and provided many opportunities for its exploitation on the other. Creators are under the grip of fear that digital world would end the protection of their exclusive rights because everybody will copy everything freely and there would be no more creative work. Every time information technology comes up with methods of better reproduction, the copyists make efforts to free-ride on the labour of others. Policy makers need to come up with solutions to curb this practice by providing stricter measures to curb copyright infringement and protect the rights of the creators. [5]

## Conclusion

Information is the key to development both for individual and nation. Technology has now opened up endless possibilities for accessing a whole range and wide variety of information in a scale exceptional than ever before. With the knowledge explosion the problem that is worrying scholars, researchers, educators and consumers of modern information is the possible impact that new technologies may have in the copyright law and consequent burdens on the information users in developing countries. As the new technique has conquered the world of communication, copying is becoming easier than speedier than printing. In this technology development the authors and the creator published and preserved their own works in digital forms. In conclusion, it may be said that much needs to be done in this infant area when the information and technological revolution is on the rise as is copyright awareness.

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# Confronting the Plagiarism at JNU: A Case Study

*Dr. Parveen Babbar<sup>1</sup> and Dr. P K Jain<sup>2</sup>*

## Abstract

*Unfortunately, the academic setups are seeing extensive examples of plagiarism. In the earlier years this was just copying from fellow students, or small-scale copying from books, journals and other print documents. With the explosion of Internet and electronic world of resources there has been a massive growth in verbatim copying. With little policies and large-scale variation of the rules relating to plagiarism across the academic institutions, and even across academic fraternity the situation has become worse. Academically dishonest behavior, such as cheating and plagiarism, presents a challenge to university, exacerbated by new technologies which have increased the ease of academic dishonesty, the Central Library, JNU is helping the University is confronting the Plagiarism. The paper discusses how the JNU Central Library is reaching out to both faculty and students in order make the awareness for the plagiarism and the software provided by the Central Library.*

Keyword : Plagiarism

## Introduction

With the increasing number of plagiarism incidents being reported and academic dishonesty the Universities around the world and India are becoming more vigilant and heedful. Universities facing intellectual theft and dishonesty are taking this as serious ethical offense.

Possible factors influencing of plagiarism among student and researchers behaviors and attitudes toward plagiarism include ignorance, lack of personal investment in their education, situational ethics, and lack of consistent styles among and within various disciplines. (Auer and Krupar, 2001). Plagiarism is not

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only a crime per se but in academia and industry it is an offense and cases of plagiarism can constitute copyright infringement.

Plagiarism, is a Latin verb that means, “to kidnap” leading to stealing others' hard work and intellectual property. In other words it is academic and public dishonesty. The Compact Oxford English Dictionary (2009) defines plagiarism as the act of “taking the work or idea of someone else and pass it off as one's own”.

### **Role of the JNU Central Library in Detecting Plagiarism**

Central library, Jawaharlal Nehru University (JNU) has been the central location for conducting research in the university, it certainly makes sense that the librarian has been involved in dealing with unravelling the mysteries contained within some problematic student papers and research work of the researchers. Although plagiarism is a serious problem, libraries and librarians can offer substantial help in deterring and preventing plagiarism. (Zimmerman, 2012) So, central library JNU works with the liaison responsibilities with faculty in order to provide information about website and the software to detect plagiarism. The subscription of the software Turnitin is been provided through the Central Library as part of other databases and Journals subscribed by the central Library, JNU over the years.(Bruke, 2004). With the availability of full text access resources and easy access to internet world, plagiarism is as easy as cutting and pasting from a wide range of online sources. JNU Library see information ethics as part of their purview and a natural extension of its traditional role as gatekeepers of information and research. So JNU Library is assisting both students and faculty in recognizing and combating this plague of dishonesty and sloppiness.

### **Turnitin Software @ JNU**

JNU Library subscribes to the plagiarism software and the researcher/ students are required to mandatory check the thesis through the software and submit Compliance Certificate issued by the Principal concerned duly signed by both the Research Scholar and the Research Supervisor stating that the work is free from plagiarism and if plagiarism is proved, they are abide by the rules and regulations of the University.

But the teachers are of opinion that research scholars have found different ways to get around the software. The scholar get away with software as it catches certain

phrases and sentences that are electronically available in any publication. The software finds the minimum repeat of such sentences exposes plagiarism. Similarly there are several plagiarised works that are never caught simply because it is not available online. (Vijetha, 2014)

So in view to this to make plagiarism difficult for the students the faculty should consider “requiring topic proposals, idea outlines, multiple drafts, interim working bibliographies and photocopies of sources” (Hinchliffe, 1998)

### **Initiatives taken by Central Library JNU**

It is obvious that students are in great need of guidance on how to use information ethically and legally. So Central Library JNU is taking various steps to guide the students and researchers to orient them about the Plagiarism and Citation tools. Some of these initiatives include:

- i. Library is regularly organising seminars/conferences/ orientation/ Instructional sessions to provide direct information about plagiarism and its consequences along with practical steps students/researchers can take to avoid the risk of plagiarism in their research assignments.
- ii. As the web-based instruction shows great prospective for actively engaging students/ researcher in learning and understanding how to avoid plagiarism and how to create citations. So JNU is regularly putting up the instructions and details on the JNU Library WebPages.
- iii. JNU Library is also keen to integrate tutorials on Plagiarism and Citations into the curriculum.
- iv. At the time of submission of thesis, the candidate will give a certificate on the prescribed form that there is no plagiarism/word to word copy of matter from any other script or document in the present thesis.
- v. For the clearance from the Library, the student/researcher have to submit the mandatory certificate of Plagiarism check from the subscribed software i.e. Turnitin showing the percentage of Plagiarism.

### **JNU Teacher Association and Plagiarism**

Recently in a statement to leading newspapers JNU Teacher Association, president Prof Arun Kumar said that "in a competitive environment where quality should be paramount, even a single sentence of plagiarism cannot be accepted. But there are instances where even 50% works lifted from other sources are accepted and given grades." In a stand against the plagiarism the University and the Teacher Association of the University wishes to deal with the wider underlying issue of relationship between the teacher and the taught. Further Jawaharlal Nehru University Teachers Association (JNUTA) has decided to set up a committee to look into the issue and other broader related issues like the extent of plagiarism being found by the plagiarism detection software provided by the library, the impact of the use of the software on plagiarism in research work, how should the result of the use of software be interpreted by the supervisors/teachers, what could be an acceptable level of plagiarism, among others. (Gohain, 2014)

In the beginning of the year 2013 JNU took a lead to encounter the Plagiarism by setting an expert panel to check plagiarism in the university, it was the first such effort by an Indian institution. Professor Karmeshu, JNU who headed the panel, spoke to the Telegraph Newspaper and said that plagiarism of idea, language or content was a "prevailing practice" in academic institutions. Similarly in the interview to Telegraph, Professor N. Raghuram a member of the JNU expert committee, said there had been no study to suggest the percentage of research students involved in unethical practices in Indian institutions. "But one can safely say it is between 10 and 50 per cent." (Mohanty, 2013)

### **Conclusion**

The Central Library, JNU has been constantly involved in providing assistance to the faculty, researchers and students to master the steps in the research process. In addition to the orientation on databases and other library based tools and services JNU Library offer regular tutorials and orientation on the Plagiarism and tools to be used. The orientations includes research process, demonstrate how and when to cite sources, and detailed explanation of what constitutes plagiarism and how to avoid it. The orientation also includes the features and functionalities of Turnitin.com software that is being subscribed by the Central Library, JNU.

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# Plagiarism Detection Service: Its Benefits and Challenges for Academicians and Researchers

*B.P. Singh, Mange Ram and Arun Kumar Satsangi*

## Abstract

*This paper presents the practical approaches of plagiarism detection service for researchers and academicians in electronic environment. Today, plagiarism is an issue of research misconduct in academic and research community. Research misconduct means plagiarism, falsification and fabrication that seriously deviates from practices commonly accepted in the academic and research communities generally in proposing, performing, reviewing, or reporting research and academic activities. Plagiarism is copying words/text from any kind of sources (Internet, Books, journals, reports or other text materials) without proper citation. Plagiarism is the act of stealing someone else's work and attempting to "pass it off" as your own. Today, Plagiarism detection service is very popular in the form of on-line services offering to plagiarism detection in the works of researchers and academicians. Present time many open source and proprietary softwares are available to fight against plagiarism. This paper describes the practical approach to plagiarism detection service. The paper also highlights the benefits and challenges of plagiarism detection services in academic and research scenario.*

**Keywords:** Plagiarism, Plagiarism deduction service, Plagiarism detection software/tools, Plagiarism checking, Copyright.

## Introduction

Nowadays rapidly increase the percentage of online published research works of researchers and academicians on internet. It has been notice that very difficult to find out the originality of research works because many researchers and academicians are doing the cut-past job for best complied text materials to

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publication of thesis, dissertation, reports, research papers/articles and assignments. So, that necessity of plagiarism detection service in every university, institution, college and research organization not to be neglected to checking the originality of research works. Plagiarism detection service is work of plagiarism checking by plagiarism detector software in research works and guide to researches and academicians for avoid the plagiarism in their researches works. Plagiarism can be defined as trying to pass out source code written by someone else as one's own without proper citation (i.e., without indicating that which words/text are copied from which author). Today, plagiarism is an issue of research misconduct in academic and research community. Research misconduct means plagiarism, falsification and fabrication that seriously deviates from practices commonly accepted in the academic and research communities generally in proposing, performing, reviewing, or reporting research and academic activities.

Plagiarism occurs often in research and academic environments. Present time manual detection of plagiarism in submission of hundreds thesis, dissertations, research papers and project reports of students and researchers is infeasible. Therefore, plagiarism detector software have emerged that assist teachers and librarians in detecting the presence of plagiarism. Today, many open source and prosperity softwares (JPlag, moss, Marble, Plaggie, SIM, Turnitin and iThenticate) are available to automatic plagiarism detection. The plagiarism detection is the process of locating and indentifying within a particular words/text or documents those parts which have been taken from any kind of sources without proper references/citation. The habits of plagiarism almost find out in the poor habits and unskilled to provide proper citation of students and researches. "The aim of plagiarism detection services as a problem to be solved not to cover other aspects of plagiarism, important as they are, such as surrounding ethical and moral issues" (Hannabuss, 2001). The main objective of this paper is presents an overview of the current state of the art in plagiarism detection service to highlight its benefits and challenges in research and academic environments.

### **Definition of plagiarism:**

The word *plagiarize* comes from the Latin **plagiare** and according to *Oxford English Dictionary* its means to kidnap, seducing or plundering. According to the Merriam-Webster Online Dictionary, to "plagiarize means to steal and pass off (the ideas or words of another) as one's own to use (another's production) without

crediting the source to commit literary theft to present as new and original an idea or product derived from an existing source”. In simple word **plagiarism** is the act of stealing someone else's work and attempting to pass it off as your own.

**Joy and Luck (1999)** define plagiarism as “unacknowledged copying of documents or programs that can occur in many contexts: in industry a company may seek competitive advantage; in academia academics may seek to publish their research in advance of their colleagues”. **Hannabuss (2001)** defines plagiarism as the “unauthorised use or close imitation of the ideas and language/expression of someone else and involves representing their work as your own”. Actually plagiarism is interlinked with intellectual property rights and copyright, both are provide legal right to protect the ownership of texts through originality of their contents. Today, almost plagiarism detection cases of researches and academicians we found self-plagiarism type. The definition of self-plagiarism we use is “When authors reuse their own previously written work or data in a new-written product without informing the reader that this material has appeared elsewhere” ORI, (2002). The simplest way of plagiarism is to directly copy from a source text with minimum modifying or rewriting. This type of text reuse is common in students plagiarism where entire text/passages are copied word to word directly from the source.

### **Types of Plagiarism:**

In digital environment academia and researchers are doing directly copy text from online source and submitting research papers, thesis, dissertation and project report with minimum rewriting. Currently, plagiarism can take several distinct forms, including the following (*Source: [www.plagiarism.org](http://www.plagiarism.org)*).

1. **Clone**: submitting another's work, word-for-word, as one's own.
2. **CTRL-C**: Contains significant portions of text from a single source without alterations.
3. **Find – Replace**: Changing key words and phrases but retaining the essential content of the source
4. **Remix**: Paraphrases from multiple sources, made to fit together
5. **Recycle** : Borrows generously from the writer's previous work without citation. It's also known as self plagiarism.
7. **Mashup**: Mixes copied material from multiple sources



6. **Hybrid:** Combines perfectly cited sources with copied passages without citation
8. **404 Error:** Includes citations to non-existent or inaccurate information about sources.
9. **Aggregator:** Includes proper citation to sources but the paper contains almost no original work.
10. **Re-tweet:** Includes proper citation, but relies too closely on the text's original wording.

### **Why do academicians and researchers plagiarism:**

Today, one of the most important reason of researchers for doing plagiarism is to gain popularity and status. In education/academic field, students may plagiarism to gain a qualification with higher percentage and teachers to gain popularity, promotion and status. The following **reasons** are listed below to plagiarism by researchers and academicians in digital age.

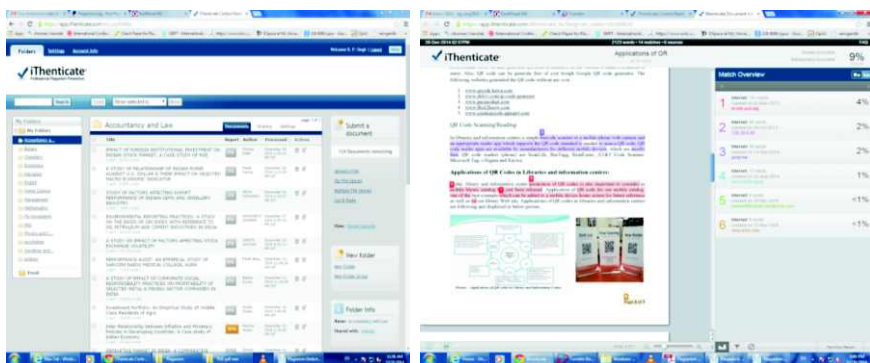
- Easily availability of reading materials/text on the internet.
- Study Pressure on students.
- Disorganization of syllabus for examination.
- Poor study habits of students and teachers.
- Cut-and-Paste culture in research and academic community.
- Lack of understanding of seriousness of plagiarism.
- Lack of strict academic discipline.
- Lack of research methods skills.
- Lack of referencing/citation skills.
- Workload and stressful environment.

### **Plagiarism Detection:**

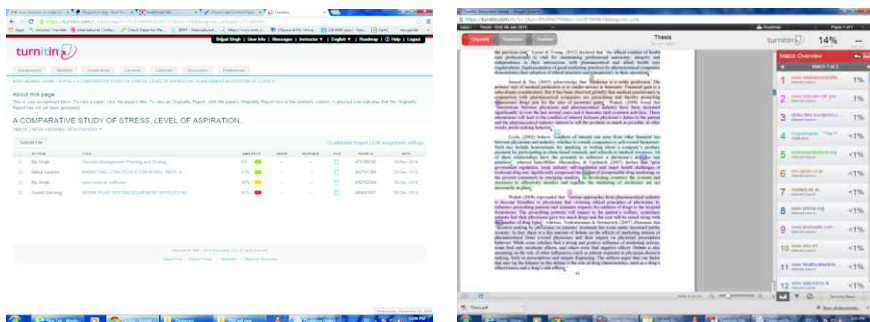
In digital environment plagiarism is a significant problem in almost universities and research institutions. Today, the Internet and Copy-Paste work makes plagiarism very easy and attractive for students and researches in academic and research **context**. To fight against plagiarism by students and researchers in their document almost universities/institutions used automatic plagiarism detection software. In India INFLIBNET, UGC provide two (iThenticate and Turnitin)

plagiarism detection software for plagiarism checking to selected universities/institutions for the one year. Some private universities/institutions are subscribed own plagiarism detection software to plagiarism checking.

Plagiarism detection involves finding similarities with copied wards/text from respective sources. In some cases, a single text is first read and certain characteristics found which suggest plagiarism. Actually in academic and research community, plagiarism detection is generally process of checking the originality of work and down to the knowledge of the student's/researchers work. The following pictures of plagiarism detected document by **iThenticate** and **Turnitin** softwares are show below.



**Fig.1 Screenshot of Plagiarism Detected Document by Ithenticate Software**



**Fig. 2 Screenshot of Plagiarism Detected Document by Turnitin Software**

### Plagiarism Detection Software's/Tools:

Today, there are many plagiarism detection softwares are available to academic and research communities. Although plagiarism detection softwares provide a plagiarism detection service in detecting similar or matching text between

documents and respective source. The following plagiarism detection (open source and commercial) software's to plagiarism detection service in universities and institutions are listed below and comparison of features of the selected plagiarism detection softwares is given in table 1.

S.No	Name of Software	Website/URL
1.	Turnitin.com	<a href="http://www.turnitin.com">http://www.turnitin.com</a>
2.	iThenticate.com	<a href="http://www.ithenticate.com">http://www.ithenticate.com</a>
3.	Sherlock (University of Sydney)	<a href="http://www.cs.usyd.edu.au/~scilect/sherlock/">http://www.cs.usyd.edu.au/~scilect/sherlock/</a>
4.	CopyCatch Gold	<a href="http://www.copycatch.freemove.co.uk">http://www.copycatch.freemove.co.uk</a>
5.	Plagiserve.com	<a href="http://www.plagiserve.com">http://www.plagiserve.com</a>
6.	Eve2 Essay verification engine	<a href="http://www.canexus.com">http://www.canexus.com</a>
7.	Coursemarker	<a href="http://www.cs.nott.ac.uk/CourseMarker">http://www.cs.nott.ac.uk/CourseMarker</a>
8.	Damocles (Monash University)	<a href="http://www.csse.monash.edu.au/~damocles">http://www.csse.monash.edu.au/~damocles</a>
9.	EduTie	<a href="http://www.edutie.com">http://www.edutie.com</a>
10.	Glatt Plagiarism Services	<a href="http://www.plagiarism.org">http://www.plagiarism.org</a>
11.	Gotcha!	<a href="http://www.4pointgroup.com">http://www.4pointgroup.com</a>
12.	JPlag	<a href="http://www.jplag.de">http://www.jplag.de</a>
13.	OrCheck	<a href="http://cise.sbu.ac.uk/orcheck">http://cise.sbu.ac.uk/orcheck</a>
14.	Plague (Monash University)	<a href="http://www.csse.monash.edu.au/projects/plague/software.html">http://www.csse.monash.edu.au/projects/plague/software.html</a>
15.	Viper	<a href="http://www.scanmyessay.com">http://www.scanmyessay.com</a>
16.	SIM	<a href="http://www.cs.vu.nl/~dick/sim.html">http://www.cs.vu.nl/~dick/sim.html</a>
17.	Citemaster	<a href="http://www.citemaster.com/">http://www.citemaster.com/</a>
18.	Visualisation and Analysis of Similarity Tool (VAST)	<a href="http://cise.sbu.ac.uk">http://cise.sbu.ac.uk</a>
19.	WCopyfind	<a href="http://plagiarism.bloomfieldmedia.com">http://plagiarism.bloomfieldmedia.com</a>
20.	WordCheck	<a href="http://wordchecksyste.ms.com">http://wordchecksyste.ms.com</a>
21.	YAP (Cambridge University)	<a href="http://www.bio.cam.ac.uk/~mw263/YAP.html">http://www.bio.cam.ac.uk/~mw263/YAP.html</a>
22.	Measure of Software Similarity (MOSS)	<a href="http://www.cs.berkeley.edu/~aikenn/moss.html">http://www.cs.berkeley.edu/~aikenn/moss.html</a>

**Table 1 Comparison of features of the selected plagiarism detection softwares**

Name of software	Features of plagiarism detection softwares							
	Supported languages	Extendable	Quality of the results	Interface	Exclusion of code	Submission as groups of files	Local	Open source
CodeMatch	36	N	Y	Y	Y	N	Y	N
CPD	06	Y	N	Y	?	?	Y	Y
JPlag	06	N	Y	Y	Y	Y	N	N
Marble	05	Y	Y	N	Y	?	Y	N
MOSS	25	N	Y	Y	Y	Y	N	N
Plaggie	01	?	?	Y	?	?	Y	Y
Sherlock	01	Y	N	N	N	N	Y	?
SIM	07	?	Y	N	N	N	Y	?
YAP	05	?	Y	N	Y	?	Y	N
Turnitin	20	Y	Y	Y	N	Y	N	N
iThenticate	03	Y	Y	Y	Y	Y	N	N

A table 1 was produced to report the features of above mentioned plagiarism detection software in comparative format. The features can be defined by Y (Yes), N (No) and ? (unknown) in the cases where we could not ascertain if the feature is present, or a number in the case of supported languages.

### **Best Ways to Avoid Plagiarism and Reduce the Percentage of Plagiarism:**

Nowadays, plagiarism is a common and significant problem of students, research scholars and teachers due to many causes. To avoid plagiarism authors always mind that never pass off the work of others as your own. The best ways to avoiding plagiarism and reduce the % of plagiarism in academic and research work are following.

- Good writing skills.
- Good knowledge of using research methodology.
- The best knowledge of copyright and IPR to reuse of already published literatures.
- The well practice of referencing/citation manual to cite the original source.
- The best practice to put the copied words/text in quotation “-----” marks.
- Proper referencing of self-plagiarism words/text which is already published anywhere.
- Avoiding changing and rearranging the words of published works of any author.
- Sound knowledge with appropriate study of domain subject before writing the paper.
- Avoiding to outsourcing of academic and research works.
- Don't use words/text from any social media website without verify its origin
- Using plagiarism detection software (free or paid) to originality checking of work before it finally submission.
- The knowledge of institutional/publishers plagiarism policy for academic and research work of students, research scholars and teachers.

**Benefits of Plagiarism Detection Service:**

Today, in open access environment almost information resources are easily available on internet. In academic and research universities/institutions it has been noted that many students, researches and teachers are doing the cut-past work to publication of research papers, thesis, dissertations and project reports. So, plagiarism detection service is a necessary to checking of plagiarism in work of all students, researchers and teachers. Today, the benefits of plagiarism detection service for students, teachers and publishers are following.

**Benefits for Students/Research Scholars:**

It has been noted that almost students are doing cut-past work to submission their assignments, dissertation, thesis and projects reports to respective university or institution. So, that benefit of plagiarism detection service for students are following

- Proper arrangement of referencing/citation of original source.
- Improving the quality of final submit work to attract the examiners for better marking.
- After first time plagiarism checking students will receive a complete report, so that students are able to revise any sections, chapters, etc of own work and timely submit it in confidence within limited percentage of plagiarism.
- Plagiarism detection service benefit to will “foster more originality in student work, increased sharing of ideas, and better critical thinking skills”. McGowan, (2002).

**Benefits for Teachers:**

When teachers are conduct research with research scholars and use that research in the creation of own research papers, thesis, dissertations and project reports then need to plagiarism checking. While manually it is very difficult for teachers and professors to check work for plagiarism. Today, plagiarism check is quite easy through automatic online software. The use of a plagiarism-detection service will allow “teaching moments,” as you demonstrate to your students how current law

can put them at risk for plagiarism charges.

### **Benefits for publishers:**

In digital era publishers of a website, blog, e-newspaper, e-journals, e-books, etc are in a very risky position due to copyright law for plagiarism in published work. So, that publishers need plagiarism-detection service to provide the complete and thorough check of originality of every submission before publish it anywhere.

### **Challenges of plagiarism detection services:**

Today, academic and research community are facing many challenges to fight against plagiarism in digital environment. Plagiarism detection service of libraries in universities and institutions play a important role to fight against plagiarism. The following challenges are faced to plagiarism detection service in universities and institution.

1. Lack of well plagiarism policy of university/institution to fight against plagiarism by students and teachers.
2. Lack of technical and IT skills in students and teachers (especially in art faculty) to handling of plagiarism detection software.
3. Fund arrangement to subscribe good plagiarism detection software.
4. More and more workload on teaching staffs and librarians.
5. Slow speed of internet connection.
6. Lack of referencing/citation skills in teachers, researchers and students.
7. Fight with self plagiarism text/chapters.
8. Finding suitable measures of similarity with respective source/ Self-plagiarism source.
9. Challenges for university/institution to provide training with enough skills to non-IT based students, researchers and teaches for plagiarism checking and write properly research papers, thesis, dissertations etc without plagiarism.

### **Conclusions:**

In this paper we have observed the problem of plagiarism and necessity of plagiarism detection service for academic and research community. Also, we

suggested for best ways to avoid plagiarism in the academic and research work of students, researchers, teachers and scientists. To fight against plagiarism in academic and research environment plagiarism detection service is very necessary for every university, institution and collage. In India INFLIBNET, (UGC) provided plagiarism detection software (iThenticate & Turnitin) for plagiarism checking to selected central universities, deemed universities for the one year. To plagiarism check many softwares/tools are available online as open source softwares and commercially (paid per licence). Almost plagiarism detection softwares provide similarity % report with respective original source of submitted document after plagiarism checked. In digital age plagiarism detection service is very beneficial for academicians, researchers and publishers to timely submission/publication of work (research papers, Phd. thesis, Dissertations and project reports etc) without plagiarism. We believe that plagiarism detection service provider help to authors/students to fight against plagiarism problems.

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# Relevance of Copyright Laws with Special Reference to Plagiarism: How Libraries are Fiddling Around

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## Abstract

*The copyright laws provide some teeth to the scholarly content generator in different areas of creativity. In the library scenario and publishing world, the plagiarism has been playing fowl and has become a thought-generated as well as thought-provoking nuisance. This paper touches few of the introductory aspects of copyrights before moving towards the digital medium in libraries and places outside libraries such as websites etc. How the faculties and libraries worldwide are preparing and combating with this well planned problem is discussed with examples. The paper concludes with the need to organize joint ventures of teachers and libraries.*

Keywords: Copyright, WIPO, IPR, digital libraries, plagiarism, academic libraries.

## Introduction

**Copyright** is a legal right created by the law of a country that grants the creator of an original work exclusive right to its use and distribution, usually for a limited time, with the intention of enabling the creator to receive compensation for their intellectual effort. The application of copyright law to electronic resources is receiving more attention as technologies grow in kind and complexity. The function of copyright as a means of protection for software continues to be questioned, and efforts to resolve this issue are further confounded by the industry's use of patents and license agreements. The rapid growth of electronic resources has precipitated revisions in copyright law in the past decade (Joyce L. Ogburna (2014). The copyright law and issues of fair use in for-profit academic libraries are

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pervasive. For-profit academic institutions, libraries related to these institutions exist in a legal gray area in terms of copyright law, specifically with regard to fair use. The law must be more clearly defined and applied with regard to these institutions, so that academic librarians can adequately enforce copyright laws and fair use within the confines of the for-profit academic library scheme (Ashley Krenelka Chasea, 2013). The reinterpretation of the copyright has been mandatory due to development of digital media and computer network technologies. The characteristics of copyright are as following:

- i. Copyright is a form of intellectual property (as patents, trademarks and trade secrets are), applicable to any expressible form of an idea or information.
- ii. The copyright is often shared, then percentage holders are commonly called rights holders: legally, contractually and in associated "*rights*" business functions.
- iii. There are "the right to copy", "the right to be credited for the work".
- iv. Copyrights are said to be territorial that they do not extend beyond the territory of a specific state unless that state is a party to an international agreement. Today, however, this is less relevant since most countries are parties to at least one such agreement.
- v. The national copyright laws have been standardized through international copyright agreements.
- vi. The concept of fair use allows "fair" exceptions to the creator's exclusivity of copyright, and giving users certain rights.

### **How World Intellectual Property Organization is serving IPR?**

The World Intellectual Property Organization (WIPO, 2012) is a specialized U.N. agency to deal with Intellectual Property Rights. The term IPR refers to the following categories of intellectual properties covered under sections

- vii. 1 to 7 of Part II GATT, 1994.
- viii. Section 1 deals with copyright and other related rights;
- ix. Section 2 is on Trademarks Section;
- x. Section 3 has the provisions for Geographical indications;
- xi. Section 4 deals with Industrial Design;
- xii. Section 5 has laws related to Patents (including micro organisms and plant varieties);
- xiii. Section 6 has Laws for Layout design (Topographies) and
- xiv. Section 7 deals with Protection of undisclosed information.

### **How Libraries are Concerned with Copyright in Digital Context**

With the advent of technologies and the day today mavericks, the libraries became the hub of digital activities in terms of collection as well as information services. Where the collection development and services emerged comfortably, the issues of copyright violations emerged more frequently. The factors may be considered such as easy availability, copying and the being visible and caught more easily. Digital libraries are described in four areas (Michael Lesk (2012) :

- i. Technical: technological obstacles were dominant, but they have generally been overcome by progress in computers, networks, and algorithms.
- ii Economic: Economic issues have also faded, although “open access” questions still bedevil us.
- iii. Legal: libraries are now faced with more serious legal obstacles than first expected; no one today can start a digital library effort without thinking about copyright.
- iv. Social issues: Social issues are likely to be the next set of challenges.

Due to flourished business and variety of information providers, the information resources and services is now readily available online via digital libraries furnished. The way technology enhanced storage and presentation of information, the human interaction about the information remained no longer just text and pictures. The multimedia formats in digital libraries enriched the user experience as they represent a new form of information technology in context of (Hsinchun Chen, 2004):

- i. Content management
- ii. Service delivery
- iii. Social impact matter
- iv. Technological advancement

In addition, for digital library researchers there is a need to transform information access to knowledge creation and management.

### **Copyright Laws for Digital and Electronic Resources**

*The digital medium provides myriad ways to access, copy and misuse (using information without permission or out of permitted limit) of information. The innovation in the library and information services has been the outcome of implementation of technological developments. The speed at which the libraries*

*have incorporated these tools for augmenting their modernization has been a great concern for the maintenance of copyrights of millions of authors. The publishers as well as the policy makers have been given a task for a continuous exercise in the perspective of copyrights. The libraries have always been busy in implementing these policies and rules and training the users. The time to time issued guidelines have been in vogue and in discussions of librarians as well as users.* In context of open access, Peter Suber has proposed the following definition of OA as it is today widely understood: 'Open access (OA) literature is digital, online, free of charge, and free of most copyright and licensing restrictions'. The formulation encapsulates the vital distinction between the two major barriers to access and use that currently characterize non-OA material:

- i. Price and copyright. OA is 'open' and 'free' in two discrete senses.
- ii. It has become known as 'gratis' ('free of charge') and 'libre' ('free of most copyright and licensing restrictions').

The search for and re-use (including download) the content is subject to proper attribution' (libre). The libre clause it makes possible, to which the editors object as 'serious infringement' (James Emmott, 2013). The open-access publishing is a soft and easy platform for conducting plagiarism and reporting of the same. Plagiarism is by no means limited to open-access journals. Plagiarism detection software facilitates to detect pirated content but reporting also does not happen always due to psychological reasons and professional relations. Reporting plagiarism is accompanied with several aspects such as:

- i. to help would-be whistleblowers be better prepared for making well-founded allegations,
- ii. to give whistleblowers some idea of what they can expect when reporting plagiarism, and to give suggestions for reducing whistleblowers' vulnerability to threats and stress (Mark Foxa & Jeffrey Beallb, 2013).

The technological protection and measures are necessary. The copyright exceptions and limitations should be spread for awareness among users. This awareness can function as an important balancing tool of copyright law. It is found that copyright exceptions and limitations are on the one hand and technological protection measures (TPMs) on the other. In context of developing countries, with the example of Africa, a solution for mitigating the potentially detrimental impact of TPMs on otherwise-permitted uses of copyright-protected knowledge materials has been suggested (Tobias Schonwetter, Caroline Ncube, 2011). Moving further in

a little bit diverted direction, the policy-making mechanism of the Organisation for Economic Co-operation and Development (OECD) on innovation and the US practice discussed to be explored in identifying policies on online copyright protection and innovation. The research findings provide valuable implications for emerging economies like China (Dexin Tian, Chin-Chung Chao, 2013).

### **Academic Environment and dealing with Plagiarism**

The Plagiarism has become a salient issue for libraries in recent years, especially academic libraries. The three aspects identified by Michael Seadle (2011) are handled separately even though in fact each has an influence on the other. These interrelated aspects of preserving plagiarized works are such as (Michael Seadle, 2011):

- i. collection development issues
- ii. copyright problems
- iii. technological requirements

The experiences and the literature reflects the need is to share with the wider academic community an example of one tool developed locally that can be a successful part of any institution's arsenal on the war against plagiarism. Karen Kate Kellum, Amy E. Mark, Debra A. Riley-Huff (2011) conducted a study and presented a method for integrating information literacy into the wider university community. They discussed a practical, effective method for teaching students about the ethical use of information to accentuate the demonstration of one method of educating students on the issue of plagiarism and how information literacy standards can be integrated into the curriculum and centralized through administrative and faculty support. There has been emphasis on plagiarism instruction to students' understanding of what plagiarism is and is not. To understand and have a deep glimpse into the ethical perceptions of plagiarism scenarios, the effect of library instruction should be tested on the levels of students' perceptions toward plagiarism ethics before and after the instructions given. Very recently, in a study the survey used the multidimensional ethics scale (MES) developed by Reidenbach and Robin (common in business ethics research) and it was found that the MES is a reliable tool to measure changes in ethical perceptions of plagiarism. The results from the study suggest that library instruction was effective and had a meaningful impact on students' perceptions toward plagiarism ethics (Connie Strittmatter and Virginia K. Bratton (2014).

### **Initiatives for Reducing Plagiarism**

The Plagiarism is a vexing issue for Higher Education. The faculty members as well as libraries are planning courses irrespective of the challenges of implementation. These courses should be designed with the aim to prevent plagiarism breaches. At the University of Bradford library, an intensive course was designed for students who have contravened plagiarism regulations, another course was designed to introduce the concepts of plagiarism (Georgea, Anne Costigana & Maria O'haraa' 2013). The implementation of courseware for diminishing the plagiarism is incomplete without the feedback and evaluation. George Germeka (2013) says that the absence of assessment—mostly notable in the college plagiarism prevention tutorial—reveals a severe gap in the preservation of information literacy (IL) standards set forth by the Association of College and Research Libraries (ACRL). The author analyzed common forms of plagiarism prevention methods, and their ability to each produce useful assessment data, principally retained for the academic library, is considered. In this study, the author raises awareness concerning how infrequently and inefficiently with the help of web-based tutorials, it is assessed that the single-most important element of online instruction—the learning objective—is largely excluded from college library tutorial design. No matter that students who understand plagiarism, who have high ethical views and declare not to engage in plagiaristic behaviour are able to recognize it and avoid it in practice. In an Irish university, a study shows that self-reported measures are not a powerful predictor of the students' ability to recognize the practical case as an academic breach, nor to avoid the breach through referencing. The results also highlight the potential unsuitability of using self-reported measures to study plagiarism, despite their widespread use (Angelica Riskeza, Michele O'Dwyera & Ann Ledwitha (2013). Sue McGowana and Margaret Lightbodyb (2008) evaluate a unique assignment developed to provide an understanding of plagiarism within the direct context of their study discipline. The assignment required students to undertake two key tasks: first, to identify and correct deliberate instances of plagiarism in a pre-prepared essay on an accounting topic; and second, to prepare their own correctly referenced short essay answer to a question on the same accounting subject. The results indicated that students perceived that the assignment had successfully enhanced their understanding of plagiarism and, at the same time, formed an effective way for them to learn about a relevant accounting issue. Educators should adopt a supportive approach to Motivating students to act in a consistent, ethical manner in their academic life (Xin Guoa, (2011).

***How librarians are accentuating the awareness!***

Librarians are organising seminar to create awareness among the scholars about this plagiarism and the consequences. These seminars as well as the workshops should be able to introduce students to the concepts related to plagiarism, such as:

- i. Types of plagiarism,
- ii. Academic integrity,
- iii. Paraphrasing,
- iv. Common knowledge, and
- v. Citations.

An experience at the University at Buffalo, creating and implementing a plagiarism seminar has been as part of the library liaison program to the School of Public Health and Health Professions. The librarian should examine the student perceptions, misperceptions, and reactions to the plagiarism workshop (Michelle L. Zafrona, 2012). At the University of South Carolina Upstate, two librarians created a series of workshops to proactively prevent plagiarism. To reach distance education students, online workshops were developed in Blackboard including basic and advanced workshops for lower and upper-level courses. The results reflect that students seem to have the most difficulty with paraphrasing, common knowledge, and citations (Breanne A. Kirscha & Lola Bradleya (2012). Fiona J. Newtona, Jill D. Wrightb & Joshua D. Newtona (2014) say that the Plagiarism continues to be a concern within academic institutions. In a study, they utilized a randomized control trial of 137 new entry tertiary students to assess the efficacy of a scalable short training session on paraphrasing, patch writing and plagiarism. They found out that the training significantly enhanced students' overall knowledge about in-text referencing protocols and furthermore, this knowledge was found to translate into applied skills, with the intervention group performing significantly better in a practical skills application task. They also indicate the role of language and medium and suggest that it is confidence in writing in English, not language background per se. This aspect plays a significant role in students' practical skills in referencing and their confidence in performing assignment preparation tasks that can help them avoid claims of inadvertent plagiarism.

**Anti-Plagiarism Software: Various Software to Check Plagiarism**

Among the number of plagiarism detection software available through World Wide

Web, the following discussion highlights and introduces with some software to check plagiarism:

- i. **Viper:** It is free plagiarism detection software from ScanMyEssay.com. It is good for both students and lecturers. It provides quick, accurate scans for free.



- ii. **Plagiarisma.** Net free paraphrasing software: Plagiarisma.Net is an essay checker considered as an important tool for students, teachers, scholars and professional writers. It is also a free plagiarism detector.



- iii. **Checker X:** Plagiarism Checker X can be used by students, teachers, bloggers, SEO experts and website owners to check plagiarism in their assignments, research papers, and blogs. It is a comprehensive tool that searches the content in more than 10 billion pages. The software helps in online plagiarism checking, cross-comparison of multiple documents, keywords searching, bulk searching, and website scanning.



- iv. **Copy Cat:** Copy Cat is a small program as anti-plagiarism software. It doesn't require installation and very easy to use.



- v. **Softonic:** This software is able to distinguish whether copying has been going on between different documents. It detects copying at a fast speed.



## Conclusion

The publishing industry and the academic libraries are facing dual challenges such as how to have original content as well as responsibility of creating awareness against plagiarism. The scholarly publications have to prove themselves of the required quality. More and more awareness is needed to augment the anti-plagiarism campaign. This campaign should be the collaboration of teaching faculty and library staff so that the joint efforts may prove fruitful in a way to inculcate the right method of bringing out scholarly content publication or the future academics will incur the losses due to false scholars.



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# Legal publishing and Copyright protection over Law Reports in Digital Age

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## Abstract

*Publishing means making anything known to the public. This concept also incorporates distribution of copies to the general public with the consent of the author. The same is supported by the Berne Convention. Copyright is often considered as the right of an author to control the reproduction of this intellectual property. The Indian copyright Act 1957 clearly iterates what is to be copyrighted. It includes original literary works, musical works, sound recordings and cinematographic films. The main concern regarding publishing lies in the fact of copyrighting literary works as per section 2 of the aforesaid act. The Literary work includes computer programmes, tables and compilations including computer databases. It includes translation of the same as well. Recent trends in legal publishing constitute a contemporary concept. It is a viable option in maintaining legal principles and the like in websites. This saves meeting of ever-increasing costs of library collection, the need for expeditious research and limiting space in libraries. Legal publisher's are increasingly adding the option to purchase Internet based access, CD-ROMs and other electronic accesses as an option to their print titles.*

*The publishers of law reports convert the text of the judgements of various High Courts and Supreme Court into a published journal format after minor editing and certain additions to the text including head notes, footnotes etc. The extent of copyright protection given to the reported judgements in law reports has been a practical issue bothering legal publisher and many times formed a matter of litigation. The questions arise whether the contents of law journals should be considered as an original work and copyright protection may be granted or not?*

*This paper covers copyright's basis as a proprietary concept and the benefits*

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*granted by the same. The area where copyright works as a compensation for the financial risks of the original author is also considered.*

Keywords: Copyright, Law Reports, Legal publishing

## **Introduction**

The decisions of the Court along with their reasons may contained in a written judgement of the Court or may be pronounced in the Court. Most of these judgements or decisions of the Courts are published or reported in the law journals. The law journals containing these judgements or decisions of the Courts are called a Law Reports.

Law Reports are significant in our legal system because the Courts refer the principle of case precedence. Thus, law reports provide an efficient platform for referring to the previous cases so that the decisions in past cases will be followed and applied to decide the outcome in present cases with the motive of achieving certainty in law. These law reports containing case laws from the most fundamental part of the legal publishing industry. Legal publishing may be used as a tool to convey to the world at large views, case synopsis, practice perspectives and the whole gamut of information. Case law is the basis for understanding legislation and making sense of law. In most European countries, case law is perceived as public sector information and made available to all the public.

Copyright is a right given by the law to creators of literary, dramatic, musical and artistic works and producers of cinematograph films and sound recordings. In facts, it is a bundle of rights including rights of reproduction, communication to the public, adaption and translation of the work. There could be slight variations in the composition of the rights depending on the work. Copyright ensures certain minimum safeguards of the rights of authors over their creations, thereby protecting and rewarding creativity. The protection provided by copyright to the efforts of writers, artists, designers, dramatists, musicians and producers of sound recordings, film makers and computer software, which promote them to create more and also motivates others to create.<sup>3</sup>

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<sup>3</sup> Govt. of India, Ministry of HRD. Department of Secondary and Higher Education- A Handbook of Copyright Law, January 14, 2012

The copyright protection extends to derivative works that is works which are derived from existing works. Copyright law has long recognised that it is important that authors should be rewarded not just for creating works, but also for building upon existing works.<sup>4</sup> A derivative work must differ sufficiently from the original to be regarded as a new work or must contain a substantial amount of new material.

In domain of these derivative works, on class which has ever been disputed over copyright matters are the law reports. The judicial decisions pronounced by various Courts are reported in form of judgements. As the Courts follow the principle of case precedence, law reports provide an efficient way for referring to the previous judgements so that the decisions in past cases may be followed and applied to decide the outcome in present cases with the motive of achieving certainty in law.

### **Digital Library vs. Copyright**

A digital Library is a library in which collection are stored in digital forms and accessible through electronic devices viz. Computers, Tabs, Mobile etc. The digital content may be stored locally, or accessed remotely via computer networks. A digital library is a type of information retrieval system. A potentially virtual organization that comprehensively collects, manages and preserves for the long depth of time rich digital content and offers to its targeted user communities specialised functionality on that content or defined quality and according to comprehensive codified policies.

The use of electronic legal information has become increasingly important to law libraries as they serve the legal information needs of their users. Some libraries hold more than hundred licenses for online legal databases for electronic information. The law libraries spend a significant proportion of their acquisition budgets on the purchase of electronic legal database. Generally, libraries much purchase electronic information by negotiating license agreements with the publishers of the information. A library will not own electronic information outright, but instead will lease this information pursuant to the terms of the license agreements. As information is shifted from the print to the electronic form, the outright sale of information is becoming less common and the leasing of information is becoming more common. The library communities response to these

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<sup>4</sup> Bentley, L & Sherman, B.- Intellectual Property Law 98-99. 3<sup>rd</sup> edition, 2009

developments has been the creation of principles for the licensing of electronic resources and the drafting of standard license agreements to be used with electronic materials.

Digital libraries are hampered by copyright law because, unlike with traditional libraries, digital libraries do not have access to works from every time period. The republication of material on the web and publishers who may require permission from rights holders, and there is a conflict of interest between them and publishers who may wish to create online versions of their acquired content for commercial purposes. Complex intellectual property matters may become involved since digital material is not always owned by a library.<sup>5</sup>

### **Copyright v Licensing**

A fundamental element of copyright law is that it does not grant the author of a literary work protection for ideas and facts. Protection is granted to creativity of such ideas and facts by conferring an exclusive privilege to exploit such expression for a limited time. The Law does not protect every such expression. The law affords protection to expression that are fixed in a medium and are original.<sup>6</sup>

For many years, librarians and their representative organization have argued that the existing exceptions for librarians and their users granted under copyright law should be extended to cover the user of digital resources. The user of licenses and therefore the introduction of contract law to regulate the use of digital resources, has brought the status of existing copyright exceptions into question. Contract law is dominated by the concept of freedom of contract, which means that the parties to a contract are free to negotiate the terms and user of copyrighted material or even waive the rights granted to them by copyright law. With the increasing importance of electronic information and the growth of the size of the market for electronic information the user of licenses has now become the principal way to purchase access to electronic information. The key elements law librarians look for in the licensing agreements are the price for the service and the number and type of databases that would be included within this pricing arrangement.<sup>7</sup> Some pushers

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<sup>5</sup> Pymm, Bob- Building collections for all time : The issue of significance. *Australian Academic & Research Libraries*, 37(1) 2006: 61-73.

<sup>6</sup> See Indian copyright Act S. 13 (1957); Copyright Act S.1(1)a (1988)UK, US Copyright Act S.102(a) (1976)

<sup>7</sup> Library Journal Survey: Academic Libraries : 2001- Moving from Books to Bytes, LIBR. J. September1, 2001 p. 52-53.

such as Westlaw and LexisNexis do not include all databases or electronic products offered by the publisher in one licensing agreement. This is all fair and good when negotiations are conducted by equal parties. In the case of copyrighted material it must be remembered that one party has an exclusive right (monopoly right) over the material and the other party, in this case the library, requires access to the work in order to fulfill its mission.

### **Protection of Law Reports under Copyright Act**

The legal definition of a law report is “A serial publication which publishes, verbatim, judgements of a court of law.”<sup>8</sup> The purpose of a law report is to publicise and distribute to the lawyers and judges, judgements of the courts to widen the base of legal knowledge and to prevent two differing decision on identical facts, or two differing legal theories on a same issue.

A court judgement is essentially the property of the people and the whole purpose of recording a judgement is to give people the access to the interpretation of the law that governs them. In order to claim copyright over a judgement, it would be absolutely essential that the quantum of creativity and originality employed in the rendition of the judgement be substantial. The initial position in India was reflective of Britain, with Indian Courts rigidly adhering to the copyright standard set by UK Courts and not evolving any distinct indigenous principles. This trend gradually underwent a change as Indian law came out of the Englishman's shadow and began to evolve laws according to changing needs and fast developing technology.

Currently the judgement or order of a Court, tribunal is exempted from copyright protection. Thus any person can reproduce or publish them unless such reproduction or publication has been prohibited by the judicial authority concerned.<sup>9</sup> Judgements of courts published in Law Reports are collected by Lawyers practicing in various courts. If the reporters or lawyers alongwith the judgement also supply headnotes prepared by them as part of their report, copyright in the headnotes will vest in them. The publishers could claim copyright in the headnotes only if the reporters had been employed under a contract of service with

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<sup>8</sup> Legal Dictionary, Dulhaim.org

<sup>9</sup> See Indian Copyright Act 1976, S. 52(1)

them or the copyright had been assigned to them or the headnotes had been prepared by themselves or their employees.<sup>10</sup>

Creativity under the copyright broadly involves putting in skill, labour and capital in addition to an amount of originality in a work so as to enable it to successfully claim copyright. The said aspects required should be substantial but what is substantial is a gray area even for the judiciary as there seems to be no consensus between the ratio decidendi in various judgements. It would depend on the facts and circumstances of the each case. The position in India and United States in this regard is similar with courts in both of countries accepting that copyright could be extended to certain specific parts in a case reporter viz. Headnotes, editorial comments etc. While in the United Kingdom substantial investment in obtaining, verifying or presenting the contents of the database would decide the extent of copyright that can be granted.

### **Ambiguous Journey of Judicial Precedents<sup>11</sup>**

Under S. 52 (1) of the Indian Copyright Act 1957, reproduction or publication of judgements of courts and other judicial authorities are not prohibited, as these are not government works being dictums of the court and not published under direction or control of court. Thus “law reporting” as derivative work entails question of originality which is not same as novelty.

The Court have often taken heed of either the doctrine of “sweat of brow” or “modicum of creativity” and have opined differing decisions regarding the copyright issues in reporting of judgements and orders. One of the initial case on the application of the two doctrines was Burlington Home Shopping Pvt. Ltd. vs. Rajnish Chibber<sup>12</sup> where the issue before the Court was whether compilations of list of clients amounts to a literary work wherein the author has a copyright. The plaintiff herein was a mail order servicing company which had prepared an online database of the list of its customers which was copied by the defendant, who was an employee in the company and later initiated a competing business. Affirming the decision of Waterlow Directors Ltd. vs. Reed Information Services Ltd.<sup>13</sup> And

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<sup>10</sup> See Indian Copyright Act 1976, S.17

<sup>11</sup> Kunika & Choudhuri, S.- Originality in Law Reporting : a Deep Seated Mystery.-ICALIRDA 2012

<sup>12</sup> 61 (1995)DLT 6

<sup>13</sup> 1992 FSR 409



William Hill (fotoball) Ltd. vs. Ladbroke (football) Ltd.<sup>14</sup> The Court granted copyright to the author of the compilation of the list. Upholding legal protection to the small amount of creativity which rests with the author of compilation, the court held that no man is entitled to steal or appropriate for himself the result of another's brain, skill or labour even in such works.<sup>15</sup>

In the case of EBC and others vs. N.J. Desai and Anr.<sup>16</sup> the Delhi High Court denied protection to case notes published in law reports mandating presence of modicum of creativity even in compilations. The applicant was a publisher engaged in the publication of law books, which developed a legal database for finding Supreme Court Judgements on diverse legal issues. It claimed ownership of copyright in the headnotes, in the selection of judgments for publication, their arrangement and copy editing whereby various inputs are provided and prayed for injunction against the defendants who allegedly copied the headnotes and manner of presentation of the judgements of the Court. The Court reserved its decision on the grant of injunction by the leaned single judge who did not concur with the fact that authorship in the judgement of Supreme Court lies with any person and accordingly the respondents were allowed to sell their database.

In the case of Infoseek Solution vs. Kerala Law Times<sup>17</sup>, the Kerala High Court affirmed the sweat of brow principle, where the Court was presented with the issue of copyright over judgements of Courts. The Court held that a law report is a composite document and its headnotes, comments, footnotes, layout and presentation etc. and even the skill and labour involved in choosing as to whether a judgement should be reported, lead to the reporter and publisher acquiring copyright over such report as a composite document including the text of the judgements as so published by the publisher.

The decision of various High Courts in this regards has projected a similar understanding of section 13 of the Act which defines original literary work. The case of Agarwal Publishing House vs. Board of High School and Intermediate Education U.P.<sup>18</sup>, held that the work original used in the Act implies that the work in

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<sup>14</sup> 1980 RPC 539

<sup>15</sup> AIR 1971 All 182

<sup>16</sup> 92(2001) DLT 403

<sup>17</sup> 2006 (4) KLT 311

<sup>18</sup> AIR 1967 All 91

question is not copied from some other work but should originate in the author, being the product of his labour and skill.

In the Case of *Govindan vs. Gopalkrishna*<sup>19</sup> asserted that the law reports have copyright protection and it needs to be protected in the modern complex society. The head notes or the side marginal notes of a report requires spending of time and intellectual effort and hence are subject of copyright protection. The case of *D.B. Modak*<sup>20</sup> did not correspond to these decisions holding that judgements are in public domain once published and no person can be granted copyright for understanding the task of trivial changes such as correcting spelling errors, elimination, correcting typographical errors etc. The Court specified that the persons would be five copyright protection if the intellectual input in the creation of the headnotes could be proved.

### **The Law after the Eastern Book Company**

The landmark case in India in this regard was *Eastern Book Co. and ors. Vs. D.B. Modak and Anr.* (2001) PTC 57 (Del), where the Supreme Court takes tentative steps in altering the jurisprudence surrounding the concept of originality in Indian Copyright law. Leaning towards the modicum of creativity arguments followed in America the interpretation offered by the Court in this judgement is especially fascinating as it shows an inclination on the part of our Judiciary to move away from the close association that Indian copyright law shares with its English counterpart. The basic fact situation is that the appellants are involved in the printing and publishing of law books including law reports “SCC Weekly” - Appellants alleged Respondents, proprietors of legal database entitled “The Laws” and “Jurix”, of lifting sequencing, selection and arrangement of the cases, text of copy-edited judgements as published in SCC, style and formatting, paragraph and footnote numbers, cross-references etc. for incorporation in their CD product.

The court held that the copyright act does not concern with the originality of ideas but with the expression of thought and in the case of literary work, with the expression of thought in print or writing. The originality which is required relates to the expression of the thought. But the act does not require that the expression must be in an original or novel form, but the work must not be copied from another

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<sup>19</sup> AIR 1955 Mad 391

<sup>20</sup> (2001) PTC 57 Del

work that it should originate from the author. As regards compilation originality is a matter of degree depending on the amount of skill, judgment or labour that has been involved in making the compilation. The common place matter put together or arranged without the exercise of more than negligible work, labour and skill in making the selection will not be entitled to copyright.<sup>21</sup>

## Conclusion

Publishers of electronic law reports or legal databases have strategically employed license agreements to sell their products. License agreements provide a continuous revenue stream compared to one-time sale of printed materials. Publishers also have been advocating the legal position that copyright law does not apply to digital materials in the same way it applies to printed materials with the goal of improving the profitability of electronic information. The library community has responded to these developments by creating principles for the licensing of electronic resources and drafting standard license agreements. Ownership of Intellectual Property is one of the most confusing and emotionally charged issues of the digital age. The issues surrounding intellectual property in the digital

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<sup>21</sup> AIR 2008 SC 809.

# **Provision of Copyright for Commercial Legal Database with Special Reference to SCC**

**Intekhab Alam<sup>1</sup>**

*The transition from print material to electronic has an impact on copyright laws around the globe. The new situations invite the amendments in copyright laws. The librarians need to understand this transformation to tackle the problems in future. This paper is an attempt to understand the copyright laws, rights of publishers in law reports, commercial database, and the basis of their rights in the light of various pronouncements of the Indian Courts. The paper highlights the challenges to protect the copyright in India due to the globalization. The paper concludes, to protect the database, it is required on part of librarians to understand the changes in copyrights and fair use provisions and also to take due care and diligence while providing library services.*

**Keywords:** Copyright, Copyright in Digital Era, Copyright of Law Reports, Copyright of Legal Database, Copyright and Law Libraries, Copyright of SCC.

## **Introduction**

The ability of computer to store large amounts of information for selective retrieval has become a form of holding which replaces the books of a library. The act of feeding a work into a computer store and the step of retrieving it, or some part of it, are to fall within the scope of copyright. The librarians and information professionals have an important role in protecting the rights of a copyright holder. The librarians should keep themselves aware the latest changes in IPR, and to see their proper implementation while purchasing the documents and their use in the library. There is an urgent need to understand the Article 27 of Universal Declaration of Human Rights, 1948 in true sense which reads as “Everyone has the right to the protection of the moral and material interest resulting from any scientific, literary or artistic production of which he is the author”.

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## Copyright of Database

Copyright is a right to stop others from exploiting the work without the consent or assent of the owner of the copyright. A copyright law presents a balance between the interests and rights of the author and that of the public in protecting the public domain, or to claim the copyright and protect it under the copyright statute. Indian Copyright Act, 1957 (as amended time to time) protects database under the category of literary works. As per Section 2 (o) of Indian Copyright Act “literary work” includes computer programmes, tables and compilations including computer databases. Today the term database constitutes data stored in World Wide Web, CDs/DVDs, multimedia products, networks, etc.

The western societies give more emphasis on economic aspects of the copyright issue, the eastern societies, particularly Indian society look to the moral aspects but in India, being a member of the Berne Convention and TRIPS Agreement, the requirement of originality in selection or arrangement of the contents of the database is required to attract copyright protection. Furthermore, the Copyright Act provides that copyright shall subsist in original works of author. The Laws are different in European Union to protect the database. As industries in the global market progressively come to rely on electronic compilation of data, calls for new *sui generis* forms of legal protection for databases have grown apace. *Sui Generis* prohibits the extraction or re-utilization of nay database in which there has been a substantial investment in obtaining, verifying or preventing the data contents and there is no requirement of creativity or originality.

## Scope of the Paper

Various commercial legal databases are available in the market, which provide online access to the Court judgments like SCC Online, Manupatra, The Laws, Jurix, Lexis India, Westlaw India etc. Here questions arise whether these companies have the rights to do their business on the products of the courts? What makes them eligible to earn profit? Here we would like to discuss the answers of these questions in the light of various pronouncements of the Indian Courts. This paper is an attempt to get the answers of these questions.

## Copyright of Legal Database

A database generally refers to an aggregate of information systematically arranged and fixed, whether on paper or in any other form such as electronic media, i.e. stored in computer system. Merely compilation or collection of Judgments from various courts in a systematic way is not requisite condition for claiming copyright. The creativity the ground to get protected a database under copyright provisions.

The process of creating database involve huge capital outlays and are undertaken solely on the prospect of generating revenue on the sale information or database services. In order to recover investment and to avoid parasitic competition, the database manufacturer must be able to protect his compilation efforts. In case of the database like SCC Online the raw material “being public documents, judgments are essentially in public domain and cannot be treated as something over which copyright could exist”.

“... There is no copyright in the judgment of the court, unless so made by the court itself.” The publishers like Eastern Book Company (EBC) in its product Supreme Court Cases (SCC) is publishing judgments of the Supreme Court but after copy-editing inputs, and EBC claims that for creating copy-edited version of the judgments they employed skills, labour and capital. EBC claims that copyright subsists in the copy-edited versions and not in the raw text of the judgments.

To obtain copyright protection for a compilation, it must exhibit some creativity or originality in selection or arrangement of contents of the compilation. There has been no clear pronouncement by the Indian courts on the concept of originality and the term is not defined anywhere in the Indian Copyright Act. Typically each case is decided on the basis of its, peculiar, 'facts and circumstances'.

*The Eastern Book Company have added in the copy-edited version*

- (a) The cross-citation to the citation(s) already given in the original text;
- (b) Added names of cases and cross-citations where only the citation of the case is given;
- (c) Added citation and cross-citations where only names of the case is given;
- (d) Inserted citation in case history where only the title and year of the impugned/earlier order is given;
- (e) Presented in their own style the cases when they are cited/repeated in the judgment;

- (f) Provided precise references to the quoted matter in the judgment by giving exact page and paragraph number as in the original case source/treatise/reference material added margin headings to quoted extracts from statutes/rules, etc., when they are missing from the original text of the judgment;
- (g) Added the number of the section/rule/article/paragraph to the extract quoted in the original text;
- (h) Added the names of judges on whose behalf opinion given by giving expressions such as “for himself and Pathak, C.J.”, etc.;
- (i) Done verification of first word of the quoted extract and supplied emphasis on such verification;
- (j) Added ellipsis “...” to indicate breaks in quoted extracts;
- (k) Provided and supplied the matter inadvertently missed in quoted extracts in the original text of the judgment;
- (l) Completed/corrected the incomplete/incorrect case in terms of the questions framed which were numbered in terms of answers to questions framed by learned Judge;
- (m) Changed the text as per corrigenda issued which has been issued upon SCC Editor's request and suggestions;
- (n) Done compressing/simplification of information relating to the case history;
- (o) Followed certain norms at SCC for giving case names;
- (p) Omitted the words like “Section”, “Sec.”, “Rule”, etc. and given only the number of the section/rule at the beginning of the quoted extract;
- (q) Made margin heading and the first clause/sub-section or initial matter of section/rule, etc. to run-on instead of being let to start from a fresh line;
- (r) Done compressing of unquoted references and use of \*\*\* for parts;
- (s) Replaced the series of dots in the raw text with ellipsis;
- (t) Removed abbreviations such as sec., R., cl. and substituted them with full word i.e. section, rule, clause;
- (u) Added hyphenation after the section/rule numbers which have alphabets suffixed to them;
- (v) Applied indentation of quoted extracts;
- (w) Removed full stops or word “No.”; and given full forms of abbreviations to enhance readability and clarity;
- (x) Capitalization and italicization is also made wherever necessary in the raw text; and
- (y) Punctuation, articles, spellings and compound words are also checked and corrected, if required, in the original text.

The court viewed that the aforesaid inputs put by the EBC in the copy-edited judgments do not touch the standard of the creativity required for the copyright.

However, the inputs put in the original text by the EBC in SCC, namely

- (i) Paragraphing/para numbering;
- (ii) Internal referencing;
- (iii) Concurring, dissenting, partly concurring, partly dissenting, supplementing etc.;
- (iv) Editorial notes;
- (v) Footnotes; and
- (vi) Head notes have been recognized as minimum amount of creativity.

On the basis of this minimum amount of creativity EBC have a copyright in the judgments reported in SCC. But “the exercise and creation of minimum amount of creativity has to be viewed in the context of journals to journals published by the parties”.

## **Discussion**

Advent of new technologies such as networks, digital libraries, electronic publishing, software advancements, satellite communication, wireless technologies, etc. are providing real challenges for copyright regulations and information technology offers new ways for disseminating variety of works. The use or misuse of the databases is easily possible through the Internet as well as other modes of communication in this era of globalization. The situation for the protection of database at international level is not harmonized. In India, the databases are protected under the Copyright Act, 1957 as well as Information Technology Act, 2000. Without additional protection for non-creative databases, the Indian economy will suffer. Only clearly defined copyright and database rights will cultivate a legal environment from which the investment necessary to construct and disseminate a variety of on-line and off-line database services, so vital to the development of electronic commerce, may flow.



## Conclusion

In the present world of information and communication technology, frequent amendments in existing laws and emergence of new laws prove the importance and complexity of intellectual property rights. The present environment creates the challenges as well as opportunities for stakeholders. The changes in copyright laws affect the library services also directly or indirectly. The librarians need to understand this changing landscape of copyright laws. The librarians, particularly law librarians should keep the close watch on the copyright and information technology and the relation of both.

Almost all the law libraries purchase access to the databases of law reports like SCC Online, Manupatra, AIR SC database via a license. The license comes under the contract law in which the terms and conditions are defined to access the specific product. Although the usage of copyrighted material for the purpose of teaching and research comes under the fair use provisions of the Copyright Act, but still due to technological advancement to reproduce or download information easily there are chances of copyright violation in the library premises. So it is the duty of the librarians to take due care to stop the violation of publisher's copyright and breach of contract signed by the home institution.

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# Copyright Issues in Changing Technical World

*Anubhuti Seth<sup>1</sup> and Sahil Jaggi<sup>2</sup>*

## Abstract

*In this paper the authors try to emphasize the significance of copyright laws in the Libraries. The copyright laws originated somewhere around the 17<sup>th</sup> Century. Queen Anne set a pattern for formal copyright statutes at the international level. The Indian copyright laws came into practice with the Indian copyright act 1957, amended five times. It is richly influenced by the British copyright act. But not many librarians are aware of its existence and its enforcement, influence on library collection and library services. In India the legal position under the act is that only very specific activities are permitted as regards to libraries and library services and much needs to be done for copyright awareness. The research for this paper was done through a thorough literature review related to the awareness about the copyright laws and the various exceptions and limitations in implementing them. As the research came to a conclusion, it was found that not many people are aware about the various IPR laws including those of copyright. But Copyright laws are an essential part for the protection of the authenticity.*

Keywords: Intellectual Property, Copyrights

## Introduction

The importance of intellectual property in India is well established at all levels- statutory, administrative and judicial. India ratified the agreement establishing the World Trade Organisation (WTO). This Agreement, inter-alia, contains an Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) which came into force from 1st January 1995. It lays down minimum standards for protection and enforcement of intellectual property rights in member countries which are required to promote effective and adequate protection of intellectual property rights with a view to reducing distortions and impediments to

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international trade. The obligations under the TRIPS Agreement relate to provision of minimum standard of protection within the member countries legal systems and practices.

Following are the various fields and forms of Intellectual Property Rights:

1. Patents
2. Trade Marks
3. Copyrights
4. Geographical Indications
5. Industrial Designs

It can also be defined as; A right to protect the authenticity of the 'intellectual property' which comprises all those things that come from the human intellect, whether they are ideas, inventions, words (fact and fiction), music, theatre or art. This would include books, periodicals, pamphlets, archives, databases (whether online, CD-ROM or delivered by other mechanisms), material on the Internet, individual items in a database, computer software, and even inventive pieces of hardware that are subject to patent coverage.

## **Copyright**

Copyright is a legal right created by the law of a country, that grants the creator of an original work exclusive rights to its use and distribution, usually for a limited time, with the intention of enabling the creator (e.g. the photographer of a photograph or the author of a book) to receive compensation for their intellectual effort. It is by far the most important type of intellectual property that librarians, information scientists and archivists will meet in their working lives.

India's copyright law, laid down in the Indian Copyright Act, 1957 as amended by Copyright (Amendment) Act, 1999, fully reflects the Berne Convention on Copyrights, to which India is a party. Additionally, India is party to the Geneva Convention for the Protection of rights of Producers of Phonograms and to the Universal Copyright Convention. India is also an active member of the World Intellectual Property Organisation (WIPO), Geneva and UNESCO.

Several measures have been adopted to strengthen and streamline the enforcement of copyrights. These include the setting up of a Copyright Enforcement Advisory

Council, training programs for enforcement officers and setting up special policy cells to deal with cases relating to infringement of copyrights.

A few of the Rules and Acts related to Copyrights are:

1. The Copyright (Amendment) Act, 2012
2. Copyright, Act 1957
3. Copyright Rules, 1958
4. Copyright Handbook
5. International Copyright Order, 1999
6. Copyright Piracy in India
7. Amendments in the Act

## **Copyright Issues**

This Paper deals with a number of Copyright issues that are being faced in the Indian IPR Laws.

### **I. Copyright Issues in Libraries**

If looked from a wider perspective, libraries and copyright protection seem to be in contradiction of each other. The purpose of a library is to disseminate literature without any inhibitions while, the copyright protection laws provide to preserve the exclusivities of the said literature. But, if their purposes are to be studied in detail, it would be clear that the copyright laws prevent the unfair use of someone's original work as well as unlawful gain from the same. Further the libraries aim at distributing knowledge from this literature. Libraries in their own way, help in preserving this literature (even beyond the term of copyright) and make it freely accessible for bonafide and genuine purposes like simply reading or research.

### **Indian Copyright Act**

The Indian law on copyright clearly states which of the acts are not punishable as per infringement of Copyright.

Section 52 (0) provides for an exception for books which are not available for sale in India:

*“the making of not more than three copies of 2.1 Indian Copyright Act a book (including a pamphlet, sheet of music, map, chart or plan) by or under the direction of the person in charge of a public library for the use of the library if such books is not available for sale in India.”*

The legal position under the Act portrays the picture that only very specific activities are permitted as regards libraries and library services. From the provision of fair dealing, it is evident that the same is applicable as far as obtaining material from the library is concerned.

However, not only are the enforcement and monitoring mechanisms weak and toothless, but the provisions do not address a gamut of issues. Important among them is that of electronic photocopying. There is only a certain extent to which libraries allow for such photocopying in their premises. In the US, not more than 10% of a book can be photo-copied. In India public photocopying is neither expensive nor inconvenient and even if some sort of cap is placed on the portion of the work that can be photo-copied, the public photocopying can hardly be monitored. In conclusion, it may be said that much needs to be done in this infant area when the information and technological revolution is on the rise as is copyright awareness.

## **Copyright Law in the Electronic Age**

### **I. Databases**

**Compilations:** *“A collection of individual items that may or may not in themselves merit copyright protection.”*

Under national copyright laws, databases, comprising words or numbers, are generally considered as 'compilations'. However, this compilation only gets protected under the national copyright laws, if it has been made with intellectual efforts and the components have been collected, selected and arranged in such a manner that proves its originality. There is an implication in many jurisdictions that if the collection is totally comprehensive (in other words there was no skill in selecting the individual items) and if there is no skill in the arrangement (no addition of keywords or indexing terms), then such a compilation should not justify copyright protection.<sup>3</sup>

<sup>3</sup> OPPENHEIM, C. 1995. The Legal and Regulatory Environment for Electronic Information. Calne, Informatics.

## II. Copyright and the Internet

The question as to whether, E-mail messages, material loaded onto ftp (file transfer protocol) sites or World Wide Web servers, and anything else put on the Internet are copyright or not. It can be interpreted from the National Copyright acts that the above mentioned are, in fact, copyright. The reason that they are widely available for free, does not leave their authors short of the protection under the copyright acts; Even if the authors have no problems with. Although problems only arise when there is some monetary loss to the author due to the infringement. Therefore one should be careful about copying such material, for example forwarding it to someone else.

## III. Electronic Copyright

- **Electro Copying:** *“Conversion of printed materials into machine-readable form using document image processing and optical character recognition (OCR) technology.”*

The authors of this paper suggest that such copying should also be considered as infringement of copyright. Since the copied document is stored in the third party's database and then might even be distributed further.

- **Adaptation:** *“Scanning of material in preparation for sending down a network is 'adaptation' of the work.”*

If this adaptation is done without permission, it can be considered an infringement to author's copyright.

- **Sending the Material via a Telecommunication Network:** This also comes under the protection of copyright, therefore it should be done with prior authorization.

The most sorts after alternative to avoid these infringements are through site licensing. Site license pricing is typically based on the numbers of users, although it could be simply a fixed fee. In the case of a fee based on client numbers, the subscriber must make an annual declaration of the numbers of terminals that have access.

The response of publishers and other rights holders is bound to vary. There is little doubt that there will be changes to the idea of 'publishing', 'journal', 'book' and 'article'. The continued existence of libraries and of publishers requires that equitable and workable solutions be developed that protect the interests of rights owners but also serve the needs of library staff and library users. The concern shown by publishers towards electro copying is symptomatic of the issues.

#### **IV. Multimedia and Copyright**

Copyright law has been split in different media.

- Written text is literary-work copyright;
- still images are artistic-work copyright;
- moving images are film or television copyright;
- the spoken word is sound-recording copyright; and,
- Musical works have their own copyright.

In multimedia, all of these different items are bundled together into a single product. However, the arrangements and rules for availing protection and ownerships under copyright laws are not identical, thus creating various problems. The problem is compounded by the fact that the rules differ from one country to another, and yet multimedia, being in machine-readable form, can easily be passed from one country to another.

The major problems with multimedia and copyright are:

1. **Different Copyright Laws in Different Countries:**

Not only do the laws differ, their ground rules are also varied from country to country. For example, while in some countries the “fair dealing” (e.g. photocopying) is permissible for genuine and legitimate purposes (e.g. Educational purposes); there are still some countries where computer programmes and databases are not considered to be even protected under copyright laws.

2. **Different Rules within a Country:** Even within a country, the rules on machine-readable text, still images, moving images, sound and music may vary. In any multimedia work, there will be many copyrights owned by different parties (often with different priorities and needs). The terms of protection of these rights may vary significantly. Persons wishing to copy a



multimedia work can never be sure they have catered for all the possible copyrights.

3. **Different Industries with Different Financial Gains:** The various industries (publishing, computer software, film, broadcasting, photographic) are very different in terms of the sorts of licenses they are prepared to accept: the lifetime of licenses, the royalties paid and the safeguards for the copyright owner differ hugely.
4. **Anonymous Owners of Multimedia Works:** It is very difficult to ascertain the true owners of multimedia works since they are widely spread and vastly circulated. This paper suggests that there should be central rights agencies with neutral ground rules and fair use doctrine that is empowered to act on behalf of all multimedia copyright owners. There are clear precedents for such agencies in the RROs that are common in North America and Europe.

## Plagiarism and Copyright Infringement

### Plagiarism:

*"Plagiarism is the 'wrongful appropriation' and 'stealing and publication' of another author's 'language, thoughts, ideas, or expressions' and the representation of them as one's own original work."*

Although plagiarism in some contexts is considered theft or stealing, the concept does not exist in a legal sense. Plagiarism is not mentioned in any current statute, either criminal or civil.<sup>4</sup> Some cases may be treated as unfair competition or a violation of the doctrine of moral rights.<sup>5</sup> The increased availability of intellectual property due to a rise in technology has furthered the debate as to whether copyright offences are criminal. In short, people are asked to use the guideline, "...if you did not write it yourself, you must give credit."<sup>6</sup>

<sup>4</sup> Lands, Robert (1999) Plagiarism is no Crime published by The Association of Illustrators (AOI), December 1999. Quotation:

*'Plagiarism may be a taboo in academia, but in art is almost essential.'*

<sup>5</sup> Green, Stuart P. (2002). "Plagiarism, Norms, and the Limits of Theft Law: Some Observations on the Use of Criminal Sanctions in Enforcing Intellectual Property Rights". Hastings Law Journal 54 (1). SSRN 315562

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## **Infringement**

*“Copyright infringement is the use of works protected by copyright law without permission, infringing certain exclusive rights granted to the copyright holder, such as the right to reproduce, distribute, display or perform the protected work, or to make derivative works.”*

Infringement is the primary offence under copyright law and all the remedies are geared towards providing relief against this offence. Infringement not only includes the commission of unauthorised act but also the permitting for any profit the use of any place for these actions and other acts like selling, letting for hire, distributing exhibiting for trade, or importation of infringing copies.<sup>7</sup>

Indian Copyright Act, 1957: The Indian Copyright Act, 1957 was modeled after the British Copyright Act of 1955. The Indian legal position in this regard reflects the British position in the *CBS Songs Case*<sup>8</sup>, which disallows the application of the tort law principles of contributory and/or vicarious liability, but allows a copyright infringement claim with respect to a breach of authorization rights.

## **Difference between Plagiarism and Copyright Infringement**

The key difference between plagiarism and copyright infringement is that not all plagiarisms are infringements and not all infringements are plagiarisms.

For one, a person can plagiarize almost anything, including works that are not protected by copyright. If you were to claim to have written “Hamlet”, for example, it would be a plagiarism but not a copyright infringement because the play is in the public domain and is not protected by copyright.

## **Fair Use Doctrine and Copyright Protection**

Copyright Laws are not absolute; there are several exceptions to the rules of copyright. One of them is known as “Fair Dealings”, professed in the United Kingdom. Similar to UK's Fair dealing rule there is a “Fair Use” Doctrine in the

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<sup>7</sup> Section 51 of the Copyright Act.

<sup>8</sup> C.B.S. Songs Ltd. v. Amstrad Consumer Electronics Plc. [1988] AC 1013

United States. The Doctrine of fair use or fair dealing is an integral part of copyright law.<sup>9</sup> It permits reproduction of the copyrighted work or use in a manner, which, but for the exception carved out would have amounted to infringement of copyright. It has thus, been kept out of the mischief of the copyright law.<sup>10</sup>

### **Limitations on Exclusive Rights: Fair Use<sup>11</sup>**

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—

- (1) *the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;*
- (2) *the nature of the copyrighted work;*
- (3) *the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and*
- (4) *the effect of the use upon the potential market for or value of the copyrighted work.*

*The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.*

The Defense of fair dealing is sort after in Indian Copyright Laws as well. Fair dealing also serves as an answer to those 'fair' copyright proponents who actively argue that copyright, not being a patent, is not an absolute right and should therefore be balanced against user rights.<sup>12</sup> Persons wanting the copy should make it themselves, or someone else, such as a friend or colleague, may be authorized to make the copy on their behalf. In many countries, librarians and information officers are also entitled to make copies on behalf of a patron. Fair dealing applies to

<sup>9</sup> *The Chancellor Masters and Scholars of the University of Oxford v. Narendra Publishing House and Ors*, 2008 (38) PTC 385 (Del) at Para 23.

<sup>10</sup> *SK Dutt v Law Book Co and Ors*, AIR 1954 All 570 at Para.

<sup>11</sup> 17 U.S. Code § 107 - Limitations on exclusive rights: Fair use

<sup>12</sup> Giuseppina D'Agostino, Healing fair dealing? A comparative copyright analysis of Canada's fair dealing to UK fair dealing and UD fair use, *McGill Law Journal*, 53 (2008) 309-363.

books, journal articles and databases equally. There is a misconception that fair dealing does not apply to electronic databases, but in fact it takes no regard of the medium.

Indeed, the fair dealing doctrine is 'a key part of the social bargain at the heart of copyright law, in which as a society we concede certain limited individual property rights to ensure the benefits of creativity to a living culture ...'<sup>13</sup>

In India, the doctrine of fair dealing is statutorily entrenched under Section 52 of the Indian Copyright Act, 1957. The English Copyright Act, 1842 was held to be applicable in India by the Bombay High Court in *McMilla v Khan Bahadur Shamsul Ulama Zaka*, even when the Act was not made expressly applicable to India.<sup>14</sup>

It is without dispute that both the US and the Indian legislation purport to maximize the promotion of creativity and the dissemination of information at the same time. Fair dealing and fair use both appear as defences to the otherwise closed monopoly entrenched in the legislation. But the real differences between India and its US counterparts can be traced ultimately in the policy preoccupations of their respective courts.

### **Remedies against Breach of Copyrights**

If copyright has been infringed, the copyright owner is entitled to commence an action in court and various remedies may be awarded. Action must be taken within 6 years of the date the infringement took place.

Action can be taken in either the Federal Court or the Federal Magistrates Court. Action can also be taken in State and Territory Supreme courts, and sometimes other State courts, depending on whether or not they have the power to grant the remedies that the copyright owner seeks.

Courts may grant “interlocutory relief” and final orders. A court may also order a

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<sup>13</sup> Association of Independent Video and Filmmakers, Documentary Filmmakers' Statement of Best Practices in fair use (18 November 2005) at 1-2, online: Center for Social Media, [http://centerforsocialmedia.org/files/pdf/fair\\_use\\_final.pdf](http://centerforsocialmedia.org/files/pdf/fair_use_final.pdf)

<sup>14</sup> (1895) ILR Bom 557 in Lal, *The Copyright Act*, 3<sup>rd</sup> Edn (Law Publishers India, Allahbad), 1995, p.6.

person who loses a case to pay another party's legal costs. An award of costs will not, however, always cover the full amount the person who won the case has to pay their legal representatives.

### **Interlocutory Relief**

**Interlocutory Orders** are orders that are made by a court after a case has been started but before it is finalised. Interlocutory orders are about such things as preserving the status quo, obtaining evidence, or preventing further damage to the claimant.

**Ex Parte Orders** are orders made as a result of an application made by one of the parties, generally without the knowledge of the other party or parties. In the context of copyright infringement, the most usual ex parte orders are:

- *Anton Piller orders* (orders to enter premises and search and seize infringing goods and related documents); and
- *Mareva injunctions* (orders to prevent a defendant from disposing of assets to defeat a judgment).

### **Final Orders**

Final Orders are granted after the case has been heard, and put the court's decision about the issues in dispute into effect. In deciding what remedies to grant where infringement takes place online, a court can take likely infringements into account as well as proved infringements if, taken together, the infringements were on a commercial scale.

A court can award a number of different types of final orders, including:

#### *1. Damages*

This is payment of money to compensate for the infringement. Damages are often based on the amount that the copyright owner would have been able to charge for the use of the material. Sometimes, a court may award additional damages if the infringer's conduct has been "flagrant".

#### *2. An account of profits*

This is payment of any profits that the infringer has made from using the work.

Generally, a copyright owner asks for either damages or an account of profits because a court cannot award both.

3. *Delivery up of the infringing articles*

A court can also order the infringer to deliver (give) any infringing articles or “device” used to make the infringing articles to the copyright owner. If the infringer is not able to do this (for example, because the articles have been sold), he or she may be ordered to pay “conversion damages”. These damages relate to the value of the infringing articles, but may be reduced by taking into account costs incurred by the infringer such as manufacturing costs.

4. *An injunction*

This is a court order that usually prohibits a party from doing something. In copyright infringement cases, an injunction will usually be an order that prohibits the infringer from continuing to infringe.

## **Conclusion**

People think that copyright is useless and point out that digital materials are incredibly easy to amend, and that it is incredibly difficult to prove where you got the material from. But this paper suggests that even though it is difficult to prove where the material has been taken from, but this is not an argument enough to strike the copyright laws. Copyright, the bedrock for that industry, despite the criticism that it is an ambiguous and out-of-date law, will continue. Fair dealing should be confirmed and indeed strengthened to balance any strengthening of owners' rights. By definition, copyright law has to balance conflicting needs and is a compromise. Compromises rarely satisfy everyone.

# **What is Revealed is What Excites, What is Concealed, will it be Forgotten?**

*Ishnoor Saini<sup>1</sup> and Uday Bedi<sup>2</sup>*

## **Abstract**

*Through this paper, the authors comment on the Google's book scanning case that adds hugely to the field of copyright law. The above mentioned case is used as an example to investigate the Fair Use doctrine and the possible outcomes of this case are also discussed if the case were to take place in India. The jurisprudence in India with regard to the fair use doctrine is very immature as the courts have not defined the limits of fair use. A dispute arose in 2005 after Google initiated its Google Books channel through which it scanned over 20 million books and put up snippets of those books online for public to research from. A lot of those books were still protected under copyright of the authors whose permission was not taken before scanning them. The authors complain that the snippets provided in the google search can be broken into by searching words using a proper technique, i.e. if someone with the wrong intention wanted to scan an entire book, he could do so by searching for appropriate words in the book which violates the fair use defense taken by Google. However, there are some pages which are absolutely blacklisted from being previewed. A settlement between the parties was rejected by the court in 2008. In 2011, the trial court decided in favour of the Authors Guild, an association representing various authors and publishers. In appeal, the High Court decided in favour of Google granting them the defense of fair use of the books. This paper is divided into two broad parts. In the first, the authors look at the development of the doctrine and suggest how it can be applied in India with certain objective principles. The second part of the paper deals with the various reasons why Google's scanning of the books could be deemed legitimate by comparing it to online libraries which has become everyone's be all and end all of research.*

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## **Google Should Lose**

There are two aspects which will be the primary focus of this part. The former deals with an integral facet of copyright law i.e. the fair dealing doctrine; while the latter deals with other threats/ concerns that may be posed in general if Google is given the legal support to 'mass digitization' of books.

From the era of renaissance, when original ideas were first acknowledged, to the birth of copyright law, which identified the authors' work to be rewarded, we have entered the dark ages, where these laws are openly flouted. Author's rights are often pitted against the Doctrine of fair use which is an integral part of copyright law. Since there is no definition of this doctrine, the courts in India have interpreted it in contradictory ways. The guiding principle on this matter is Lord Denning's decision in *Hubbard v. Vosper* wherein it was decided that to determine what constitutes 'fair dealing' is actually contingent on various factors, these factors may be the extent to which quotations and extracts have been used and the purpose and the proportions at which it is being used. And finally when all is said and done, it must be a matter of impression.

Article 13 of the TRIPS Agreement has a similar approach and lays down that "members shall confine limitations to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder." Furthermore, in India, the courts have examined the doctrine as practiced in the US and UK and have articulated three incontestable propositions in deciding cases related to fair dealing. The following have been enumerated below:

### **The Amount and Substantiality of the Dealing-**

The first factor is that the court has to consider the degree and proportions in which a protected work is used. In other words, verbatim copying of the text cannot be used as a shield under copyright regime. This stand was further strengthened in the case of *Syndicate Press of University of Cambridge v. Kasturilal & Sons*, where the Court held that even if it is assumed that the defendants' work is for a social good, even in such circumstances purloining of verbatim texts of protected work is not acceptable.



A similar approach was taken in a Canadian case of CCH where the Court rejected the 'sweat of the brow' doctrine and held that a subsequent work must be different than the original work in terms of selection and arrangement of pre-existing data. The Indian courts have followed this approach and also affirmed that not every piece of work where expending of skill and resources is involved will be entitled to copyright. This factor can be said to be based on the legal maxim 'de minimis non curat lex' (sometimes rendered, 'the law does not concern itself with trifles') which provides that as long as there is an insignificant amount of violation of others rights, he/she will be insulated from liability." Clearly, Google has failed to establish that only an immaterial amount of work was digitized.

The defense of Fair use is conducive if it satisfies certain elements which include- if that work contains a strong social message; its transformative nature, non-competing use, and most importantly poses negligible harm to the original author. Google contends that it has a strong drive to spread social message and disseminate knowledge however, other factors have not been satisfied.

In Chancery Masters' case, the courts deliberated on the issue of 'transformative work' as a defense and opined that for a work to be 'transformative' the subsequent work must be more than a mere substitute of the protected work. If the changes are only superficial in nature and the basic character remains the same, the purpose remains defeated and therefore no protection will be granted.

The defense of transformative work is also therefore not available to Google Books since it is a mere substitute of the protected work.

### **Purpose of the Use-**

In *Blackwood & Sons Ltd. & Ors. v. A. N. Parasuram & Ors.*, it was held that the purposes enumerated in Section 52 of the Act are strictly inflexible and exhaustive in nature and any form of use not protected by these grounds will be considered as an infringement. The major purposes enumerated in the section deal with private study, research, criticism and review. We see no reason to depart with the above mentioned judgment as any usage of the copyrighted work that is public, will infringe the rights of the author. Even to keep up with the changing times and development in technology, the act cannot be amended in such a way to take away its spirit which is to protect one's work. For example, video shooting is a lot easier

now as compared to in 1959, yet, if one were to record an entire cricket match using his phone, he could do that as long as the video is intended to be watched by him privately and not broadcasted as that would violate the rights of the broadcasters. Similarly, even now, the scanned books cannot be made open for public use just because new technologies are in the market.

### **Commercial Nature of the Use**

A commercial use as opposed to a non-profit use is merely “a separate factor that tends to weigh against a finding of fair use...[and] the force of that tendency will vary with the context.” Google Books has been established for a commercial purpose which is clear from the fact that when settlement was sought by Google, it agreed to pay the authors \$34.5 million in addition to 63% profits that it made from this project. Google cannot be allowed to make profits that the authors deserve. This conduct amounts to piracy of copyrighted material which the courts must prohibit. If Google contends that its motive is dissemination of knowledge then the authors must be paid the royalty that they deserve.

### **Effect on Potential Market: Likelihood of Competition-**

The final factor is the effect on the potential market. If a protected work of an author is being used by a rival to impart same information as the author, it is held to be unfair. Possibility of competition is sufficient to hold infringement of copyright. In the present case, Google contends that they are displaying nothing but snippets therefore they are posing no threat to anybody in the market. Displaying snippets is also causing harm to authors because it is encouraging users to go to Google for their book search needs, rather than Amazon, who has lawfully obtained the license to scan books. Where on one hand, users using Google might find all the text they need, on the other hand with Amazon, they will simply be encouraged to buy the book. Further, Google contends that the entire text is not available on the search engine, but the fact remains that even if one page out of every ten pages is blank, even then the items still under copyright are searchable and retrievable and a diligent user could in theory conduct a long string of searches and end up getting almost the entire book.

The balance of convenience is wholly against the authors as the benefits accruing to the world are much lower than the harms caused to them. Preserving books and the

rights of the creator of those books is far more important than other limited interestssuch as research etc. Very often, “the term 'fair use' has been abused by propagandists to mislead people into thinking these rights are more than they are.”

### **The Idea of Copyright Law-**

After keeping the above considerations in mind, it is clear that Google cannot take the defence of 'fair dealing' as it has failed to satisfy the above stated triple-test. Now the fulcrum of focus is shifted to the implications of Google succeeding.

“When human creativity is artificially monopolized beyond reason, the very purpose of intellectual property, to promote progress in arts and science, is subverted.”The main idea of Copyright law that is to protect an author's work and efforts and to promote dissemination of knowledge will be defeated as the author will be discouraged to produce original work. Hence, this challenges the very existence of the Copyright Act and proves it to be rather redundant. It is astounding that Google is reaping the fruits of the authors' hard work.

It must be noted that permitting Google to scan all the books in the world is nothing but a tip of a double-edged sword. It only goes on to show the dominance of Google and other Silicon Valley players. Private entities such as Google should not be allowed to make an unjustifiable use of these books for their own commercial purposes without obtaining a license. In other words, once you give up a data scan to another, you cannot put that digital genie back in the bottle.

### **Decontextualizing of Text-**

The manner in which Google arranges the texts is of great concern because it does so in a manner which decontextualizes them in culturally damaging ways. The words can easily be taken out of context and misinterpreted which could tarnish the image of the author and the idea that he sought to portray. Further, its primary interest in harvesting words to link to advertising permits sloppy imaging of the books at the expense of more carefully executed efforts. Furthermore, nothing stops Google from tampering with the scanned copies of the books, potentially allowing it to spread wrong information.

Hence, it is a risky proposition to handover the world's knowledge to Google without even being sure of what the outcome will be. At this juncture, it is important

to make a comparison between Project Gutenberg and the present case. The former provided more authoritative full text transcriptions for the Open Content Alliance; further it sought to maintain balance between the intellectual property rights of owners and the desires of users for access to content; whereas in the present case it seems like Google has completely done away with addressing certain rights of the authors. Google should obtain a license and pay a fixed royalty each year to an agency as such as IRRO that collects payments on behalf of the authors and publishers after all the purpose is to disseminate knowledge without hampering the authors' rights. This proposition was affirmed in a recent decision by the Delhi High Court in Rameshwari Photocopying case, where it opined that publishers support fair dealing as long as it is not unlawful copying of work for mass dissemination without procuring license and at the same time without offering the authors/publishers their fair due. This is a sound proposition because it ensures that all sectors of society get a fair access to knowledge and the interests of the authors/publishers are also safe guarded.

### **Google Should Win**

'What is revealed is what excites; what is concealed may be forgotten.' - Don Ihde  
Copyright is a kind of intellectual property. The importance of copyright has increased enormously in recent times due to the rapid technological development in the field of printing, music, communication, entertainment and computer industries. Copyright gives the exclusive right to the holder of the right to copy or reproduce the work in which copyright exists. Contrary to popular belief, that monetary gain is the primary objective of this law, it is important to note that rewards are only ancillary to the objective, which is to come up with original works which will help in the growth of the society as a whole. Therefore, no one should be punished for violating a person's copyright solely on the basis of a slight monetary loss that could occur to the copyright holder because as the legal maxim goes, *de minimis non curat lex*. Since this is an age of technological development, reproduction of original works has become extremely easy and with it comes the problem of piracy. In light of these developments, the Copyright Act, 1957(hereinafter referred to as 'The Act') allows certain fair uses of an original work without infringing the copyright. That fair use policy has been provided in Section 52(1) of The Act. However, there are two pre-requisites that Google needs to satisfy in order to successfully claim this defence of fair use. First, Google needs to establish that they are entitled to claim this defence and second, to prove that their use was indeed fair use. Section 52(1)(a) deals with the reproduction of literary

works Google Books expressly does not fall under any of the above two categories, since it is not explicitly for a private use and neither has it been made from the intention for allowing criticism or review of the works. Therefore, Google does not have a statutory right under The Act. Even the judgment of Madras High Court in 1959 has held that any purpose that falls beyond this section is not to be given the protection as these are inflexible and certain. On the other hand, the obiter of one of the recent High Court of Delhi judgments was that these conditions are not exhaustive. The Supreme Court is yet to decide on this particular issue. There are two ways in which how it can be argued that Google Books can be covered under The Act. One is to challenge this particular section as archaic and demanding an amendment while the other is to fit in Google Books within the current framework. Coming to the analysis of the facts with the law, Section 52 of The Act has its roots in the Copyright Act, 1911 which had the same provisions except that in the old act, the word 'private study' was used instead of 'private use'. One would raise an objection that these principles are archaic, hence should be done away with; however, mere fact that a provision of a law is archaic is not grounds strong enough to change the law when at the same time the party is not challenging the Act itself which is equally dated. Hence stronger reasons need to be given as to why a law should be amended. Therefore, the second approach seems to be a better solution. Since the advent of Google Search in 1997, it has grown to become man's be all and end all solution for all problems. Google registers over 5.5 billion searches everyday across the globe. From finding the meaning of a word to finding scholarly articles, from providing news to translating languages, Google does everything for you. Smartphone industry which is one of the dominating industries in the world is heavily reliant on Google for its services. We are so dependent on it that one of the top searches on Google is 'What if there were no Google!' In light of the aforementioned reliance, let us see what role does 'Google Books' play.

The following table provides a list of universities and libraries, inter alia, that have joined Google Books Project as partners since its inception.

“Google Book Search, with the books of the University of Michigan ... takes the corpus of human knowledge and puts it in the hands of anyone who wants it...It can, and will, change the world, and I want the University of Michigan to be part of it.” The dean of University of Michigan said in an event.

The following part deals with comparing 'Google Books' to a library and then proving how it deserves the right claim fair use. This project was first named

University	Library
Harvard University	Harvard University Library
University of Michigan	University of Michigan Library
-	New York Public Library
University of Oxford	Bodleian Library
Stanford University	Stanford University Libraries ( <a href="#">SULAIR</a> )
-	Bavarian State Library
Columbia University	Columbia University Library System
-	Committee on Institutional Cooperation
Complutense University of Madrid	-
Cornell University	Cornell University Library
Ghent University	Ghent University Library/Boekentoren
Keio University	Keio Media Centers (Libraries)
-	La Bibliothèque Municipale de Lyon
-	National Library of Catalonia
Princeton University	Princeton University Library
University of California	California Digital Library
University of Lausanne	-
University of Mysore	Mysore University Library
University of Texas at Austin	University of Texas Libraries
University of Virginia	University of Virginia Library
University of Wisconsin–Madison	University of Wisconsin Libraries

'Google Books Library Project' which shows Google's intention of making an online library. Google Books has replaced the physical library in a lot of ways as searching on Google is far easier and saves a lot of time. The right keywords can take you to the exact links that contain the required information, something that a library could never do. In fact, libraries are gradually adopting the approach of Google in developing softwares that can help locate books. A book opens up one avenue whereas Google will provide hundreds of links on just one point. Therefore, Google has become a more evolved or transformed library.

Google Books is different from a library in a way that it has not been made with the intention of allowing users to read complete books. It is just to allow users to do research and then buy those books to read them completely.

Unlike a physical library, Google Books is a lot more accessible all around the world. Google targets the people who are not going to be always able to access all these books from the libraries. At the same time Google Books does not allow users

to download copyrightable books for free. Therefore, Google Books should not be treated as a torrent website where anybody can download material for free, thereby promoting piracy. In fact, it should be considered very similar to a Library which provides the reader with certain portions of the books for their private use which includes research. Google does not intend them to be used by them for commercial purposes since Google is not selling any of the books that are scanned by it. The possibility of a person scanning the book from the library also exists, but libraries are not shut down based simply on this possibility. Google Books is being targeted solely because it caters to a lot more consumers which is not a ground for copyright infringement under The Act. Google Books project has two facets, one that involves publishers, wherein the publishers provide Google with either printed or scanned versions of the books which they intend to be put on the internet and second that involves libraries providing free copies to Google to scan them. While the former has not created controversy, the latter has. Google has not procured these books illegally. It is scanning genuine copies which were bought by the libraries.

The sustenance of democracy hinges on free flow of information and ideas and Google's motto is to organise entire world's information and make it universally accessible and useful. One of the purposes of Copyright law as mentioned in the beginning is to control piracy, if Google Books is fined, then there should be equal measures with respect to libraries, like not allowing them to lend books to the users for a period of time. Until that is not done, putting restrictions on Google will not only be an arbitrary act since it has no reasonable basis, but it will also be an unequal classification without there being any rational nexus with the object of The Act, violating Article 14 of the Constitution. This will also become an unreasonable restriction under article 19(1)(g) that is the restriction on the freedom of trade. Since a golden thread runs through Articles 14, 19 and 21 connected by reasonability, all freedoms mentioned under Article 19 are also covered under the liberties under Article 21 which will also be infringed as a consequence. Therefore, there is no reason why the law should treat Google any different from any other public library.

To further elaborate on whether Google should be given the right to claim fair use, it will be useful to look at various other jurisdictions. UK law under Section 40-43 of Copyrights, Designs and Patents Act, 1988, clearly gives libraries the rights to reproduce the original works or to lend the books to other libraries without infringing on the copyrights. It is important to note here that the law on which our

statute is based has progressed so much but our own law is yet to accommodate the changing society. US copyright law is very liberal as it sets out only four criteria which if passed by any sort of use by any organisation is deemed to be fair use. Therefore, there are no restrictions as to who all can claim that right. Australia allows reproduction of copyrighted works for the purpose of research and study. Judiciary should adopt a slightly liberal approach to account for the technological advancements and not treat Section 52(1)(a) as exhaustive.

Coming to the second requisite that Google needs to prove, i.e. this particular use was fair use and not an infringement of copyright. Recent High Court of Delhi decision has adopted the 4 pronged test under the US law to determine whether a particular use is fair use or not. First is to look at the purpose and character of the work, which has been explained in the analysis above that this purpose and character of the use are covered under the act. Second, the nature of the dealing is non-commercial, i.e. this is not a commercial venture on Google's behalf which is clear since Google never intended to sell these books. If a venture is making profits, it does not mean that it was intended to be a commercial venture. It is due to the services of Google that a lot of people now are accessing those books. If any institution is doing a public service and earning a profit, that cannot be termed as a commercial venture.

“Google Books provides significant public benefits. It advances the progress of the arts and sciences, while maintaining respectful consideration for the rights of authors and other creative individuals, and without adversely impacting the rights of copyright holders. It has become an invaluable research tool that permits students, teachers, librarians, and others to more efficiently identify and locate books. It has given scholars the ability, for the first time, to conduct full-text searches of tens of millions of books. It preserves books, in particular out-of-print and old books that have been forgotten in the bowels of libraries, and it gives them new life. It facilitates access to books for print-disabled and remote or underserved populations. It generates new audiences and creates new sources of income for authors and publishers. Indeed, all society benefits.”

Third, the amount of copying should be within permissible limits. Google has issued a statement that at any time a user will not be able to view more than 20 percent of the books that have been scanned under the publisher program and only a few lines from those books will be available that have been procured from libraries



that are not in public domain. To this, the Authors Guild contended that the snippet view that Google refers to can be broken through if the user puts in the correct keywords. The reply to this has been very cogently described by Judge Chin in *Authors Guild v. Google* in the following words:

“Nor is it likely that someone would take the time and energy to input countless searches to try and get enough snippets to comprise an entire book. Not only is that not possible as certain pages and snippets are blacklisted, the individual would have to have a copy of the book in his possession already to be able to piece the different snippets together in coherent fashion.”

Lastly, the most important contention of the authors is that their market share will be reduced because of this project. However, no statistics show how the market shares has gone down which makes this a mere assumption without there being any scientific evidence to substantiate it with. In fact, one can argue that this project gives even more recognition to various authors and books which accelerate the rate at which these books are being sold already. To take an example, tourist places have become more famous because now Google has made them popular. Until these things are not publicised, there is not much recognition. To take another related example, when Amazon started its Search inside the Book product, there was a 9 percent increase in sales for books that were enabled with text searching. The market for books that are not even sold in the average bookstore is larger than the market for those that are. Google Books will promote not just the sale of one book, but sales of books that are similar to others as people would be keen to know more about them.

One may contend that choice is already given to the reader to read a book and decide whether he wants to buy it or not, however, a choice is not free choice unless it is informed. Google Books provides readers with the option of an informed choice wherein a person can buy the exact books that he wants. For example, knowing a religion and following it cannot be considered an exercise of free choice unless one is aware of all religions.

Google Books therefore, passes both the pre-requisites to successfully claim the defence of fair use. In the end, we fall back to where we started, i.e. 'What is revealed is what excites; what is concealed may be forgotten.'

# Library Services in Copyright Regime

*Ms Geetali Das*<sup>1</sup>

## Abstract

*In the present day academic scenario, the task of catering to the needs of readers and research scholars has become very complex and challenging. Although the photocopying facilities are commonly available in most of the libraries, it has become a very delicate balancing act for the libraries to make any such copying consistent with the existing copyright laws. The present paper is an attempt to understand the scope of the libraries to provide services in consistency with the copyright laws.*

Keywords: Copyright, Indian Copyright Act.

## Introduction

From ancient times libraries have been playing a pivotal role in the dissemination of knowledge and information in human societies across the globe. However in the ancient days creative persons like artists, musicians and writers made, compose or wrote their work for fame and recognition rather than to earn a living. Therefore the question of copyright never arose. The importance of copyright began to be recognized only after the invasion of printing press which enabled reproduction of books in large numbers. Copyright is related to creative, artistic or literary expressions. It is the protection of the expression of an artistic idea that is fixed in any tangible medium of expression which includes books, graphical works, dramatic works, choreography, music, sound recordings, films, sculptures, architectural works and computer programmes. In order to protect the labour of an original creator for getting legitimate monetary returns, an exclusive right for limited period is granted to the author, composer, artist or designer of the original work. With the rapid progress in information and communication technology it has become extremely easy to use information from various sources which has turned the present society into knowledge based society. In the face of globalization the law and economics of intellectual property right have greatly evolved in recent

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times. However the fundamental role of the libraries in the democratization of knowledge in human societies has placed a really challenging task before the librarians to maintain a delicate balance between the ethos of library services and the copyright regime.

### **Background of Copyright Laws**

The history of copyright laws can be traced back to eighteenth century England when Queen Anne, around 1710, set forth formal copyright statutes. United States enacted first copyright law in 1790 followed by France in 1793. Over the years several international copyright bodies like Berne Convention, 1886, Universal Copyright Convention, 1952, Berne and Paris Convention, 1971 came into being. For ensuring international adherence to and administrations of such conventions several world bodies have been created like The World Intellectual Property Organization 1967, UNESCO, and WTO etc. These organizations and signatory countries keep these conventions and national copyright acts current through amendments from time to time. In India the Copyright Act, 1911 of The UK was modified by the Indian Copyright Act, 1914. Further The Copyright Act, 1957 was enacted by the Indian parliament which has been modified five times till 1999.

### **Definition of Copyright**

The UK Copyright, Design and Patents Act, 1988 defines that “the copyright is the legal protection extended to the owner of the rights in an original work that he/she has created. The owner can control the destiny of work”. Copyright comprises of two main sets of rights viz. economic and moral. Economic rights include rights of reproduction, broadcasting, adaptation, translation, distribution, public performance, public display, and public recitation and so on. Moral rights includes the creator's right to object to any distortion, mutilation or other modification to his/her work which might prejudice his/her honour or reputation. The copyright holders can use their works themselves, permit others to use their works or prohibit some others from using their works.

### **Library Services and Copyright**

In the present day information and communication technology environment, library services in India have faced the daunting tasks of reconciling between

copyright laws and the rising expectation of the users for exhaustive information and services. The US Digital Millennium Copyright Act, 1998, states that internet service providers are not responsible for the action of those who may use this service for downloading illegal any copyright information. Today's librarians with digital services face problems similar to those faced by the information service providers. It is a normal practice that publishers trace the use of their e-resources in terms of downloads made by subscribing institutions and in case of any violation of copyright the access is stopped for all the journals published by the some publisher. Hence the task is increasingly challenging for the librarians to prevent the unauthorized use of digital information. Therefore it is a safe practice to have the user's signature on a form indicating that the copyrighted information provided by the library is meant strictly for research or private study. Password or intellectual properly based authentication can also serve the purpose of protecting digital libraries.

In the above backdrop, how far the Indian Copyright Act provides for a balance between copyright and the ever increasing demands of the users is to be carefully examined. Section 52 of The Indian Copyright Act provides for certain acts which are not to be considered as infringement of copyright. Among these exemptions a few are relevant to the librarians and the library services. Infringement is the primary offence under copyright law and all the remedies are geared up towards providing relief against this offence. Infringement not only includes the commission of unauthorized acts but also permission for any profit the use of any place for these actions and other acts like selling, letting for hire, distributing, exhibiting for trade or importation of infringing copies. However in the exemptions provided under section 52 of this act librarian and library services find a mention. Section 52 (1) (o) provides for an exemption to the books which are not available for sale in India. It reads as under- "the making of not more than three copies of a book (including a pamphlet, sheet of music, map, chart or plan) by or under the direction of the person in charge of a public library for the use of the library if such books are not available for sale in India."

Thus whereas copying a book would otherwise amount to an infringement, the provision grants a concession for books not available for sale in India. Therefore three copies of such books can be made and kept in a public library for the use of the library. Further Section 52 (1) (p) of the said act reads as follows- "the reproduction, for the purpose of research or private study, or with a view to publication, of an

unpublished literary, dramatic or musical works kept in a library, museum or other institution to which the public has access” However the remaining part of this section makes it applicable only to anonymous works or to works whose copyright have effectively expired. Since the above section only cursorily covered the library services, another general provision that is Section 52 (1) (a) needs to be looked into, that might have bearing on the issue. This section reads as follows- “a fair dealing with a literary, dramatic, musical or artistic work not being a computer programme for the purpose of

- 1) Private use, including research;
- 2) Criticism or review, whether of that work or of any other work;”

However The Indian Copyright Act does not defined “fair dealing”. Therefore we may refer to The US Copyright Act, 1976 which lists out the following points to be considered in deciding whether use is fair-

- 1) The purpose and character of use
- 2) The nature of the copyright work
- 3) The amount and substantially of the portion used in relation to the copyrighted work as whole
- 4) The effect of the use the potential market for, or value of the copyright work

Section 52(1) of Indian Copyright Act requires that such fair dealing mandates the acknowledgement identifying the work by its title and identifying the author.

Electronic photocopying is another issue which is not directly addressed by the Indian Copyright Act. No specific legal provision is available regarding the extent to which librarians should allow such photocopy. In country like US not more than 10% of a book can be photocopied. However in India there is no system of monitoring that can prevent large scale public photocopying which is neither costly nor inconvenient. The situation is not likely to be change even if such cap is placed on such photocopying.

Electronic reserve is another issue that is not addressed in the Indian copyright Act. Electronic reserve means authorization to users to use information for educational purpose. Such facility is extended by commercial vendors to not profit making institutions like colleges and universities which are having licenses to access the

information by using electronic reserves. Currently enroll students, affiliating and visiting researchers, full and part time staff, and on-site users physically present on the institutional licensee's premises. They are permitted to use the electronic reserve for searching, viewing, reproduction, display, downloading, printing and performance for the following purposes-

- 1) research activities;
- 2) classroom or organizational instruction and related classroom or organizational activities;
- 3) student assignments;
- 4) as part of a scholarly, cultural, educational or organizational presentation or workshop
- 5) In research papers or dissertations for personal use, library deposit, or use solely within the institution(s) with which authorize users are affiliated etc.

In view of the above libraries should give easy-to-understand basic knowledge about copyright and IPR laws to the users by creating and providing access to the copyright handbook. Training should be imparted to make users more aware about the implication of the copyright law and IPR. Some orientation programmes can be organized by the libraries to make the users more conscious about the use of electronic resources much more carefully and lawfully.

## **5. Conclusion**

Libraries, being social and cultural institutions, have responsibility of making available all types of information resources for satisfying information hunger of the users. Librarians and information professionals are committed to support the needs of their users to gain access to copyrighted works and the information and ideas they contain. Simultaneously they should also support the needs of the authors and copyright owners to obtain a fair economic return on their intellectual property. Therefore library and information professionals should be allowed to make use of the provisions of "Fair Use" in order to satisfy the information requirement of their users. Institutions like IFLA supports balanced copyright laws that promote the advancement of society as a whole by giving strong and effective protection for the interests of rights-holders as well as reasonable access in order to encourage creativity, innovation, research, education and learning. Even in such balanced acts exception should be provided in public interest to those unprivileged student and

researchers who cannot afford expensive copyrighted works. In a nutshell a lot is yet to be done for a acceptable legal copyright framework in the present day academic scenario.

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# Awareness of Copyright Issues among the Academic Librarians of West Bengal: A Survey

*Sutapa Chatterjee<sup>1</sup>*

## Abstract

*Librarians have to play a very significant role of balancing between user of information and the creator of information. They have to deal with copyright issues in their day to day activities of library. It is expected from them they should remain well aware of copyright related matters. This paper tries to find out academic librarians awareness of copyright related issues. The study conducted survey among University academic librarians of West Bengal with questioner method and the results are analyzed to draw conclusion.*

Key words: Academic Librarians, Copyright. Copyright awareness, University Library.

## Introduction

Modern age is the age of Information. Now a day, information is the most valuable commodity. An original thought of an individual is considered as property of its originator-- intellectual property. Like any other property, intellectual property is also needed to be protected legally by acts, laws, treaties and pacts. But only creation of law, and regulations are not enough to protect this intellectual property. It requires awareness and proper practice or implementation among its practitioners.

Librarians, being the information professionals, often deals with intellectual property in their day to day work. They are mostly concern with collection, management and dissemination of information. They plays a significant role by balancing the interest of both the creator (by collection of information) and the user (by dissemination of information).They are expected to enforce intellectual property right or copyright regulations within their library. In such a situation, how

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well librarians are ready to evaluate or practice copyright issues is not known clearly. Specially in developing countries like India, where copyright infringement is enormous, it becomes very important to know whether librarians are sufficiently aware/ knowledgeable about copyright issues of India.

### **Objectives**

The purpose of this research is to find out awareness of copyright issues and procedure used to tackle different copyright related doubts among the academic librarians of West Bengal. In order to achieve the goal the study will precisely attempt:

1. To know the differences of knowledge/awareness of copyright issues of different categories of library professionals in W.B
2. To ascertain difference of knowledge of copyright issues depending on years of experience of working in libraries.
3. To assess the differences in regard to awareness of copyright depending on the section of the library that the librarian works in.

### **Methodology**

In order to investigate the problem and to achieve the objective stated earlier, document research is applied for making related and relevant literature review and to understand librarians relevance to copyright issues. However assessment research has been made to assess the differences of knowledge among the academic librarians on copyright issues depending on their level of education, experience and the departments of the library they work in.

Data is collected from all the five Universities (as per list of state universities of U.G.C) of Kolkata, West Bengal. Schedule appropriate for collecting data by means of survey for the said purpose is designed systematically. However collection of data has been made through a combination of schedule and interview method. Collected data has been subsequently analyzed and tabulated keeping in view the objective of the study.

### **Data Collection**

Data has been collected from all the (Seven) Universities of Kolkata (as per list of state universities of U.G.C in Table 1.), by survey method with a schedule

questioner ( Appendix 1). Data was collected in two ways, 1) For Universities in and around Kolkata, the researcher personally interviewed the respondents 2) For others, online live questioner (Google form) has been send through mail.

Total one hundred twenty five (123) questioner has been send among which seventy three (73) has been returned back by the respondents. All the responses are tabulated and analyzed properly two conclude the findings.

### **Data Analysis**

In the questioner apart from four basic information e.g., i) Gender ii) Age iii) Year of Experience and iv) Dept. of library working in], about six (6) different questions about copyright has been asked. For all those questions two alternate answers are given. One is right answer and the other is wrong. The respondents have to choose among them, according to his/her best knowledge.

Among the seventy three respondents 49.31% are male and 50.68% are female respondents.

According to educational qualification about 15.8% are Diploma/Certificate holder, 46.01% are Bachelor degree holder, 38.19% are Master degree holder and 2.74% are Ph.D.

According to total number of year of experience as library professionals - 38.35% are of “0-10” years of experience, 28.76% are of “ 10-20” years of experience, 39.72% are of “20-30” years of experience and about 8.21% are of “30-40” years of experience.

The six questions asked to test the knowledge of copyright among the academic librarians ( See Appendix 1) are of very basic type and had equal weight age.

All the seventy three responses for the six questions are analysed. According to the objective of the study the researcher intended to found how many total number of responded are given the right answer and how many given the wrong answer. For clear understanding and proper description all the data are converted into percentage of hundred.

### **Analysis for Educational Qualification**

The first analysis was performed to verify the first objective that, whether academic librarian's awareness varies with their educational qualifications. All the data are tabulated and analyzed to draw conclusion. Among the seventy three respondents 13.6% are Diploma holders, 49.31% are Bachelor degree holders, 36.9% are Master degree holders.

It is found from the table that for all the six questions only 20%-30% of the total population of diploma holders has given the right answer, while for Bachelor and Master degree holders 50%-70% has given the right answer. (Table-2)

The analysis shows that Certificate/ Diploma holders are less aware of copyright issues, and there is no significant difference of awareness among Bachelor degree and Master degree holders. [See table 2 and the Chart no1].

#### **i) Analysis for Year of experience**

The second analysis was performed to verify the second objective that whether academic librarian's awareness about copyright issues varies with their year of experience as library professionals.

It is found from the study that population of Category 1 (0-10) years of experience) and category 2 (10-20 years of experience) are more aware then the other two Categories. (20-30 and 30-40 years of experience) [See Table No 3 and Bar chart 2)

#### **ii) Analysis for Department of library works in:**

The third analysis was performed to verify the third objective that whether the academic librarians' awareness about copyright issues varies with the Department of library they mostly worked in.

The analysis shows that library professional working in Journal section, Digital section, Rare section, and Reference sections are more aware about copyright issues then the professional in Technical and Circulation sections. More over the chart also shows that Digital section and Journal section library professional are most aware of copyright issues then other four category professional. (See Table No. 4, Chart No. 3).

## Conclusion

From the above mentioned analysis the following conclusions can be deducted:

- 1) Awareness of copyright issues varies with higher educational qualifications of Library professional.
- 2) Young generation of academic librarians is more aware of copyright issues then the older generation of professionals.
- 3) Academic librarians working in Journal section and Digital sections are much more aware of copyright issues than any other section librarians.

**Table 1**

Sl. No.	Name of the University
1	Alia University
2	Calcutta University
3	Jadavpur University
4	Presidency University
5	Rabindra Bharati University
6	W.B.University o f Juridical Science
7	W.B University of Health Science

**Table 2**

	Q1	Q2	Q3	Q4	Q5	Q6
M.Lib	44	70	62	74	27	33
B.Lib	52.7	80	77.7	88.8	94	47.2
Diploma	20	30	10	20	50	10

**Table 3**

Cat1	82.14	67.8	57.14	75	50	46.42
Cat2	95	75	75	75	35	40
Cat3	88.88	66.66	66.66	66.66	33.33	16.66
Cat4	100	71.4	85.7	85.7	42.8	14.2

Table 4

Sections/quen	Circulation	Tecnical	Rare	Journal	Reference	Digital
Q1	71.42	94.4	100	100	90.9	100
Q2	35.7	66.6	66.66	90	72.7	87.5
Q3	21.4	50	100	90	72.7	87.5
Q4	35.71	55.5	100	100	81.81	100
Q5	35.7	22.2	83.3	70	36.36	50
Q6	21.4	27.7	33.33	60	36.36	62.5

Chart No. 1

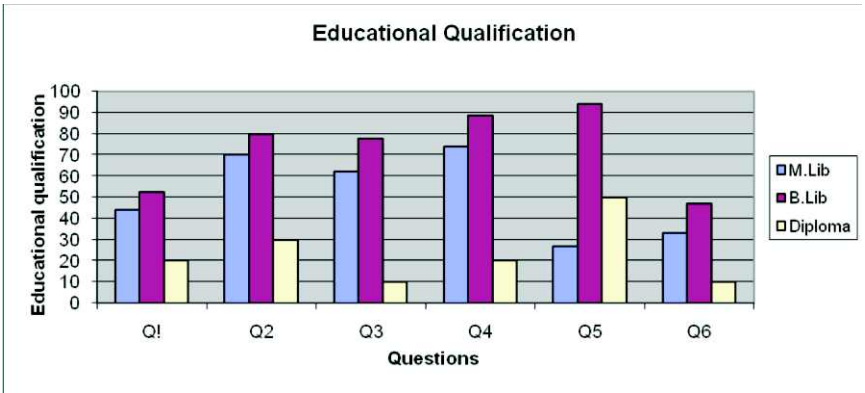
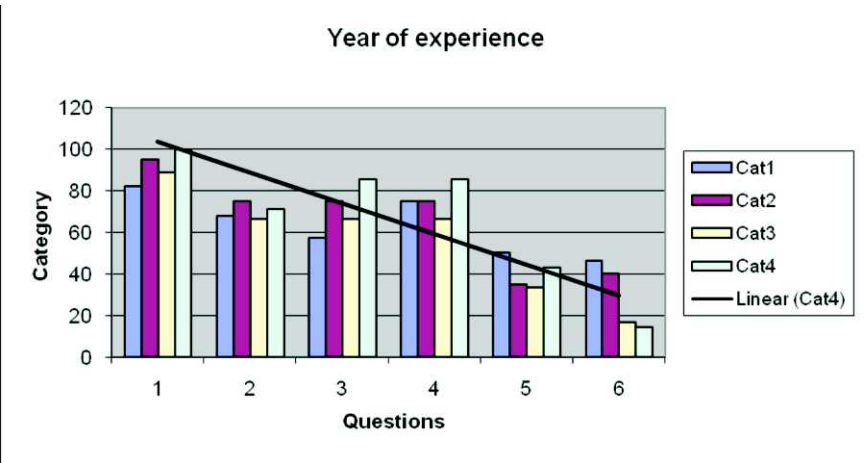
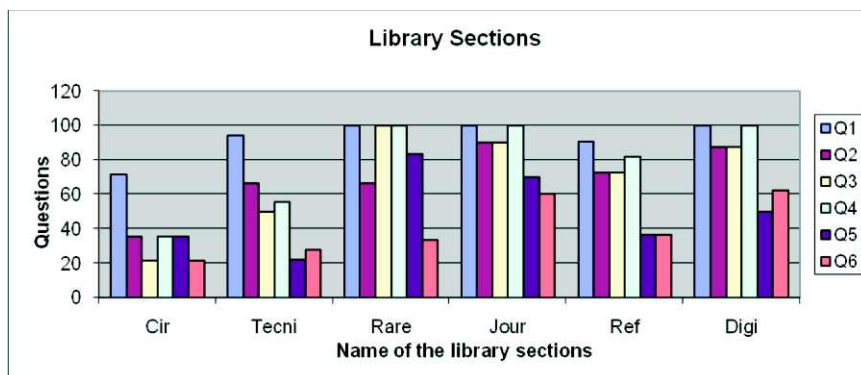


Chart No. 2



**Chart No. 3**



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# Internet Challenges and IPR: Social Media and Implications for Intellectual Property Rights

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## Abstract

*The internet system is spreading at a faster pace and indeed engulfing the whole of the globe. Ideas always change one's life. We are indeed living in the patent age of new inventions and ideas. In fact, world has been evolving and revolutionizing itself into a much accelerating technologically advanced zone. Advent of technology has made the world a matter of just click or one touch—the Internet. Internet has even infringe someone's personal right. Internet, broadly the **Social Media** is a term coined to depict online interaction of individual and exchange of user information's and more so content. The very existence of social networking applications have at times melafrade intentions which merit regulation as if there is a society, there has to be some rules and regulations need stringent enforcement. It is true for these internet societies too. **Intellectual Property Rights (IPR)** have well been recognized globally as one powerful tool of fundamental legal provision. For protecting one's rights. Broadly the major IPR issues with regards to Social Media are **Patent, Trademark, copyright, Trade secret and Defamation**. One of the basic issues in internet is determining the border between private use and public use. The copyright law is the most potent instrument in force for tackling the IPR issues on the internet. In Indian context copyright Act, originally enacted in 1957, was comprehensively amended in 1994. With these amendments it has become a forward looking piece of legislation and the general opinion is that the amended Act is capable of facing the copyright challenges of digital technologies including those of Internet. The IPR Act has adapted itself to the digital era. It, however, depends on how case laws develop when IPR issues of Internet are taken to the court. Like all copyright laws of the world. The Indian copyright Act also makes a distinction between reproducing for public use and private use. They are Internet challenges and IPR which are yet to earn a focused attention in resolving the issue in all earnest endeavours because of the complex matrix involved. The fraternity of law has a great role to play in formulating most adaptive laws in a synergic*

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*dimension involving rights of people, social justice and order that deserve further research. There has been an inherent connection between Internet Challenges and IPR issues. Social and legal due diligences are the area that need factorization before resolving the issue in a social and legal platform. This paper making an effort to address the perceptions through extensive literature and secondary research work such as frame-working of the issue of concern, impact assessment studies of social media, insight to the various provisions and issues of IPR, role of legal fraternity and the way forward and recommendation.*

**Keywords:** Intellectual\_Property Rights, Internet Challenges, Social Media, Copyright, Patent, Trademark

## **Getting Started with IPR and Internet Challenges**

### **Introduction**

**“Dom Cobb:** *What is the most resilient parasite? A bacteria? A virus? An intestinal worm?*

**Arthur:** *Uh, what Mr. Cobb is trying to .....*

**Dom Cobb:** *An idea. Resilient, highly contagious. Once an idea has taken hold of the brain it's almost impossible to eradicate. An idea that is fully formed, fully understood. That sticks right in there somewhere.*

**Saito:** *For someone like you to steal?*

**Arthur:** *Yes, in dream state your conscious defenses are lowered and it makes your thoughts vulnerable to theft. It is called extraction.” .....* dialogue from the movie **Inception** (2010) ( written and directed by Christopher Nolan).

It has been rightly stated in these few lines that the most highly resilient parasite is an “idea”. It is this idea which led to evolution of human activities. An idea actually changes one's life. We are indeed living in the patent age of new inventions and an idea. World has been evolving. It is revolutionizing itself into a better technologically advanced zone. With the advent of technology, the world has been a matter of just a click/ touch. We are talking about internet connectivity. Data

connection has enabled to shop, to study, to earn and even to get married to one another. It has also developed various modes to read, write, to share as well as to infringe someone's personal right. Henceforth, is the discussion of social networking facilities. It has not only served as a great boon to connect with the loved and lost ones but also ended up being the reason for universal pandemonium. Social media is a term coined to depict online interaction of individual and exchange of user content/ information. Some of the landmark social media sites used by all of us are: Twitter (Micro blogging site), Facebook and LinkedIn (social networking sites), Digg and Reddit (social news sites), Flickr and Youtube (multimedia sites) whatsapp, link (social networking apps) and various porn sites. Therefore, there is an existence of a society known as networking society. People interact, exchange, publish post and share with one another. If there is a society, there has to be some rules and regulations. As already stated in a famous proverb, "your rights end when my nose begins", is true for these internet societies.

IPR is one such fundamental legal means for protecting one's rights. Broadly classifying the major IPR issues with regard to Social media are:

- Defamation
- Patent
- Copyright
- Trademark
- Trade secret

## **Defamation**

### **Background**

Could any of one's content be considered defamatory to a third party? Could it be the basis for other tortious liability, such intentional infliction of emotional distress, interference with advantageous economic relations, fraud or misrepresentation?

### **Meaning of Defamation**

As understood in legal terms, any intentional false communication, either written or spoken that harms a person's reputation; decreases the respect, regard, or confidence in which a person is held; or induces disparaging, hostile, or

disagreeable opinions or feelings against a person is known as defamation. Defamation could be civil or criminal charge. It encompasses both written statements, known as Libel, and spoken statements, called slander. Defamation law tries to balance competing interests. On the one hand, people should not ruin others' lives by telling lies about them, but on the other hand, people should be able to speak freely without fear of litigation over every insult, disagreement, or mistake. Political and social disagreement is important in a free society, and we obviously don't all share the same opinions or beliefs. For instance, political opponents often reach opposite conclusions from the same facts, and editorial cartoonists often exaggerate facts to make their point.

A typical defamation case involves a false statement made about a person and "published" to others, resulting in harm to reputation or some other kind of damage. Publication can mean in the traditional sense, such as via newspaper articles, or by more limited means, such as oral communication to one or two other people. Whether grand or small in scope, publication has occurred if the statement has been communicated to a third party. Damage to the person who is the subject of the statement could be in the form of loss of good reputation, loss of business, loss of money, or even damage to health. Our increasing reliance on the Internet for even basic communication and social networking has created a number of interesting legal issues. In the defamation context, this includes figuring out who has harmed us and who has read the statements. Although publication is a given if a statement appears on the Internet, those other elements may be difficult or even impossible to prove.

### **Beware of What You Post/Tweet**

One should be very particular while posting online contents on various social networking sites as they are not only instantly available to the world but also once posted; it is incapable of 'true' deletion.

There are in numerous lawsuits alleging defamation based on online contents and such suits are treated in the same manner as are they treated in case of normal offline defamation. Defamation made on social networking site is an attribute to an actual individual. Such has been a latest trend among the teenagers and some irrational adults. The impact on the individual remains the same. The harm is already done. It leads to emotional distress of an individual but also at times economical harm such

loss of jobs. Incidents of “cyber-bullying” are increasing in a tremendous rate. Facebook was recently sued by a teenager alleging that four of her former classmates setup a group designed to ridicule and disgrace her.

Friend finder Network was sued for an allegedly false account created for Doe online.

Such defamation has also led to suicides as well. One of the recent cases being in India, wherein an IIM B student commits suicide upon a post mentioned on Facebook stating that her boyfriend has dumped her.

## **Patent**

### **Background**

The growing importance of patents has fuelled the tremendous growth of new patents being issued annually in the past several years and currently accelerating even faster. Many concerns have been raised about new patent ideas such as new business methods and other abstract concepts. Two examples of these business method patents are the “One-Click” checkout and payment Internet technology patented by Amazon.com, an Internet commerce company, and the “Reverse Auction” Internet technology patented by Priceline.com, an Internet based travel agent. Many argue that business methods are discoveries and not true inventions. “We discover what before existed, though to us unknown; we invent what did not exist before.” Patents have become one of the greatest competitive assets to ensure the future of the business and as business tools to map trends and convergences, innovates new strategies and capabilities of partners and competitors, and improve all business units in the corporation. Patents have become critical in determining the winners and losers in business competition.

Social networking has led to the rapid growth in the number of U.S applications in very recent years. The patent applications have taken its rapid growth since the year 2003. At present, there are around 3500 published applications. Around 7500 applications may be enlisted on file but has not been published yet. About 400 applications have issued as patents. It is also to bring to notice that the social networking patents are of great significance for the establishment of novice start-up companies. However, social networking patents inhibit innovation. On June 15,

2010, the *United States Patent and Trademark Office* awarded Amazon.com a patent for a “Social Networking System” on the basis of its ownership of Plant All.

### **Patent and Social Networking System**

The patent has depicted a Social Networking System as “a networked computer system which provides various services for assisting users in locating and establishing contact relationships with other users. This system has also provided a mechanism for a user to selectively establish contact relationship with various other users and to grant permit for such other users to view personal information of the user. Such systems also include features for enabling users to identify contacts of their respective contacts. Besides, the system may automatically notify users of personal information updates so made by their respective contacts.

### **Specificity of Patents and Social Networking Sites**

**Facebook** holds a patent for its *News-Feed*, described as a “computer implemented method for managing information about relationships in a social network via a social timeline.” **Friendster** also holds several patents, which includes one for “social networking”. Even auction giant **eBay** holds a patent for “sharing shopping information on a network-based social platform.” With the concept of patent, since amazon has been provided with the patent of social networking, would it start suing all other social networking sites? It would be very first time to witness such patent related lawsuit. The one of the very famous being the situation wherein, the Yahoo has issued Facebook, alleging for patent infringement.

### **Yahoo sued Facebook based on Patent Infringement**

Yahoo has asserted ten patents against Facebook, dividing into five categories: social networking, privacy, customization and messaging. Facebook, however, apparently owns just 21 US patens, while Yahoo has more than 1,000 patents.

Yahoo had notified Facbook of the allegedly infringing patents on Feb 27, 2012, and then filed suit after Facebook apparently refused to pay the licensing fees that had been demanded by Yahoo. A brief on each of the ten patents being asserted against Facebook, organized by the category divisions used in Yahoo's lawsuit:

- Yahoo's Social Networking Patents  
Patent # 7,747,648, “world modeling using a relationship network with communication channels to entitles”.
- Yahoo's Privacy Patents  
Patent # 7,269,590, “method and system for customizing views of information associated with a social network user”.  
Patent # 7,599,935, “Control for enabling a user to preview display of selected content based on another user's authorization level”.
- Yahoo's messaging patents  
Patent # 7,406,501, “System and method for instant messaging using an e-mail protocol”.
- Yahoo's advertising patents  
Patent # 7,668,861, “System and method to determine the validity of an interaction on a network”.  
Patent # 6,907,566, 7,100,111, 7,373,599, “Method and system for optimum placement of advertisements on a webpage”.
- Yahoo's customization patents  
Patent # 7,454,509, “Online playback system with community bias”  
Patent # 5,983,227, “Dynamic page generator”.

Patent issues are one such wherein; even the big fishes are having the capacities to eat up the small fishes. Patent stealing, has been one of the biggest concern of IPR.

## **Copyright- An Infringement Notification**

### **Background**

It is to be kept in mind that there is always a possibility on social networking sites, such networks provide a mechanism to notify them of infringing activities by their users. Facebook, for example has a separate “Facebook Copyright Policy” in addition to its Terms of Use, with explicit directions on how to report incidents of copyright infringement and indicating that Facebook will take prompt action upon receipt of such a report, including taking down infringing content and terminating repeat offenders.

### **Copyright – The Meaning**

As per the legal dictionary, copyright means a bundle of intangible rights granted

by statute to the author or originator of certain literary or artistic productions, whereby, for a limited period, the exclusive privilege is given to that person (or to any person to whom he or she transfers ownership) to make copies of the same for publication and sale.

### **Issues Related Copyright Infringement on Social Media**

Issues are as related:

- Protected the User's Content
- Protecting the Content's of others

It is quite startling to observe that while a post is made on any social networking site, members undoubtedly believe that their content, photos, etc are absolutely under the control and ownership such members, but the question pours in as whether is this really the case? Facebook in its recent Terms of Use has brought this issue to the forefront. Facebook has deleted a sentence from the Terms stating that its users' license grant to Facebook for user content automatically expired when the user removed the content. Such a deletion has created a universal flux and uproar throughout the Facebook user community that Facebook made an abrupt about face, restoring the sentence and explaining that it never intended to change its privacy practices.

Though this area of law is still developing, it is quite evident for those social media companies that they could be hold accountable for the actions of their users. For example, if a website service provides one a platform for posting defamatory or copyright infringement, then such a company automatically opens itself to claim. In *Agence France Presse v. Morel*, photograph of cluttered landscape due to an earthquake by focusing on the Twitter TOS to find that for profit republication of the photos by AFP was not permissible. Besides, there are such situations, wherein, authors of various books would like the re-posting of their written paragraphs because it only increases their popularity but also increases the number of sales of such books. Business organizations are well quite happy to witness the re-posting of their own product or quoting of their service theme because it increases their profitability and popularity in the market. Social media though has been rapidly growing over a decade, but it still remains like an embryo. It is of paramount significance that while posting one should be immensely careful as to the content which has been posted, because there could be serious legal ramification leading to



copyright infringement. A cogent plan outlining a strategy, and more importantly, specific guidelines for use, can be helpful in protecting against unwanted situations. Social networking remains the global platform for conversing with the desired ones. However, IPR persists in order to protect the ownership of the contents and would always be the pioneering as the only weapon existing to bend down the offenders. In this continuing conflict between social media and copyright law, only time will tell. Once again, disruptive technology is caught in the middle.

## **Trademark**

### **Background**

A trademark is a sign or combination of signs that distinguish goods or services of one person or enterprise from those of another. Its origin dates back to ancient times, when craftsmen reproduced their signatures, or "marks" on their artistic or utilitarian products.

The first trademark law in India was passed in the year 1940 and was known as the Trade Marks Act, 1940. This law was subsequently replaced by the Trade and Merchandise Act, 1958. Thereafter the Government of India amended this Act in order to bring the Indian trademark law in compliance with its TRIPS obligations. The new Act that was passed was the Trade Marks Act, 1999. This Act came into force in the year 2003. The Trade Marks Act, 1999 and the Trade Marks Rules, 2002, presently govern the trademark law in India. Legal world has created another weapon to protect its owners in the web of networking. Trademark is therefore any word, name, symbol, or design, or any combination thereof, used in commerce to identify and distinguish the goods of one manufacturer or seller from those of another and to indicate the ownership. Trademarks are generally words, phrases, logos and symbols used by producers to identify their goods. However, shapes, sounds, fragrances and colours may be registered as trademark of goods and services. There are approximately 400 million Facebook users; nearly 20 million people use Twitter; and according to Technorati.com there are some 70 million blogs, a number that may be doubling every six months. It is no wonder, then that social networking and social media are the next big thing for business large and small. Social networking is the platform for advertisements and marketing used by human resources departments, and by job-seeker and employees. This has further facilitated for the existence of several potential pitfalls that a company must be

aware to evade legal difficulties. One such being the Trademark infringement issue, i.e., the Unauthorized use of Trademark.

### **Unauthorized Use of Trademarks**

Trademark infringement arises due to the unauthorized utilization of third party trademarks on a social media site mostly for unfair trade practices. However, under certain situations, such use could be permitted in the form of fair use to refer or popularize a company or its product or service in a product review, blog, or status posting. It is however, not permitted to use such trademarks of other to create such a false impression of endorsement, affiliation or sponsorship. Websites, like Facebook have now created sophisticated infringement reporting policies whereby a trademark owner can prevent other from adopting its mark as a username.

The current procedure to report an alleged infringement is relatively easy, and the likely result is that Facebook will remove or disable access to the content in question. The report can only be filed by the copyright or trademark owner, or by someone authorized to act on the owner's behalf. The owner or representative must provide declaration”

- That the affiant has a good faith belief that the trademark or copyright is not authorized by the owner;
- How the content infringes on the holder's copyright or trademark;
- That the person making the declaration is the owner or authorized to act on behalf of the owner of the copyright or trademark.

The alleged infringer will have the opportunity to appeal its removal, but a party whose content infringes on another's intellectual property will fail in doing so. Such a grievance process is common amongst social media websites; Instagram and Twitter provide similar mechanisms for online reporting of copyright and trademark infringement.

### **Trade Secrets**

#### **Background**

Broadly speaking, any confidential business information which provides an enterprise a competitive edge may be considered a trade secret. Trade secrets

encompass manufacturing or industrial secrets and commercial secrets. The unauthorized use of such information by persons other than the holder is regarded as an unfair practice and a violation of the trade secret. Depending on the legal system, the protection of trade secrets forms part of the general concept of protection against unfair competition or is based on specific provisions or case law on the protection of confidential information. The subject matter of trade secrets is usually defined in broad terms and includes sales methods, distribution methods, consumer profiles, advertising strategies, lists of suppliers and clients, and manufacturing processes. While a final determination of what information constitutes a trade secret will depend on the circumstances of each individual case, clearly unfair practices in respect of secret information include industrial or commercial espionage, breach of contract and breach of confidence.

Trade secrets, just as other intellectual property rights, can be extremely valuable to a company's growth and sometimes even critical for its survival. Businesses must ensure that they adequately protect their business processes, technical know-how and confidential information from competitors. A trade secret may refer to a practice, process, design, instrument or a compilation of data or information relating to the business which is not generally known to the public and which the owner reasonably attempts to keep secret and confidential. Such data or information may also involve an economic interest of the owner in obtaining an economic advantage over competitors.

### **What about the Person Who Re-Tweets KFC Tweets?**

If it is at all for the purpose of the popularizing the market about the product or service, then such a re-tweet of the company's tweet at times be permitted by the company. In some of the landmark judgment of USA, which deals most of its IPR issues on social media stated and gave judgment on whether such an act is legal or an offence.

**Ehling V. Monmouth-Ocean Hospital Service Corp.**, a federal court in New Jersey held that an “employee's Facebook posts were protected because she had configured her privacy settings to restrict post to her friends”.

**Maremont V Susan Fredman Design Group Ltd.**, a federal court of United States of America of Illinois refused to grant summary judgment to an employer or claims

brought to an employee alleging that it had illegally accessed her Twitter and Facebook accounts while she was on medical leave, finding that there were factual disputes as to whether the employer exceeded its authority in accessing those accounts.

Legal issues aside, most employers do not want to create a culture where their employees are constantly in fear of being monitored, which will harm morale and decrease loyalty. This can have the alternative reactions of what the terms and policies were enacted and intended for promoting as disgruntled or disloyal employees are the most likely to take actions harmful to the company.

- There is no formal registration or application procedure for tra

## **Conclusion**

Intellectual property rights have emerged as an indispensable strategic tool in today's knowledge economies and societies, particularly in the context of economic globalisation. An entity's ability to compete in the global market depends to a large extent on its capacity to generate new ideas through innovation in science and technology. IPR, by conferring exclusive monopoly rights to its owner for a limited duration, has emerged as a significant factor in creating incentives for innovation and generation of economic value. An effective IPR system is also a constituent of a reliable legal environment, which in turn becomes an important factor for decisions on foreign investment and technology transfer. As this research work comes to an end, we have realized that this world will be witnessing too many legal contentions in the matter of social media and its uses. Thus, we the legal students and all those who are disciple of law need to come up with stronger IPR equipments. Society will evolve, with its evolution; will evolve the new pattern of criminal and civil activities. Society has always been protected by the guardians of law. Let society be put as the priority as well as its concern of every individual. Let IPR be such a weapon for defending the new generation offences against this "Web-Society". Social networking is a great platform for connecting people but also can be a legal landmine for the unwary. Social networking so established to maintain personal and professional relationships which could be very productive but at the same time one must take into the consideration of the myriad of ever-lurking legal ramifications. Let us, fix the social world and protect it from web offences. Let's make our IPR stronger. We will be able to fix this society in a better manner.

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# **Social Media and its Implications for Intellectual Property Law the Facebook and Twitter Saga**

*Ayushi Dwivedi<sup>1</sup>*

## ***Abstract***

*Social media has revolutionised the way individuals communicate in today's world. Social networking sites like Facebook and Twitter have experienced enormous growth in the past five years; with Facebook growing more than five times in the last two years to 50 million users; and Twitter currently having a user base of 13 million users in India. The advent of the Internet and the digitization of works through these sites has made it relatively easy to infringe intellectual property rights via infringement of copyright, trademark, patents, designs and service mark violation, etc. These platforms are being touted as a great way to network professionally and to generate business and could conceivably, if they wanted to, sell all user's content to a third-party and not pay him a dime. Law enforcement agencies are trying their level best to regulate such threats to intellectual property rights from a new perspective. The focus of this paper is on the various legal and liability issues that could be raised with regards to content on Twitter and Facebook and, through relevant cases, explains the urgent need to formulate and implement laws that define and protect Intellectual property as a response to technological change.*

Keywords: Social Media; Intellectual Property; Twitter and Facebook; Laws

## **Introduction**

Social Networking Sites provide a virtual community for people to interact. With the growing popularity of these sites, the volume of content has grown and has become very personal. Clearly, many people believe that everything we do, everything we post, everything we think in the online world is somehow protected. However, what you may not know is that, by agreeing to these sites' Terms of Service, you essentially permit these platforms to use whatever you publish online

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and license that material for their own commercial benefit. Furthermore, you are not entitled to any royalties or other compensation for your efforts. On its Statement of Rights and Responsibilities Facebook proclaims “Your privacy is very important to us.” And that may be, but so is your content. The Information Technology Act, 2000, Copyrights Act, 1957, Patent Act, 1970 etc. try to work for this purpose in India. Intellectual Property Rights are the legal rights which result from intellectual activity in the industrial, scientific, literary and artistic fields. These are time limited rights and are being violated in a grave manner through social media, specially the two most famous sites, Facebook and Twitter. The major Intellectual Property Rights Issues are Copyright, Patent, Trademark, Defamation and Trade Secret.

## Copyright

There are two major issues relating to copyright in social media:

(i) Protecting the User's Content (ii) Protecting the Content of Others

**(i) Protecting the User's Content:** The content creator is the copyright holder of posted material under two conditions: (a) the content is original, and (b) Content satisfies the “threshold of originality”

Issue 1: Can a single Tweet or a Facebook status update satisfy the threshold of originality? Maybe, but Tweets for example are limited to just 140 characters. However, one of the world's most famous short stories (usually attributed to Ernest Hemingway) is only 33 characters: “For sale: baby shoes, never worn.

- Khana Khazana is a popular show aired on Zee Network. It also has a page on Facebook that goes by the name 'ZeeKhanaKhazana'. The page is said to be dedicated to food, and recently it was found that they are also regularly stealing photographs from food bloggers and websites for their features. This is a violation to the intellectual property rights of the bloggers.

## (ii) Protecting the User's Content

### Twitter and the Library of Congress

On April 14, 2010, the LoC announced (via Twitter) that it would archive and make

available for research EVERY public tweet. Further, the LoC falls under the library exception of section 108, which says: “it is not an infringement of copyright for a library or archives, or any of its employees acting within the scope of their employment, to reproduce no more than one copy... of a work... if:”

- (a) The reproduction/distribution is without a commercial purpose;
- (b) The library is open to the public and the collections are available
- (c) The notice of copyright in the original work remains intact or there's a legend stating that it may be protected under copyright.

### **Twitter's Copyright Policy**

“Twitter respects the intellectual property rights of applicable law and are properly provided to us... We reserve the right to remove Content alleged to be infringing without prior notice and at our sole discretion...”

### **Facebook's Copyright Policy**

“We respect other people's rights, and expect you to do the same.

1. You will not post content or take any action on Facebook that infringes or violates someone else's rights or otherwise violates the law.
2. We can remove any content or information you post on Facebook if we believe that it violates this Statement.
3. We will provide you with tools to help you protect your intellectual property rights. To learn more, visit our How to Report Claims of Intellectual Property Infringement page.”

### **Defamation**

The elements of Defamation:

1. A false statement;
  2. Published to a third party without privilege or authorization
  3. Least negligence;
  4. Constituting defamation per se.
- A New South Wales teacher was awarded just over a \$100,000 after a district court judge found false allegations had been made about her online in Twitter violating her intellectual property rights.



- In 2009, a happily married man from Lynchburg, Va., was on his Facebook page when a curious ad appeared, according to MSNBC.com's Redtape Chronicles. "Hey, Peter," the Facebook ad read, "Hot singles are waiting for you!" Not only was Peter Smith married but the photo used in the ad was of HIS WIFE. A third-party application had mined Facebook's data, collected a photo of Cheryl Smith and used it in its advertising. Cheryl, who runs culturesmithconsulting.com blogged about her experience. Facebook eventually stopped the ad but didn't LEGALLY have to.
- Is it defamation if someone shares or retweets the original tweet?

This likely depends on element whether the re-tweet or posting was negligent of the nature of the tweet or post.

### **Endorsement Issues**

New FTC guidelines Effective December 1, 2009 says that "endorsers" must disclose any connections with advertisers (including on social media) which includes Addresses, Disingenuous positive product reviews, Astroturfing and Flogs. Therefore there exists a duty to educate paid endorsers, celebrities, or giveaway recipients about the FTC guidelines. Thus, hashtags such as #spon (sponsored), #paid (paid), #samp (sample), etc. can be used in Twitter, for example: We love the new & improved Widgets! Only \$9.99/per month at [www.widgets.com](http://www.widgets.com) #sponsored Moreover, any material connection with advertisers/sponsors should be clearly disclosed.

### **Patent**

A patent is an exclusive right granted by a country to the owner of an invention to make, use, manufacture and market the invention, provided the invention satisfies certain conditions stipulated in the law. It's governed by the Patents Act, 1970 in India.

Examples of Possible Public Disclosure of an Invention via Social Media are a shared picture of the invention, a blog post or Facebook note, Facebook or Twitter statuses (must be enabling), etc. The best solution to this is (i) Avoiding posting

enabling disclosures through social media, (ii) Educating employees and (iii) Monitoring and providing remedy disclosures – the 1-year clock starts ticking!

## **Trademarks**

Through social media platforms, people are discussing, creating content about, and interacting with brands more than ever before. This involves Trademark Infringement, Impersonation, Parody and Name Squatting.

### **Trademark Infringement**

Trademark infringement refers to the use of a mark that is identical or confusingly similar to a mark owned by another party.

Twitter's Policy: "Using a company or business name, logo, or other trademark-protected materials in a manner that may mislead or confuse others or be used for financial gain may be considered a trademark policy violation. Accounts with clear intent to mislead others will be suspended; even if there is not an explicit trademark policy violation, attempts to mislead others may result in suspension."

- In the famous case of *Oneok, Inc. v. Twitter*, Oneok, Inc. of Oklahoma sued Twitter for trademark infringement in Sept. 2009 over user account "Oneok\_i" which used the company's logo. The suit dropped the next day when Twitter suspended account.
- The case of *Mattel Inc. and Others vs Jayant Agarwalla and Others* (CS(O S) 344/2008) decided by the Delhi High Court on 17 September 2008 is a good example where copies of Facebook pages were used to decide a case on Trademark Infringement.

### **Impersonation**

There exists a possible liability for user names that confuse others about source or dilutes a trademark.

### **Twitter's Impersonation Policy**

"Impersonation is pretending to be another person or entity in order to deceive.

Impersonation is a violation of the Twitter Rules and may result in permanent account suspension.”

- In the case of Tony LaRussa v. Twitter, Tony LaRussa sued Twitter for trademark infringement (& other claims) in May '09 over user account “Tony LaRussa” which included LaRussa's photo. Twitter suspended the account and the case was settled.

### **Username Squatting**

Registering or using a user name with a bad faith intent to profit from goodwill belonging to someone else. Facebook's Policy: “If you select a username for your account we reserve the right to remove or reclaim it if we believe appropriate (such as when a trademark owner complains about a username that does not closely relate to a user's actual name).” Twitter's Policy: Username squatting is prohibited by the Twitter Rules: “Name Squatting: You may not engage in name squatting. Accounts that are inactive for more than 6 months may also be removed without further notice.”

### **Twitter-Squatting**

Many major brands are subject to brand squatting. In 2009, Michael Werch conducted an experiment to test brand squatting via Twitter. On Dec. 1, 2009, he set up account “@HJ\_Heinz” and tweeted 175 times, gathered 367 followers and on Dec. 14, 2009 the account changed to “@NOThj\_Heinz”. Welch received an email from Twitter: “It has come to our attention that your Twitter account, @username, is in violation of the Twitter Rules, specifically the section on Trademark. ...To avoid confusion regarding brand and/or official affiliation with the business or company in question, we've made the following changes to your account”. Damage could have been extensive. Twitter-Squatting can be prevented by Monitoring the brand and Preventing brand squatting by engaging with social Media.

### **Engaging with Social Media**

In August 2008, two individuals started a Coca-Cola fan page on Facebook. In November 2008, a new Facebook policy required all pages to be authorized by or associated with the brand. Coca-Cola asked Facebook to let the individuals keep

the page as long as they shared it with Coca-Cola. The Coca-Cola page now has over 5 million Members

## Trade Secrets

Elements of Trade Secret Misappropriation are: 1. Existence of a valid trade secret, 2. Secret disclosed or used without consent, 3. Defendant knew, or should have known, that the trade secret was acquired by improper means, and 4. Harm to the owner of the trade secret. Examples of Possible Trade Secret Misappropriation via Social Media can be A shared or posted picture of the trade secret subject matter, A blog post or Facebook note, A video posted to YouTube or Facebook or Twitter statuses.

- **Illustration:** A fictional KFC employee tweeting or posting : “just ordered the following 11 herbs and spices for delivery next Tuesday: marjoram, basil,…”

But what about a friend who re-posts or retweets the KFC tweet?

This likely depends upon element of misappropriation claim i.e. Defendant knew, or should have known, that the trade secret was acquired by improper means

- In the case **PhoneDog LLC v. Kravitz**, Company PhoneDog claimed that former employee stole trade secrets by keeping and using a Twitter account opened while employee worked for PhoneDog. Ex-employee changed name from @PhoneDog\_Noah to @noahkravitz but continued to use the following built up under prior name. Company argued that Twitter followers are like customer lists. Court allowed case to go forward

## Social Media Policy

Even if a company or organization doesn't use social media, your employees, customers,, and constituents will. Therefore there is a need for a proper risk management Strategy. Today, only 29% of companies have an official social media policy (Source: 2009 Manpower Survey)

This requires two steps to be followed:

**Step 1** – Minimize Liability by Protecting the IP of Others: Educate employees and clients to recognize and respect the intellectual property of others and Establish and

enforce a social media policy that prohibits at least the following conduct like Defamatory statements, Copyright and Trademark infringement and Endorsing goods without revealing material connections

**Step 2** – Protect YOUR IP: Educate employees and clients about social media and intellectual property issues, Monitor your brand (including copyrights, trademarks) Establish and enforce a social media policy that prohibits at least the following conduct like Disclosure of proprietary or confidential information and Misuse of Trademarks

## **Conclusion**

Many people view social networking sites as a kind of online cocktail party where one gets to establish contacts and raise a personal or corporate profile. But the cocktail party metaphor isn't entirely accurate. In fact, users would be better served if they thought of social network services in the context of a loud glass house; a place with endless visibility. they are communications in a permanent form and because of the way social media works and the whole point of it is to communicate and to react and respond to other people's communications; an initial publication can spread like wildfire and cause immense damage to somebody particularly whereas was the case here, the statements are just simply untrue. The impact of intellectual property on the economy is big where it affects the companies by losing their revenue, the money paid on the intellectual property protection, damage to brand and decrease the motivation to innovate because of potential theft, which will decrease the economic growth, weaken the nation's competitiveness, and make it difficult to create jobs. Also, consumers are harmed as they pay money to buy counterfeit goods of lower quality which will cause physical harming and loss of money. Facebook and Twitter, though the biggest platforms for such infringements, are trying to provide various measures to avoid the same. Thus, regulative actions taken by both the users and such sites which are backed by proper Intellectual Property Laws in can help to use the social media in a constructive way.

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# **Present Scenario of Cloud Computing Laws with Special Reference to India and United States**

*Mr. Ajit Kumar<sup>1</sup> and Mrs. Rupali Kumar Madan<sup>2</sup>*

## **Abstract**

*The cloud computing is internet based platform which store the data of an individual's / organizations and allows to the users for access the data as per their requirement based on certain terms and conditions. This paper highlights the laws related to cloud computing in the India and United States. In India lack of dedicated laws for the cloud computing, however the Indian Government, Department of Electronic and Information Technology indicated that "Formulation of the cloud policy is one of the primary steps that will facilitate large scale adoption of cloud by government." In United Nations several laws viz. ECPA, HITECH, FTC Fair Information Practice even though lack of dedicated laws related to data protection from client point of view.*

**Keywords:** Cloud computing, India, United States, Laws, Data privacy, Security, Cyber crime, Intellectual property rights.

## **Introduction**

Cloud computing is a process that provides services on virtual machines that are allocated on the top of large physical machine pool. In Cloud computing the information is permanently stored on the internet servers and it can cache by the users temporarily. Cloud Computing can be understood as a way to use of-site computer processing power to replace content creation and servers that were traditionally onsite. A Cloud is type of parallel and distributed system consisting of a collection of inter-connected and virtualized computers that are dynamically provisioned and presented as one or more unified computing resources(s) based on service-level agreements established through negotiation between the service

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provider and consumers (Buyya and others, 2009).<sup>1</sup> According to Srinivas (2013) Cloud Computing is the use of computing resources (hardware and software) that are delivered as service over a network (typically the Internet).<sup>2</sup> In the same way Mell and Grance, (2011) said that the Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources(e.g. network, servers, storage, applications, and service) that can be rapidly provisioned and released with minimal management effort or service provider interaction.<sup>3</sup> According to Investopedia Cloud computing is so named because the information being accessed is found in the "clouds", and does not require a user to be in a specific place to gain access to it. Companies may find that cloud computing allows them to reduce the cost of information management, since they are not required to own their own servers and can use capacity leased from third parties. Additionally, the cloud-like structure allows companies to upgrade software more quickly.<sup>4</sup> Kazia (2012) said the Cloud computing has emerged as one of the most important technical developments in recent times, affecting every aspect of our work and personal lives, and changing the technological landscape. Simply put, it refers to *"the sharing and storage of computing resources in virtual data centre's owned and operated by a third party"*.<sup>5</sup>

### **Need of Laws for Cloud Computing**

Law is basically a system of rules and regulations which are enforced through social institution to govern behaviour. The laws are varying according the concerned topics. The law is very important aspect for running a system in easy and smooth way. The cloud computing also needs laws for its proper applications. There are several concerns that the users have regarding the adoption of cloud computing. They include availability, security and privacy, support, interoperability, and compliance. Of these, compliance is generally relevant to only the enterprise. All of the concerns are the same ones that the users have always had even with on-premises computers and software. To a good extent, the users become newly conscious of the concerns, because their data, applications, and computing resources will no longer be under their control (Kim, 2009).<sup>6</sup> The Data security is a basic issue for the cloud computing. According to John (2011) the security controls in cloud computing is, for the most part, no different than security controls in any IT environment. However, because of the cloud service models employed, the operational models, and the technologies used to enable cloud services, cloud computing may present different risks to an organization than traditional IT



solutions. An organization's security posture is characterized by the maturity, effectiveness, and completeness of the risk-adjusted security controls implemented. These controls are implemented in one or more layers ranging from the facilities (physical security), to the network infrastructure (network security), to the IT system (system security), all the way to the information and application (application security). Additionally, controls are implemented at the people and process levels, such as separation of duties and change management, respectively.<sup>7</sup> United Nations Conference on Trade and Development (UNCTAD) (2013) has noticed that the rapid emergence of cloud computing has raised concerns about its legal and regulatory implications. Issue of data protection and security are among the concerns most frequently mentioned by potential cloud customers in both developed and developing countries.<sup>8</sup> The legal and regulatory landscape around cloud computing is by no means static. There are new laws being proposed that cloud change the responsibilities of both cloud computing tenant and providers (Winkler, 2012).<sup>9</sup>

## **Literature Review**

According to Solanki (2012) every new technology brings lots of advantages along with it, and cloud computing is not an exception to it. The wide use of cloud computing over the past few years has raised several issues. It must be understood that the purpose of cloud computing service is to facilitate the computing needs of hundreds and thousands organizations over a virtual computing infrastructure located somewhere on the Internet, which is very much contradictory to the conventional service providers. It is very important that every organization get assured the safety and security of data as these data are hosted at outdoor server.<sup>10</sup> In Indian context, according to Sahoo and Jaiswal (2014) India does not have any devoted regulatory framework to maintain the cloud computing system. The basic for careful acceptance of cloud computing in India can be credited to jurisdictional issues, inadequate data security, and absence of data protection laws, erasing mechanism, lack of privacy laws poor watch over data handling, inadequate data security, licensing and jurisdictional issues.<sup>11</sup> The Information Technology act 2000 has prescribed due diligence requirements for various business organisations and stakeholders. These due diligence requirements equally apply to cloud computing service providers in India.

These due diligence requirements are very stringent and cloud computing providers can find themselves in legal hassles if they ignore the same. Managing sensitive and personal data and information in India is no more a causal approach but is has become very stringent. With the proposal to codify law of torts in India, more and more civil proceeding for violation of privacy rights may be initiated against the cloud computing service providers. It would be a wise option to establish best practices and cloud computing policy by all stakeholders in their own larger interests.<sup>12</sup> The Information Technology Act, 2000 has certain provisions under Section 43, Section 43A, Section 65, Section 66, Section 66C, Section 66 D, Section 66 F and Section 79 deal with cyber crimes that could be committed in the cloud as highlighted by Raheja.<sup>13</sup> The Information Technology (Reasonable security practices and procedures and sensitive personal data or, information) Rules of 2011 were notified by the Government of India, for the protection of sensitive personal data or, information of individuals or organizations by the entity who possesses, deals with or, handles such data in a computer resource owned, controlled or operated by it.<sup>14</sup> But various provisions of the Rules are not applicable to entities providing services under a contractual obligation with any other entity located extraterritorially, unless such entity ensures the same level of data protection as laid down in the Rules.<sup>15</sup> In the United States different laws such as USA Electronic Communication Privacy Act (ECPA), Stored Communications Act (SCA), USA Patriot Act and FTC Fair Information Practice deal with the protection of information. The Family Educational Rights and Privacy Act, Gramm-Leach-Bliley ACT (GLBA), Health Insurance Portability Act (HIPAA), Health Information Technology for Economic and Clinicval Health (HITECH) Act, Sarbanes Oxley, State Laws and Regulations (For Data Breach Notification) are dealing with the Data Security and Disclosure of Breaches. For the Data accessibility, transfer and retention The Freedom of Information Act (FOIA), Payment Card Industry Data Security Standard (PCIDSS), FTC Fair Information Practice are applicable. In United States NARA regulations (title 36 of the code of federal regulations), Payment Card Industry Security Standard (PCIDSS), Sarbanes-Oxley Act, FTC Fair Information Practice are applicable for locations of data (AISudiari and Vasista, 2012).<sup>16</sup> However, according to Raza there are six widely applicable regulations relating to cloud computing in the United States<sup>17</sup> such as Stored Communication Act (SCA), USA Patriot Act, The Health Insurance Portability and Accountability Act (HIPAA), US Export Control Regulations, Federal Trade Commission Act and Communications Privacy Act of 1986 (ECPA). According to Blaisdell (2012), cloud computing technologies developed

around them a complex legal and regulatory environment. In the United States, privacy and security are spread over different industry specific laws and regulations viz. Health Insurance portability and Accountability Act (1996), The Gamm-Leach-Bliley (GLBA), Payment Card Industry Data Security Standards and Family Educational Rights and Privacy Act (FERPA).<sup>18</sup> In addition to these laws the FTC Red Flag Rules, responsible for prevent and manage identify theft of data added by Harshbarger (2011).<sup>19</sup>

Scope and Limitation

This study is limited to the survey done in 2013 by BSA related Global Cloud computing with special reference to India and United States. BSA the Software Alliance is the leading advocate for the global software industry before governments and in the international marketplace. It is an association of world-class companies that invest billions of dollars annually to create software solutions that spark the economy and improve modern life. The BSA conducted survey in 2013 related to international policy landscape for cloud computing. The survey was done in 24 countries. For this study four basic parameters viz. Data Privacy, Security, Cybercrime, and Intellectual Property Rights has been selected.

A Comparative Study of Indian and United States Laws Related to Cloud Computing Based on BSA Survey on Global Cloud Computing In 2013

Parameters	India	United States
1.Data Privacy		
	<ul style="list-style-type: none"><li>• In India Information Technology Act was amended in 2008 with the provision of data protection. Under Section 72A- Punishment for disclosure of information in breach of lawful contract provision made. The Govt. of India implemented IT (Reasonable Security Practice Data or, Information) Rules in April 2011. However, in August 2011 the Ministry of Communications and Information Technology confirmed that 'anybody corporate providing services relating to collection, storage, dealing or handling of sensitive personal data or information under contractual obligation with any legal entity located within or outside India is exempt from the consent requirement. The Privacy laws provisions only apply to the private sector, not to Government.</li></ul>	<ul style="list-style-type: none"><li>• In United States numerous privacy laws such as <b>The Federal Trade Commission Act</b> (prohibits unfair or deceptive practices and this requirement has been applied to company privacy policies in several prominent cases) , <b>The Electronic Communications Privacy Act</b> (protects consumers against interception of their electronic communication (with numerous exceptions)), <b>The Health Insurance Portability and Accountability Act (HIPAA)</b> (contains privacy rules applying to certain categories of health and medical research data) and <b>The Fair Credit Reporting Act</b> (includes privacy rules for credit reporting and consumer reports). In February 2012 the White House released a new framework for privacy protection.</li></ul>

Parameters	India	United States
<b>1. Data Privacy</b>		
	<ul style="list-style-type: none"> <li>The Indian constitution does not contain specific right to privacy, but Indian courts have interpreted some of the other provisions broadly, including the right to liberty and the right to freedom of speech. Example, Naz Foundation v Government of NCT of Delhi WP(C) No.7455/2001 (2 July 2009).</li> <li>India is not a member of APEC.</li> </ul>	<ul style="list-style-type: none"> <li>There is no specific right to privacy in the US Constitution. However, various Supreme Court cases have found that a limited constitutional right of privacy exists based on a combination of provisions in the Bill of Rights and subsequent amendments. See for example: Katz v. US, 386 US 954 (1967).</li> <li>The patchwork of US privacy laws is partially compatible with the APEC privacy framework.</li> </ul>
<b>2. Security</b>		
	<ul style="list-style-type: none"> <li>Information and Technology Act 2000 provide the provision for legal recognition of digital signature under section 5 and publishing of information which is obscene in electronic form under section 67. This act also provides the provision for mandatory compensation requirement for security breach. The Information Technology Amendment Act 2008 introduces a new section 43A on 'Compensation for failure to protect data'.</li> <li>The Ministry of Communication and Information Technology introduced under IT rules 2011, which indicated the websites to remove objectionable content, including anything 'grossly harmful' or 'harassing' within 36 hours of being notified.</li> <li>India is a Certificate Consuming Member of the Common Criteria Recognition Agreement (CCRA)</li> </ul>	<ul style="list-style-type: none"> <li><b>The Uniform Electronic Transactions Act 1999</b> and <b>The Electronic Signatures in Global and National Commerce Act 2000</b> (the E-SIGN Act) provides a legal framework for recognizing electronic signatures.</li> <li>The courts have regularly upheld the First Amendment right to free speech in the US Constitution and struck down laws intended to regulate access to Internet content. No current filtering or censorship is in place in the US.</li> <li>The United States is the world's most active user of security certifications for technology products and implements the international Common Criteria program in the majority of domestic IT procurement rules.</li> </ul>
<b>3. Cyber Crime</b>		
	<ul style="list-style-type: none"> <li>The Information Technology Act 2000 was also amended in 2008 to include a range of new more specific cybercrime provisions under Section 69 provides the Controller of Certifying Authorities with the power to intercept any information transmitted through a computer resource, if certain criteria are satisfied and under Section 75 of for apply this act if an offence committed outside India.</li> <li>Although India is not a signatory to the Convention on Cybercrime, the core criminal provisions contained in the Information Technology Act 2000 follow the prohibitions contained in the Convention closely.</li> </ul>	<ul style="list-style-type: none"> <li>There are several relevant statutes in the US viz. the Federal Computer Fraud and Abuse Act (CFAA), 18 USC 1030 and PATRIOT Act.</li> <li>US law is compatible with the Convention on Cybercrime. The US ratified the Convention in 2006. The law on access to encrypted data is the subject of current court action — US v. Fricosu, 2011.</li> </ul>

Parameters	India	United States
4. Intellectual Property Rights		
	<ul style="list-style-type: none"><li>India becomes a member of the TRIPS Agreement in 1995. Indian copyright laws not yet updated to fully comply with TRIPS agreements. India has not signed the WIPO copyright Treaty. India does not have a data breach notification law in place, although significant rules and requirements are in place for general security, including mandatory compensation for security breaches that cause loss.</li></ul>	<ul style="list-style-type: none"><li>The United States become a member of TRIPS Agreement in 1995 and signed WIPO Copyright Treaty in 1997. The Digital Millennium Copyright Act implements the WIPO Copyright Treaty provision in the US. There are numerous but inconsistent state data breach notification laws in place in the US. Typically these require notification both to an appropriate regulator (e.g., the relevant state attorney general) and to the affected consumers. A federal data breach notification law is under consideration.</li></ul>
	<ul style="list-style-type: none"><li>Under the Copyright Act 1957 there are no specific provisions on ISP liability, although Section 63 makes anyone who abets copyright infringement an offender. This may only cover a very limited range of circumstances for ISPs</li></ul>	<ul style="list-style-type: none"><li>The Online Copyright Infringement Liability Limitation Act (OCILLA) creates a safe harbor for ISPs by shielding them for certain acts of copyright infringement, as long as they were not aware of the infringement and they respond promptly to take-down requests. These provisions now form Section 512 of the Digital Millennium Copyright Act (DMCA), and notices are typically referred to as DMCA Takedown Notices.</li></ul>
Table: Comparative table of Cloud Computing Laws in India and United States		

Analysis

India is an important regional economy, with a strong interest in ICT services development. The law in India has not entirely kept pace with developments in cloud computing, and some gaps exist in key areas of protection. Interestingly, a debate has begun in India about whether specific laws and regulations should be developed to enable and facilitate cloud computing. India has not yet implemented effective privacy legislation, and this may act as a barrier to the development and use of cloud computing and may also inhibit cross-border data transfers and related trade. India's cybercrime legislation and intellectual property legislation also require updates to conform to international models. In particular, Indian law needs to cover modern copyright issues such as rights management information and technical protection measures. India has still not ratified the WIPO Copyright Treaty, leaving significant gaps in copyright protection. Parliament is reviewing amendments to the Copyright Act. Some laws and standards in India are not technology neutral (e.g., electronic signatures), and these may be a barrier to interoperability. Finally, the development of India's technology sectors is impeded by low levels of broadband and personal computer penetration.<sup>20</sup>

The United States has comprehensive and up-to-date laws in place for e-commerce, electronic signatures, and cybercrime. The US has signed and implemented the Convention on Cybercrime and plays a leading role in the investigation of global cybercrime. Although no general privacy laws are in place, the US still had a busy year in 2012 in relation to privacy protection. A new Consumer Privacy Bill of Rights was published, and work has begun on its potential implementation through enforceable codes of conduct. The key regulator, the Federal Trade Commission, also had a very active year enforcing existing pectoral rules. The US approach to interoperability improved in 2012 with new standards developed for cloud services by the National Institute of Standards and Technology. Intellectual property protection in the United States remains mixed. The US has signed all of the relevant international agreements, and a strong enforcement culture is in place. However, multiple conflicting court decisions leave considerable legal uncertainty about what constitutes an online copyright breach. The United States is an active participant in international standards development processes and an advocate of free trade and harmonization. Some very limited domestic preferences remain in place for government procurement opportunities.<sup>21</sup>

## **Recommendation**

The authors strongly recommended that the Indian government should take serious decisions in the area of Cloud computing with special reference to its legislation. The certain steps to be taken according the authors based on the study.

- For the Data Privacy Law – the provision may be for the Government sector also. The India should take the membership of APEC and laws should comply with the APEC Privacy Framework.
- For the Intellectual Property Rights- the Indian government must sign the WIPO Copyrights Treaty. The Indian copyright laws must be updated, in view of cloud computing.
- The Indian government should provide specific laws related to the protection for cloud computing services in India.

However the United States governments also take the issues related to the Cloud computing on the priority basis. The authors give some suggestion for the improvement of present status of cloud computing in USA.

- For General security requirement for digital date hosting and cloud service provider's comprehensive coverage should be added in US Legislation and

some code of conduct also enforced for security audit.

- For Cybercrime: Access to encrypted data should be clearly defined. There should be comprehensive coverage for extraterritorial offenses.

## Conclusion

There is no dedicated legislation for cloud computing in India. As per the research and studies of Perry4Law and Perry4Law Techno Legal Base (PTLB), cloud computing in India is risky and India is not ready for cloud computing. In nutshell, cloud computing in India is still not trusted. The basic reason for this condition is absence of dedicated legal framework for cloud computing in India, missing privacy law, absence of data protection laws in India and inadequate data security.<sup>22</sup> The Honorable Prime Minister of India Shri Narendra Modi should take a strong decision for the reform the IT Act 2000 with special reference to cloud computing. Mr. Yolynd Lodo, Director, BSA said that India should look beyond the mere consumption of cloud services to improve e-governance delivery and access to creating a future focused policy framework that will help it derive long-term developmental impact and economic benefits from the cloud. The Department of Electronics and Information Technology (Deity), Government of India indicated that the formulation of the cloud policy is one of the primary steps that will facilitate large scale adoption of cloud by the government.<sup>23</sup> Now, we hope the newly elected government will take active decision for the formulation of legislation dedicated to the cloud computing in India. The United States law does not protect the data, from the client's point of view, the privacy of data that has been placed under the care of a third party (in cloud services, for instance) from the government. According to the US Justice Department, you have no constitutional rights over your data once it is placed in the hands of an external service provider, and they can request this data without a warrant. While there is legislation being pushed to try and change this, it is a concern that companies must have when looking to the cloud.<sup>24</sup>

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# Silver Lining: Cloud Computing for Academic Libraries

Amit Kumar Shaw<sup>1</sup>

## Abstract

*In traditional computing, operating system would have installed software programs that manages computer hardware, resources and provides common services. Resources are accessible on one network, can't be accessed by computers outside the network, but only through the internet. Cloud computing brings the revolutionary changes in the world of ICT because of its benefits such as reduced cost, accessible anywhere anytime as well as its elasticity and flexibility. Cloud computing is a new technique grown from being a promising concept to one of the fastest growing trend in the field of IT industry more so in libraries. Cloud computing provides us virtually unlimited and on demand computing resources to the users connecting lots of distributed computers, rather than local computer or remote server, while the processing of data centers would be more similar as internet. Thus, resources would be switched on the application of need, which could be accessed to computing and storage system as the requirement of the user. Cloud computing is useful for library services and digital library resources to improve information sharing capabilities, improve resource utilization and in meeting the various demands of user communities. This paper describes what cloud computing is for libraries and its merits, features and types to be considered before putting the data in the cloud. And few case studies are discussed.*

**Keywords:** Cloud computing, Resources sharing, Grid computing, IaaS, PaaS, SaaS, Cloud computing in India

## Introduction

Cloud computing is the most popular topic and recently developed so until now there is still lack of clear and unified definition. By using virtualized computing and storage resources and modern Web technologies, cloud computing provides scalable, network-centric, abstracted Information Technology infrastructures,

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platform, and application on demand services. These services are billed on a usage basis. Specifically we can say, Cloud computing is the improvement of parallel computing, distributed computing, utility computing and grid computing. There are many varying definitions for the term cloud computing; the National Institute of Standards and Technology (NIST) offers the following working definition: “Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction”. Cloud computing defines to applications and services that run on a distributed network using virtualized resources and accessed by common internet protocols and networking standards. Cloud computing will help maintain the data in a proper manner and can retrieve it from everywhere. The Gartner Group defines cloud computing as “a style of computing in which massively scalable and elastic IT-enabled capabilities are delivered as a service to external customers using Internet technologies”. The characteristics of the Cloud computing are:

**On-Demand Self-Service:** The ability for an end user to sign up and receive services without the long delays that have characterized traditional IT.

**Broad Network Access:** Ability to access the service via standard platforms (desktop, laptop, Tablet, mobile etc) with via of Internet.

**Resource:** Resources are access across multiple customers.

**Rapid Elasticity:** Capability can scale to cope with demand peaks

**Measured Service:** Billing is metered and delivered as a utility

### **Models and Types of Cloud Deployment**

- **Public Cloud:** The public cloud is mainly for public use which will access by everyone. It is mainly use by large organization or institution.
- **Private Cloud:** It is infrastructure is operated within the organization, such the institution who wants to share specific information within the institution.

- **Hybrid Cloud:** This type of cloud computing environment which consists of both internal and external providers which means both private and public clouds.
- **Community Cloud:** A community cloud has been organized to serve a common function or purpose. It may be for one university or for several universities, but they share common concerns such as their mission, policies, online resources, union catalogues, security, regulatory compliance needs, and so on.

**These services can be used in libraries as:**

Platform	Systems	Examples
Software as a Service (SaaS)	Open URL resolver, Research guides, Online reference, Server Virtualization, Load Balance	Summon, OCLC – World Cat Local, OSS lab, Liblime
Platform as a Service (PaaS)	Integrated library system, Interlibrary loan, Copyright, Compliance systems	Polaris, Exlibris, Facebook Platform
Infrastructure as a Service (IaaS)	Discovery systems, Digital repository, Archives management, Websites, Digital storage, Institutional repository	Amazon, Rackspace

**Table 4. Services for the libraries**

**SaaS vs. Hosting for Libraries: What's the Difference?**

**SaaS:** The software vendor or other provider owns the application (whether a discovery service, link resolver, ERM, or other) and delivers it via the Internet. The provider is responsible for maintaining the data resources and keeping them up to date and protecting them by running backups. Libraries have the ability to customize the application for their own use via Web-based tools and an API (Application Programming Interface).

**Hosting Model:** The provider runs the application on the library's behalf, on the provider's hardware, but doesn't take on the task of maintaining the software. Upgrades and maintenance are up to the library. One of the key differences between SaaS and hosting is the principle of tenancy. With SaaS, there is only one copy of the software running, and that copy of the software accesses only one copy of the database (the knowledgebase). Since multiple libraries share and access this one instance of the software and knowledgebase, SaaS is considered multi-tenancy.

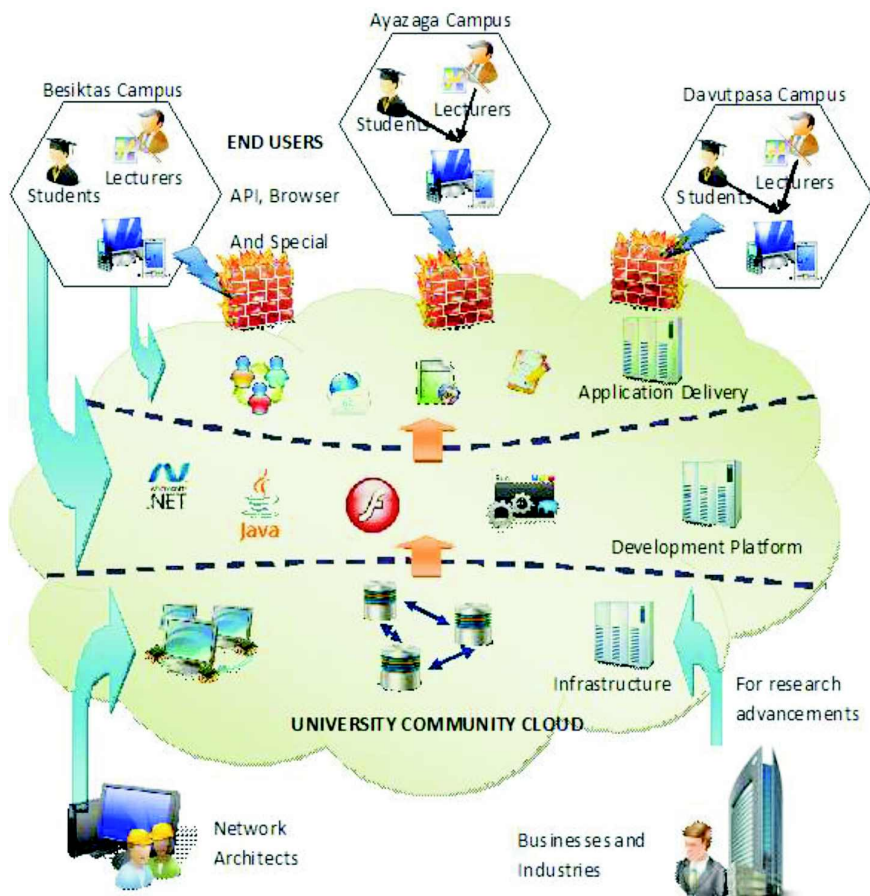
With hosting, each library maintains its own copy of the software. Since each copy only serves one library, this is termed single-tenancy. The advantages of SaaS/multi-tenancy are that all libraries have the shared advantages of data aggregation, instant access to application updates, and an optimized environment.

### **What can Cloud Computing do for Libraries?**

- As the services of the libraries are changing from the manual recording to library automation such as cataloguing, circulation, OPAC, Institutional repository, Electronic vendors, Electronic resources management, Resolver etc.
- So the libraries got huge responsibilities for managing the university library they are mainly searching for Computer science or Information Technology background students compare to library science students. So, Cloud computing can overcome these problems, but also the underlying architecture which would minimize the cost yet efficient enough to handle large-scale data.
- Because libraries widely see the transformation of user communities engaging through Web 2.0 and user generated content.
- Academic environment is where lots of computer is uses and many of them are not in use which lead to malfunction of computer and maintenance is complicated due lack of IT staff.
- In order to manage hybrid library resources, integrating their workflow processes is inevitable for managing library operations. A brief list of potential areas of improvement could include:
  - Most library computer systems are built on pre-Web technology
  - Libraries store and maintain much of the same data hundreds of times in different Desktop.
  - As libraries running independent systems, collaboration between libraries is made difficult and expensive.

- Libraries are investing initially huge investment in IT as libraries have a less budget.

**Figure 2: Academic Cloud Computing**



Source: Singh Ajith and Hemalatha M. "Cloud Computing for Academic Environment" International Journal of Information and Communication Technology Research, 2012, 2(2), 97 – 101

## Case Studies 1

Nucsoft OSS Labs main goal is to provide world class training and IT support solutions for Open Source Software (OSS). They are bringing to the OSS market a superior IT services and solutions platform. They operate under institutionalized and continually improved processes as validated by our annual ISO 9001 certification.

At this time, they offer services and solutions for:

- Koha Library System
- Dspace Institutional Repository System
- Moodle e-Learning Platform

OSS Labs to host its solutions on Amazon Elastic Cloud Computing (EC2) and Amazon Simple Storage Service (S3). Its help them to provide robust open source based solutions to demanding users. This is something new in the Indian Library market place. Recently, some major Indian Academic Libraries adopting Koha in Cloud computing with help from OSS Labs are:

- North East Hill University, Shillong
- University of Agricultural Sciences, Bangalore
- Goa University, Panajim
- Indian Institute of Technology, Mandi
- Chennai Mathematical Institute, Chennai
- Bhavans Library, Mumbai

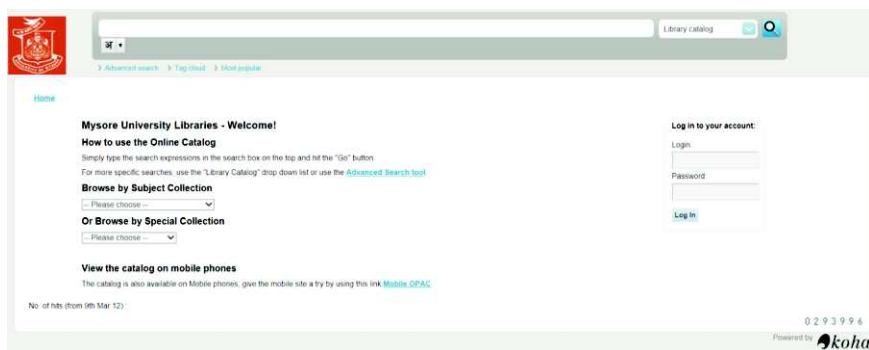


Figure 3: Online Catalog of Mysore University Library in Cloud it is available at: <http://www.uni-mysore.ac.in/library/index.html>

### Unique Features of Library Automation based on Cloud:

- The model adopted: Centralized database with decentralized housekeeping activities including retrospective conversion, circulation, acquisition, serials control, etc. by all participating libraries under University of Mysore and Open Access OPAC.
- Copy cataloging facility through Z39.50 protocol facilitates other libraries to import records to their OPACs.
- Connection reliability of database is 100% without any break even for a single minute for the last 30 months as evaluated by IR Spy [<http://irspy.indexdata.com>].
- Modules implemented in the main library include acquisition, OPAC, circulation and serials control (underway).
- OPAC records of all Ph.D. Thesis submitted to University of Mysore and received in the library have been completed.
- The number of hits to our OPAC has crossed 93000 in about a year.
- KOHA's OPAC is very user friendly and has classic features like automatic link to Google books, Browse shelf, pre/post search selection for limiting hits to select participating library, various filter options, etc.

In Indian Libraries, implementation of cloud computing is started. But it can be proven beneficial due to its cost effectiveness and effective service and thus can help to give new outlook to Indian Libraries.

### Case Studies 2

World Cat Local is a powerful library application of Cloud Computing, provided by the OCLC. It's offering local searching, consortia searching, global searching, federated searching etc, all comes in **One Search**, NOT separate searches, to offer the OPAC of the 21st Century. There is no hardware for your library to purchase, no software for your library to install, nor any computer system for your library to operate as it is managed in the Cloud. World Cat Local delivered to your library from



OCLC through the Web in a similar manner as OCLC First Search Service. OCLC places one simple search box on your library's OPAC or anywhere on your library's website, similar to the search box on the Google or Yahoo! with greatly increased searching power. One search provides instant access to your library's materials - digital objects, electronic materials, databases, e-journals, music, videos, audio, e-books, maps, journals, theses and books. They are maintaining more than 1700 databases. It can't be imagine without the cloud computing in library.



Figure 4: WorldCat Local

World Cat Local is the best way to get more than 969 million items from the world's libraries in front of your users as per June 2014:

- Digital content: 29 million items
- E-books: 13 million
- Databases: 1764
- Articles: 674 million
- Serials: 10 million
- Books: 221 million

### **Advantages of Cloud Computing**

- Cost reduction. Ability to increase or decrease the consumption of hardware or software resources immediately and in some cases automatically.
- Scalability. "Pay as you go" allowing a more efficient control of expenditures.
- Lower investment reduced risk. Immediate access to the improvements in the resource proposed (hardware and software) and debugging.

- Support included. Enjoyment of the most advanced security procedures, availability and performance of providers with experience and knowledge in this type of service.
- Greater security and accessibility. Access to resources from any geographical point and the ability to test and evaluate resources at no cost.

### **Disadvantages of Cloud Computing**

- The concept of cloud computing also raises questions of proper access and use. Users will want to access and use the cloud on their own terms, yet will also want their intellectual property rights protected.
- The protection of copy- right in types of materials stored on and shared through clouds has received some consideration, and cloud providers believe the ability to trace usage will serve as a means of preventing illegal activity .
- However, this does not fully consider all of the dimensions of access and usage that are relevant to cloud computing, most significantly the issue of licensing .The unique issues of cloud computing may ultimately illustrate that technology has reached the point that there is serious need to rethink how intellectual property is licensed.

### **Conclusion**

We know that library is not only a knowledge ocean, its main goals is to provide satisfactory services for the all the users. Cloud computing would be a developing tendency for computing network in future, which had been widely used in many fields. Libraries are trying to improve the services in today's information society. Cloud computing is one of the good way for this change into the future. The cloud is already busted we only need to get ready to welcome the showers of knowledge and adapt it in our universities or institution in future.

### **Resources for Cloud Computing**

Library Management Applications

- <<http://www.librarything.com>> – simple cataloging and social discovery
- <<http://www.liblime.org>> – consulting and hosting for Koha open source ILS
- <<http://www.oclc.org/webscale/>> – full-featured cloud-based ILS

#### Bibliographic Management Applications

- <<http://www.refworks.com/>> – online citation management
- <<http://www.zotero.org/>> – online citation management and social discovery
- Office and Calendar Applications
- <<http://docxs.google.com/>> – word-processing, spreadsheets, presentations, excel, etc

- <<http://www.zoho.com/>> – documents, project management, accounting etc
- Multimedia Editing Applications

- <<http://www.wevideo.com>> – simple online video editor
- <<http://www.screenr.com>> – cloud-based screencasting
- Infrastructure as a Service
- ◇ – scalable computation resources
- <<http://code.google.com/appengine/>> – scalable application hosting

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# Cloud Computing and the Libraries

*Tawfeeq Nazir<sup>1</sup>*

## Abstract

*New technologies emerging at a rapid rate, each technological advancement has a potential of making human's lives easier. Cloud computing can be seen as a new phenomenon which is set to revolutionize the way we use the Internet services. Cloud computing is a set of IT services that are provided to a customer over a network on a leased basis and with the ability to scale up or down their service requirements. This paper discusses the role and impact of cloud computing on library infrastructure and service delivery.*

Keywords: Cloud Computing, Scalability, Infrastructure, IT.

## Introduction

Cloud computing is Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on demand through the Internet. **Cloud computing**” is emerging as a relevant computing paradigm aiming to be the technology that will mark the difference between **Web2.0 and Web3.0**. Cloud Computing," to put it simply, means "Internet Computing."

The Internet is commonly visualized as clouds; hence the term “cloud computing” for computation done through the Internet. With Cloud Computing users can access database resources via the Internet from anywhere, for as long as they need, without worrying about any maintenance or management of actual resources. Its advantages to mention but a few include scalability, resilience, flexibility, efficiency and outsourcing non-core activities.

The technology provides an innovative alternative to bricks-and-mortar schooling, enabling personal learning, interactive learning and many-to-many learning. The cloud also allows students to interact and collaborate with an ever-expanding circle

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of their peers, regardless of geographical location. **Clouds** are vast resource pools with on-demand resource allocation. The degree of on-demand can vary from phone calls to web forms to actual APIs that directly require servers.

Cloud computing is not only available on computers via the web but on any Internet-connected device, like the iPhone, iPod Touch, smart phones like the Blackberry or the Palm Pre, the Chumby and the wifi-enabled, RFID-reading rabbit, the Nabaztag. More and more content available via the web is being made available on other devices: it's possible to listen to MP3s on a cell phone; read Amazon Kindle books on the iPhone or iPod touch; talk over the Internet using Skype; ask and answer reference questions via SMS (TXT messaging).

### **Cloud Computing In Education Institutes: Usage Models**

Five different cloud usage models have been introduced to the educational institutes:

#### **Cloud-based storage**

Cloud-based storage used to facilitate collaboration between students by allowing them to work together on the same documents. For example cloud dip, Drop box,, Mozy

#### **Virtual Hands-On Laboratories (VHLS)**

Used to address many of the challenges faced by educators struggling with the desire to provide their students with realistic learning environments and protecting production systems from undesirable and potentially illegal interference.

#### **Software as a Service (SAAS)**

Users access applications and its associated data directly from the cloud without getting them installed on their machine using a thin client like web browsers over the Internet. Solving many compatibility issues reducing universities' IT complexity and cost Providing anywhere anytime access. For example Google Apps, ZOHO projects

#### **Platform as a Service (PAAS)**

Users are provided with a container environment to run/test their software components where all of the software required serving the users' purpose have been already installed and configured. For example Microsoft Azure

(<http://www.microsoft.com/windowsazure/>), Google App Engine (<http://code.google.com/appengine/>).

### **Infrastructure as a Service (IAAS)**

Virtualization is used to provide computational resources to users though the user is the one responsible for installing and configuring all needed software.

### **Benefits of Cloud Computing for Educational Institutions**

- Universities can open their technology infrastructures to businesses and industries for research advancements;
- The efficiencies of cloud computing can help universities keep pace with ever-growing resource requirements and energy cost;
- The extended reach of cloud computing enables institutions to teach students in new, different ways and help them manage projects and massive workloads; and
- When students enter the global workforce they will better understand the value of new technologies.

### **Cloud Computing and Libraries**

Cloud computing helps libraries shift away from owning and operating local servers to Web-based services. The “cloud” may now be seen as a collection of networked features. New concept that will lead to a new implementation model called as “cloud libraries”. Cloud computing applications empower us to use technology without the constraints of a locally supported infrastructure, and more in-depth information and examples of how to plunge directly into suitable projects by taking advantage of free services offered by the top cloud services providers.

Examples include using cloud-based supplemental storage, Google's suite of apps, Amazon's S3 and EC2 services to power your library website and Dura Cloud to host an online library media collection.

- With cloud computing, institutions procure IT services from remote providers - campus constituents access these resources over the Internet. For example: E-mail, long considered a staple of an institution's IT operations, can be obtained from a range of sources, and a growing number of campuses contract with outside suppliers for this function.

- Large university or a consortium might become a provider of cloud services. Storage and processing needs can also be met by the cloud. Institutions pay only for the resources used, and users can access the applications and files they need from virtually any Internet-connected computer.
- A number of universities, vendors and government organizations are investing in research around the topic of cloud computing.
- In July 2008, HP, Intel Corporation and Yahoo! Announced the creation of a global, multi-data center, open source test bed, called Open Cirrus designed to encourage research into all aspects of cloud computing, service and data center management.
- In July 2010, HP Labs India announced a new cloud-based technology designed to simplify taking content and making it mobile-enabled, even from low-end devices.
- Site on Mobile, the new technology is designed for emerging markets where people are more likely to access the internet via mobile phones rather than computers.
- Libraries cooperate with one another to buy IT equipment, bandwidth and the services of IT professionals; libraries may soon cooperate in the building and management of datacenters.

### **Cloud Computing Development at Libraries**

- Google and IBM have partnered to offer millions of dollars in resources to universities in order to promote cloud computing projects.
- The goal is to improve students' knowledge of parallel computing practices and better prepare them for increasingly popular large-scale computing that takes place in the "real world," such as search engines, social networking sites, and scientific computational needs.
- YAHOO has expanded its partnerships with top U.S. universities : The University of California at Berkeley, Cornell University, University of Massachusetts at Amherst and the Carnegie Mellon University to advance cloud computing research through the use of Yahoo!'s cloud computing cluster large-scale systems software.

- IBM established a consortium with the European Union and universities to research new cloud-computing models to reduce the cost of hosting and maintaining Internet-based services.
- The aim of the consortium is to undertake research that could lead to the development of new computer science models that bring together managed Internet-based services from diverse hardware and software environments in a flexible cloud environment.
- The Qatar Cloud Computing Initiative led by Carnegie Mellon University, Qatar University and Texas A&M University aimed to develop cloud computing technology and provide a platform for local organizations to test applications in the cloud. The project, is to enable academic research projects that require a large amount of computing power. By sharing resources through a cloud model, academic institutions can make better use of existing resources, and access more powerful resources for data intensive projects, in a more cost effective manner than by deploying their own infrastructure or outsourcing processing
- Cloud computing adoption and usage in community colleges is gaining popularity in higher education settings, but the costs and benefits of this tool have gone largely unexplored.

### **Cloud Computing In a Small College**

- Small College Reaps Big Benefits From Cloud Computing
- Marian College is a small Indianapolis, Ind., college, with a student body of 2,100, has dipped into cloud computing. It has virtualized its infrastructure, made virtual servers available over the network practically on demand, and coordinated its internal operations with an outside cloud managed by a service provider, BlueLock.
- Understand virtualization costs in order to analyze ROI - and prepare for how upcoming trends will impact TCO.
- Cloud Computing @ Libraries : Daas from Publishers & Aggregators





### Free Cloud Storage Sites for Libraries

Cloud computing offers many interesting possibilities for libraries that may help to reduce technology cost and increase capacity reliability, and performance for some type of automation activities. Cloud computing has made strong inroads into other commercial sectors and is now beginning to find more application in library science. The cloud computing pushes hardware to more abstract levels. Most of us are acquainted with fast computing power being delivered from systems that we can see and touch. There are tons of free cloud storage sites out there for libraries to use. Cloud storage helps libraries move away from managing and providing up-keep to local servers for accessing web-based services. These online applications allow you to use technology without administering a local server, and help free up time dedicated to technical support. This gives users a platform they can access both inside and outside the library. Here is a breakdown of a few that are free. These will help you manage your documents and collaborate efficiently. *The site to provide free cloud storage services are:*

#### Google

- 5 GB of free storage
- Suite of applications that includes docs, spreadsheets, and forms
- Creation of online files with the availability to edit and share in real-time
- Integrate your Gmail and Google+ accounts

Google Anywhere: web browser, iPhone, iPad, Android

Sign up: **Google Drive**

## Dropbox

- 2 GB of free storage
- Store photos, docs, and videos
- Access from a computer or mobile device
- Availability to share all or specific documents with colleagues

Dropbox Anywhere: web browser, iPhone, iPad, Android and Blackberry

Sign up: [Dropbox](#)

## SkyDrive

- 7 GB of free storage
- Sync files and download the desktop app
- Share photos, files, and docs with colleagues who can work on them in real-time
- Integrate Word, Excel, or PowerPoint, in your browser

Skydrive Anywhere: Available on your phone, tablet, PC, or Mac

Sign up: [Skydrive](#)

## iCloud

- 5 GB of free storage
- Access to files and documents from whatever device you're on
- Integrated into all your applications like photostream, documents, Safari, iBooks, calendar, contacts and mail

iCloud Anywhere: iPhone, iPad, iPod touch; Mac and PC

Sign up: [iCloud](#)

## Cloud Computing and It Issues

The major challenges that prevent Cloud Computing from being adopted are recognized by organizations are as follows:

- i. Service Level agreements:** Security issue has played the most important role in hindering Cloud computing acceptance. Without doubt, putting your data, running your software on someone else's hard disk using someone else's CPU appears daunting to many. Well-known security

issues such as data loss, phishing, botnet (running remotely on a collection of machines)

- ii. **Pose serious threats to organization's data and software.** New security challenges that require novel techniques to tackle with. For example, hackers can use Cloud to organize botnet as Cloud often provides more reliable infrastructure services at a relatively cheaper price for them
  - i. to start an attack.
  - ii. Uptime and reliability
- iii. **Cost and Affordability:** Cloud consumers must consider the tradeoffs amongst computation, communication, and integration. While migrating to the Cloud can significantly reduce the infrastructure cost, it does raise the cost of data communication, i.e. the cost of transferring an organization's data to and from the public and community.
- iv. **Cloud Interoperability Issue:** Each cloud offering its own way on how cloud clients/applications/users interact with the cloud, leading to the "Hazy Cloud" phenomenon. This severely hinders the development of cloud ecosystems by forcing vendor locking, which prohibits the ability of users to choose from alternative vendors/offering simultaneously in order to optimize resources at different levels within an organization.
- v. **Service Level Agreement (SLA):** Although cloud consumers do not have control over the underlying computing resources, they do need to ensure the quality, availability, reliability, and performance of these resources when consumers have migrated their core business functions onto their entrusted cloud. In other words, it is vital for consumers to obtain guarantees from providers on service delivery.
- vi. **Staff knowledge:** impact to staff and competency.

## Conclusion

Cloud Computing has a strong and the preferred option for service and businesses world. Even though new technology is perceived as a risk, the reality is the Cloud is a new delivery model not new technology. Concern still lingers about who can access the data, where it will reside, and the retention of records.

The reality is it takes catalysts to precipitate change. One catalyst we have already encountered is the iPhone and Ipad phenomenon – we are now so used to getting

information at the click of a button that we want everything delivered that way.

We've been faced with incredible examples of how insecure our natural environment against forces of nature - floods, fires, earthquakes, tsunami - putting perspective to Microsoft, Google and the other leading Cloud providers. With all their infrastructure and security, delivered to you via the Cloud, it's an attractive option.

Cloud computing builds on decades of research in virtualization, distributed computing, utility computing, more recently networking, and web software services. It implies a service oriented architecture, reduced information technology overhead forth end-user, great flexibility, reduced total cost of ownership, on demand services and many other things. In today's global competitive market, companies must innovate and get the most from its resources to succeed. Cloud computing infrastructures are next generation platforms that can provide tremendous value to companies of any size. They can help libraries to achieve more efficient use of their IT hardware and software investments and provide a means to accelerate the adoption of innovations.

Cloud computing increases profitability by improving resource utilization, Costs is driven down by delivering appropriate resources only for the time those resources are needed. Cloud computing has enabled teams and organizations to streamline lengthy procurement processes.

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# Envisioning the Role of Cloud Computing in Libraries and Information Services

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## Abstract

*Cloud computing is one of the technological buzz of today. The paper aims to provide a brief overview of cloud computing, its definitions, concept and characteristics. Further it discusses service models like Iaas, Paas and Saas; and deployment models like public, private, community and hybrid cloud. Application of this new technology in library services is explored through literature available in the field. It is found that cloud based applications and services can be deployed in library automation, digital library development, web-scale discovery, reference service, resource sharing etc. It is very useful in day-to-day activities of a library. Some cloud service providers specialized in library services are identified and described like Polaris, Ex-Libris, Dura Cloud, OCLC, Google etc. Libraries around the world are identified using cloud services through these service provides. Finally advantages and disadvantages of the technology are discussed.*

**Keywords:** Cloud Computing, Library automation, Virtualisation, Library services, Web scale discovery, IaaS, PaaS, SaaS

## Introduction

Cloud computing is currently one of the biggest buzzwords in IT industry. The IT industry has published several white papers describing cloud computing. The main underlying technologies behind cloud computing are virtualization technology to provide flexible and scalable computing platforms, web service and service oriented architectures to manage cloud services and distributed storage for backup and world-wide data access (Hofer and Karagiannis, 2011). It allows to access applications on cloud without installation in their personal computer to access their

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personal and useful files on any computer with internet access. This technology allows users to access more efficient computing by centralizing storage, memory and processing capacities. Cloud based applications are available free of cost in our daily life like Gmail, Rediffmail, Flickr, Twitter, Facebook, etc. for exchanging and sharing of files, photos, videos etc. Youtube and such kind of other applications are also cloud based applications.

### **Cloud Computing: Definition and Concept**

Cloud computing is the next evolutionary step in computing after Distributed computing and Grid computing. The term is defined by various IT stakeholders and scholars. However the most popular definition is provided by the US National Institute of Standards and Technology as, “Cloud Computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction” (Mell and Grance, 2011).

The Gartner Group, a leading IT stakeholder defines cloud computing as “a style of computing in which massively scalable and elastic IT-enabled capabilities are delivered as a service to external customers using Internet technologies” (Gartner Group, 2009).

Another definition is “Cloud computing is a model for enabling convenient on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management efforts or service provider interaction” (Altman and Rana, 2010).

According to Katzan cloud computing is some sort of applications, platforms, hardware and software delivered as services over the network of internet by the cloud providers (Katzan, 2010).

Cloud computing is a web based computing where shared resources, applications and information are provided to the set of computers and other devices on demand using web technology. These services are provided through a set of web enabled applications loaded on the server with proper access rights. Implementation of cloud computing needs combining multiple technologies, realizing virtual

managing and scheduling of hardware. The beauty of cloud computing is that the service provider can host your application and handle the cost of servers and software updates.

### **Characteristics of Cloud Computing**

Cloud computing has following characteristics.

#### **a. No initial cost for Infrastructure**

If an institution is looking to develop computer based services, cloud computing is best solution. It involves no initial cost for infrastructure, technical manpower, physical space etc. Cloud service provider will provide all the services without any cost for infrastructure and initial cost.

#### **b. Pay-per-Use**

Consumption based billing is one of the best characteristics of cloud computing. Customers need to pay only for those resources or services which are being used by them. Usage can be monitored and controlled with some level of abstraction providing the cloud service provider and customer with transparency.

#### **c. Elasticity and Scalability**

Modifications and enhancement is easy and fast which make this service very scalable and elastic. Desired bandwidth, processing speed, data storage and number of licences etc. can be acquired from the cloud service provider as per need.

#### **d. Broad Network Access**

Cloud capabilities are available over the network and accessed not only through standard machines but also through modern day devices like i-Pads, tablets, smartphones, laptops etc.

#### **e. Resource Pooling**

The resources available in different locations are pooled to serve multiple



customers through cloud computing as per their demand. It saves cost and duplication of work.

#### **f. Virtualization**

Cloud computing is a virtual phenomena. It works on internet and no resources are visible physically.

#### **g. Environmentally Suitable**

Computing infrastructure is responsible for Green House Gas emission to a large extent. As cloud computing is based on shared model of computing resources, it is environmentally suitable and sustainable.

### **Cloud Computing Models**

Cloud computing models can be categorised in two types one on the basis of service and another on the basis of deployment (Mell, 2011).

#### **Cloud Computing Service Models**

Cloud computing services can be subscribed as following three ways.

##### **a. Infrastructure as a Service (IaaS)**

This model of cloud computing offers virtual system to access to computer hardware resources and the customer need not to invest in infrastructure. The customer has to manage only operating system, applications and network connectivity. Its examples are Amazon EC2, Windows Azure Virtual Machines

##### **b. Platform as a Service (PaaS)**

Platform as a service is a type of service meant to develop a platform to build up, install and control SaaS applications. This platform usually includes databases, web-server, software and expansion apparatus. Control and management of applications and softwares is the part of customer by his own.

### **c. Software as a Service (SaaS)**

It is a software distribution model in which applications hosted by service provider is centrally hosted on the cloud and made available to customers over a network. It is available via internet and can be configured remotely. The management of patches and upgrades are handled by cloud service provider. Examples of SaaS are content management of web services, e-mail, virtual desktop, communication, games etc.

## **Cloud Computing Deployment Models**

Cloud computing can be deployed to the customer in following four ways as per the demand.

### **a. Public Cloud**

Public cloud can be accessed by customer with an internet connection and access to the cloud space. This enables customer to develop and use a service in the cloud with very little financial expense compared to the capital expenditure requirements. Its examples are Google apps, Windows Azure etc.

### **b. Private Cloud**

A private cloud is established for a specific group or institution and limits access to just that group. The operation may be in-house or with a third party on the premises e.g. Institutional cloud, ebay)

### **c. Community Cloud**

Community cloud is shared among two or more institutions that have similar cloud requirements. This may help limit the capital expenditure costs for its establishment as the costs are shared among the organizations. Most used service of this type is Institutional Gmail of Google Apps.

### **d. Hybrid Cloud**

A hybrid cloud is essentially a combination of at least two clouds, where the clouds included are a mixture of public, private, or community. In this model clouds have

the ability through their interfaces to allow data and/or applications to be moved from one cloud to another e.g. Google Apps.

### **e. Special Purpose Cloud**

Special clouds are extensions of normal cloud system to provide additional services e.g. Google App Engine.

## **Library Services Through Cloud Computing**

Cloud computing is used in business and industry in providing best applications in least cost. Meanwhile education sector has also realized the need to implement cloud based services in teaching and learning. As libraries are the heart of teaching and learning system, therefore these are also adopting cloud computing in providing best information services to its patrons. Following areas of library management can be directly benefited if cloud computing is executed in libraries.

### **a. Library Automation**

Library automation is the most important area of library management. It starts with hardware and software purchase and then maintenance cost, which troubles librarians most. Until now, automation in libraries is being undertaken on locally hosted servers using different types of commercial and open-source softwares. Now there are many vendors and third party service providers who provide services to migrate the library to cloud with appropriate data security along with necessary software modules to support library staff, students and faculty. Some of the cloud based products for library are Koha, DuraSpace's DuraCloud, ExLibris' Alma, OCLC's Web scale management services, Kuali Foundation's Kuali Open Library Environment, Serials Solutions' Webscale Management Solution and Innovative Interfaces Incorporation's Sierra (Breeding, 2011). Library Thing is a combination of social networking and cloud computing. It authorizes people to contribute information and suggestion about books and allow them to interconnect globally to share interests. It is also available to provide web-services for libraries after paying a nominal fee to draw on the vast database of recommendations and other users available in Library Thing (Fox, 2009).

The libraries need not to manage the underlying cloud infrastructure including network, servers, operating systems, storage, server, updates, backups or even

individual application capabilities, with the possible exception of limited user-specific application configuration settings. In India, National Informatics Centre under Ministry of Communication and IT, is providing cloud based services for libraries. Libraries can host their library management software at NIC data centres and need not to purchase server and its annual maintenance. In this way NIC works on PaaS, IaaS and SaaS all three models of Cloud computing for libraries. Cloud based initiatives taken for automation in university libraries include University of Mysore. It is using cloud based library automation software KOHA and uploaded 125000 records in KOHA hosted on Amazon EC2 platform. Its OPAC is developed for mobile and other thin devices.

### **b. Digital Library Development**

Academic and research libraries are now actively involved in digital repository creation using open source softwares. Most of the institutions are hosting their repository on their local servers. This job is simplified by using cloud computing. Digitisation can be done using SaaS model while storage can be done using IaaS model from cloud. Libraries are bound to take care about softwares for digitisation, editing and storage of the huge data. When data is stored in the cloud it offers several advantages. Common data can be easily shared among services and users. The need for local storage, maintenance, backups and fear of data loss is removed. There are so many service providers for digital library creation using commercial as well as open source products.

### **c. Web-Scale Discovery**

Libraries are using federated or meta-search to collocate search results from multiple electronic resources to one place on a single click. Web-scale discovery is the next cloud based step towards this service. Now it is offered as cloud computing model and has the capacity to more easily connect researchers with the library's vast information repository including remotely hosted resources and local content. Libraries are gradually implementing Discovery services to make it easier for users to find information both inside and outside the libraries (Bradley, 2010). It provides a unified platform for library users to access and search from all the library resources to get single set of results by providing Google like environment. EBSCO, Ex-Libris and OCLC Worldcat are the major players in web-scale discovery vendor market.

#### **d. Reference Service**

Reference service is the personalized service provided to the user as per his/her demand. With the emerging technologies, the style of providing reference service has been changed. Libraries are actively designing quick reference tools for users like Ask a Librarian. Cloud based tools are proved as very effective for reference services e.g. Google chat, Skype, Linked in, Facebook, Research Gate etc.

#### **e. Resource Sharing**

Another great benefit of data stored in the cloud is the opportunity for collaboration and cooperative intelligence. Consortia in cloud are being developed to provide unique opportunity with cloud computing, to create an online information community network. Community cloud computing offers is taking advantage of social media. J-Gate and B-Gate by Informatics India Pvt. Ltd. is an example of cloud based e-journal and e-book consortium service respectively.

#### **f. Day-to-Day Activities**

Libraries are using cloud based tools in their day-to-day activities from a long time like Google, blogs, social networking sites, file sharing and transfer applications etc. The power of services like Google Docs and Office 365 reduce the effort of working jointly. Zoho.com provides a host of office software. Business software like SAP and accounting software Tally are also available on the cloud. Dropbox and Box.net are used for storage space on cloud, which can be accessed from anywhere in the world. These facilities make the day-to-day activities of library smooth.

#### **Open Source Softwares in Cloud Computing**

Open source softwares are most useful in cloud computing. OSS can be downloaded, customized, re-compiled and even redistributed, therefore are best suitable for cloud applications. Open source products like Chef, Puppet, Zenoss, Eucalyptus, Ubuntu Enterprise Cloud etc. can be used successfully on clouds.

#### **Cloud Service Providers for Libraries**

Now cloud computing is a hot cake in IT industry. Cloud based services are highly

cost effective, therefore a number of service providers are emerging these days. According to Siliconindia.com the top ten providers are Amazon, Rockspace, Microsoft, Google, Red Hat, Citrix Systems, Salesforce.com, Linode, VM Ware and Verizon (Siliconindia.com, 2012). Cloud computing advice has given top ten service providers as Zenith Infotech, Reliance Datacenter, Wolf Frameworks, Orange Scape, TCS, Infosys, Cynapage India, Wipro, Netmagic Solutions.

Following is a brief description of cloud service providers, whom services can be implemented in libraries.

#### **a. Polaris**

Polaris is a library automation system, which is based on cloud computing. Polaris also provides standard acquisition and processing system. Also, with a Polaris ILS Client License, the library can integrate various PC and print management systems at no extra cost. The systems use well known standards like MARC-21 for bibliographic data, XML, Z39.50 for information retrieval, Unicode etc.

#### **b. Ex-Libris**

Ex-Libris is providing solutions for libraries with all the software and hardware support. It is available for all type of libraries. It has solutions for consortia and discovery services also. Primo Central is a popular discovery service released by Ex-Libris in 2010. Ex Libris is built on various standard and contains number of features like compatibility with Unicode font, flexibility, migration of data, customization etc.

#### **c. Dura Cloud**

Dura Cloud is sister concern of the Duraspace which is a collaboration of Dspace digital library software and Fedora Commons. It provides cloud based services for digital libraries. Dura cloud also provides open source code and the code needs to be installed on customer's machine.

#### **d. OCLC**

OCLC is world leader in providing libraries the tools to manage and maximize use of their electronic collection. In addition, it has also developed some cloud based

services like WorldCat and WorldShare. WorldCat is discovery service launched in 2009. WordShare is developed with a view to enable library developers, partners and other organizations to create, configure and share a wide range of applications that deliver new functionality and value for libraries and their users. Fox (2009) enumerated OCLC as a cloud computing vendor for library services. OAISTER started by University of Michigan and managed by OCLC is trying to harvest all the major digital repositories around the world.

#### **e. Amazon**

Amazon is providing cloud based services. Elastic Compute Cloud (EC2) is a web service that provides resizable compute capacity in the cloud.

#### **f. Google**

Google based services are most popular cloud based services used in almost all office purposes. It includes Gmail, Google calendar, word processing, spreadsheet, presentation software, Google Doc etc. Google App Engine is a cloud computing platform for developing and hosting web application in Google-managed data centres. It is free up to certain level of consumed resources. Nelson (2008) has reported hosting of an e-library of Western State College of Colorado on Google Application Engine. This e-library is a collection of electronic records used to organise and manage born digital resources, such as websites, e-books, MP3s etc. and can also serve as a metadata proxy for books, magazines, physical video and audio resources and other physical objects. Users can access these resources through public view of the system. Staff can administer the e-library through Administration views. Another example of Google based cloud application in libraries is transfer of D-space based repository services from locally hosted server to AWS, Linode and Google App Engine (Han, 2011).

#### **g. Dropbox**

Dropbox is a file hosting service operated by Dropbox, Inc. It offers cloud storage, file synchronization, and client software free of cost upto a certain level. Dropbox allows users to create a special folder on each of their computers, which Dropbox then synchronizes so that it appears to be the same folder (with the same contents) regardless of which computer is used to view it. Files placed in this folder also are accessible through website and mobile phone applications.

## **Advantages**

Following are the major advantages of cloud computing.

1. Initially there is no need to invest on local servers and technical support.
2. Cloud service providers are specialized in applications and services and therefore efficiently manage upgrades and maintenance, backups, disaster recovery, and failover functions.
3. The resources like hardware, software and humanware can be utilized in better way to run the programs simultaneously in cloud environment.
4. Cloud computing offers testing of new services and upgrades by running some applications on virtual server instead of purchasing new hardware.
5. Cloud-computing providers, typically concerned about electricity costs, invest in energy-efficient equipment that may help create a greener computing environment.

## **Disadvantages**

Like the other technology, cloud computing do also have its disadvantages, which needs to be taken into consideration before its implementation.

1. The data of institutions are stored in cloud server having no any clear-cut ownership contract.
2. Provision of contract agreement for the security and confidentiality of data stored in cloud is not much practiced.
3. Dependency on others is a major disadvantage of cloud based applications.
4. Libraries may not have a good grip on their own services, if deployed through cloud service providers.
5. Cloud computing is not always cheaper when all factors are considered, so



libraries should be careful to evaluate all of the costs involved, such as network bandwidth, transition costs, and backup storage costs, when considering a migration to the cloud.

## Conclusion

Experts predict that cloud computing market in India will grow at a compound annual growth rate of 40 percent by 2014 (Ryan et al., 2011). With the introduction of Cloud Computing, libraries can certainly offer more effective and user-centric services. Library professionals many a times find it difficult to manage the technologies owing to their skill levels, lack of support from IT departments or for not having IT facilities within the organisations. Lack of expertise in IT and budget constraints hinders librarians to experiment with new applications for the benefit of their users. Here cloud computing can be adopted as a less expensive option. Mobile based applications add value to cloud based library data.

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# Exploration of Copyright Laws in Open Access Epoch

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## Abstract

The article briefs about the existence of copyright laws protecting the right of literates and researchers. Open access movement was initiated to wide access of information with a view to faster social, economical and technological development around the world. Initiatives of number of international organizations and academic institutions put forward facilitating open access of their research outcomes in digital format. Creative Common licences played a vital role supporting protection of literary work available in open access. The paper finds a number of precedents understanding right of literary owners facilitating their intellectual research in open access.

Keywords: Copyright; Open Access; Creative Commons

## Introduction

Open Access<sup>1</sup> (OA) is a system intended to open up library collections to users without any restriction and assistance. It seeks to remove financial, legal and technical barriers over the access of scholarly information through support of information and communication technology. Alma Swan explains open access research literature as composed of free, online copies of peer-reviewed journal articles and conference papers as well as technical reports, theses and working papers. In most cases there are no licensing restrictions on their use by readers. They can therefore be used freely for research, teaching and other purposes<sup>2</sup>.

According to recommendations of Director-General in its 35st session of General Conference by 35/Resolution 63 at UNESCO Open Access (OA) is the provision of free access to peer-reviewed, scholarly, research information (both scientific

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papers and research data) to all. It envisages that the rights-holder grants worldwide irrevocable right of access to copy, use, distribute, transmit, and make derivative works in any format for any lawful activities with proper attribution to the original author. Through Open Access, researchers and students from around the world gain increased access to knowledge, publications have greater visibility and readership, and the potential impact of research is heightened.

Peter Suber says open access literature is digital, online, free of charge, and free of most copyright and licensing restrictions. He point outs following in support of OpenAccess<sup>3</sup>.

1. Open Access is compatible with copyright, peer review, revenue (even profit), print, preservation, prestige, quality, career-advancement, indexing, and other features and supportive services associated with conventional scholarly literature.
2. The legal basis of Open Access is the consent of the copyright holder (for newer literature) or the expiration of copyright (for older literature).
3. The campaign for Open Access focuses on literature that authors give to the world without expectation of payment.
4. Many Open Access initiatives focus on publicly-funded research.
5. Open Access literature is not free to produce or publish.
6. Open Access is compatible with peer review, and all the major OA initiatives for scientific and scholarly literature insist on its importance.
7. There are two primary vehicles for delivering Open Access to research articles, OA journals ("gold OA") and OA repositories ("green OA").
8. Open access is not synonymous with universal access and it is a kind of access, not a kind of business model, license, or content.

OA serves the interests of many groups and very useful in preserving and dissemination of historical literature.

## **Open Access Movement around the World**

Peter Suber (2009) counts historical development of open access movement. He finds that the year 1969 is traced as the memorable year when Advanced Research Projects Agency Network (ARPANET) was launched by US Defense which was milestone to invent internet technologies. National Agriculture Agency of United States instigated AGRICultural OnLine Access (Agricola) in 1970. Michael Hart institute Project Gutenberg in 1971 which is still a biggest project providing online access of ebooks in public domain. The first network email was sent in 1971 by Ray Tomlinson. The sifting of ARPANET from the NCP protocol to TCP/IP protocol in 1983 cleared the path of airing network of network i.e. internet. Introducing of World Wide Web by Tim Berners Lee in 1990 cleared the path of web client and server and hyper text project. He design the first ever html based webpage. In 1993 online book page a project of facilitating free online book was launched by Ockerbloom. The largest ebook project i.e. Project Gutenberg was also launched in 1994 by Gunter Hille. In the same year Social Science Research Network (SSRN) was introduced by Wayne Marr and Michael Jensen. It was a revolutionary age in open access movement when the Virginia University initiated providing Networked Digital Library of Theses and Dissertations (NDLTD) in 1996. Brewster Kahle in 1996 initiated Internet Archive which is now a project under Google incorporation facilitating information in variety of formats. The year 1999 counts as a great year introducing a number of open access initiatives like Open Archives Initiative (OAI), Open Citation Project, Electronic information for Library Direct, BioMed Central, E-Biomed, Declaration on Science and the Use of Scientific Knowledge and Universal Preprint Service. In 2002 E-Print was introduced in open access which resulted launching Eprint-UK by JISC-FAIR. In August 2002 IFLA Internet Manifesto namely freedom of access to information and the removal of barriers to the flow of information were introduced. Montreal Declaration in 2002 under Law Via Internet Conference resulted in Free Access to Law Movement (FALM). Like E-Print, Open Access to D-Space was released by MIT, USA in November 2002. Raym Crow and Howard Goldstein contributed two business guides i.e. launching new open access journals and converting traditional journals to open access under the Budapest Open access Initiatives in January 2003. Lund University London introduced Directory of Open Access Journals (DOAJ) in February 2003 funded by Open Society Institute and SPRC. Bethesda Statement on Open Access Publishing was further released in June 2003 supporting open access publishing. Max Plank Society and European Cultural Heritage Online

released Berlin Declaration on Open Access to Knowledge in the Science and Humanities in October 2003. United Nations World Summit on the Information Society adopted open access to scientific information action plan and statement in December 2003. IFLA statement on Open Access to Scholarly Literature and Research Documentation were released in January 2004.

### **Open Access Movement a Flag March: Review of Previous Studies**

A number of research studies have been done in past in support of open access initiatives around the world and India. This section facilitates brief overview of research papers published covering developmental aspects of open access initiatives in the establishing of institutional repositories, open access journals and gold and green open access movements.

Barbara Kirsop gives stress over publicly availability of research information generated out of public funded institutions. The author outlines the problems facing scholarly communication in developing countries and describes ways in which OA can provide a solution. The author also highlights open access funder mandates, institutional mandates and departmental mandates in Australia, Belgium, India, Portugal, Russia, Switzerland, Turkey and United Kingdom. The paper support and recommend that open access must be adopted not only by major institutions of the world but also take serious by rest of the world<sup>4</sup>. Kristin Atelman highlights the importance of freely available articles and its impact on research activities. The study finds that the open access improves on browsing online journals and articles and customers relay heavily electronic research systems. The librarians should create more understanding for implementation of institutional repositories in their daily research work<sup>5</sup>.

Peter Suber keens to inspect the quality of open access information. Suber examines the subtle and indirect way in which open access might affect the quality of articles and the journals in which they appear. Suber further argues that open access will reduce quality, and finds them confused, groundless, and self-serving. With discussing various non-supporting issues, Suber finds a number of points which support the quality issues while uploading and utilizing open access information<sup>6</sup>. T B Rajashekar examines the relevance and potential of open access publishing in developing countries like India. Open access publishing is the provision of free online access to scholarly material also called open domain. He further elaborates the open access initiatives in India and new technical models to

organize open access publishing in India. The author comments that a national level mechanism is essential to promote and coordinate open access publishing system and to improve awareness for open access. Training for librarians is another matter of importance for handling tools, processes and maintaining standards<sup>7</sup>.

Krishan Lal discusses about the role of free availability of scientific data, information and knowledge in the phenomenal developments in science. Lal gives a brief overview of various open access initiatives like Budapest Open Access Initiative, ECHO Charter, Bethesda statement on Open Access Publishing and Berlin Declaration. He also notices a number of international organizations supporting open access literature dissemination viz. ICSU, UNESCO, ICSTI, INASP, IAP, TWAS and US NAS. He explains about the Committee on Data for Science and Technology of the International Council of Science (CODATA) and Global Earth Observation System of Systems (GEOSS) in support of open access movement.<sup>8</sup> Subbiah Arunachalam discusses open access movement includes scholars and researchers willingness to share knowledge and advances in technology which enabled opening up free access to information. He includes two ways of achieving open access and argues that sharing knowledge and building partnerships have been recognized as the best and most optimal means of creating and benefiting from knowledge. He further focuses on various fronts where open access is making good progress, and also deliberates on issues like open access endeavours in India and sustainable development and needs to be done in India to promote open access initiatives<sup>9</sup>.

Nikolaus Peifer in his research paper “Regularoty Aspects of Open Access” highlights a number of suggested points to regulate and standardize open access literature. Some points are a) how to convince contributors to uncover secrets, b) how to convince publishers and other right holders to cooperate, c) how to safeguard integrity and authenticity, d) how to enable access to works of known rights holders and e) how to enable access to works of unknown rights holders<sup>10</sup>.

Sangeeta and Soubam Sophiarani provide a summary of open access initiatives in India. They further access the importance of open access initiatives in India as a bridge for social divides and remedy solution for the problems facing by Indian researchers<sup>11</sup>. Manoj Kumar Sinha highlights the open access declaration and movements in India and explains various open source software's for establishing institutional repositories and digital libraries. He further put focus on the recommendations of National Knowledge Commission for libraries and open

access and open access educational resources. Some of the national level digital library initiatives and institutional repositories have also been listed for the benefit of library professionals<sup>12</sup>. Alma Swan argues that the scholarship of India has a poor visibility due to closed dissemination. However, Indian articles published in international journals have an upper age to get noticed. He feels that open access can help resolve the problems of maximising the visibility, and thus the uptake and use, of Indian research outputs. According to Swan, only mandatory policies regarding open access movement can boost the authors through self achieving of individual's work<sup>13</sup>.

Stevan Harnad and Alma Swan advocate about the mandate for Open Access Self-Archiving in India. They also state that the rule of "Law of Karma" is at the same road map of western's Golden Rule. The official adoption of the rule shall be one of the strongest examples for other nations. Authors argue that India must extend its obligation to follow such rules on governmental institutions and other agencies funded by the Indian Government to make their research activities visible to rest of the world<sup>14</sup>.

### **Development of Copyright Laws around the World**

The reason to birth of copyright laws is primarily blamed to the invention of print technology by Gutenberg in 1436. A number of printing agencies started to print copies of books and other material at a very fast rate, which resulted in competition in the form of unauthorized copies of books of authors in Europe. A Royal Charter was as a pioneer step of copyright was granted to the Stationers Company to administer a system of private registration of all published work<sup>15</sup>. Almost after 100 years, License Act was introduced and passed by the British Parliament to prohibit the printing of any book without licensed and register with the Stationers Company in 1662. The first two law instruments were declared as biased and favorable to monopoly of book publishers. In 1694, the British Parliament abolished and refused to renew the powers of Stationers Company. The first official Copyright Law was enacted in England known as Statute of Anne in 1710 with the concept of the author of a work being the owner of its copyright, and laid out fixed terms of protection with a compulsory deposit of copyrighted work at specific copyright libraries<sup>16</sup>. Finally British Parliament passed its Copyright Act in 1911 abolishing almost twenty small and big legislation passed in past.



The birth of copyright Law in United States of America is counted since the Congress enacted first federal Copyright Law in 1870. A separate Copyright Office was established in 1897 to look after copyright registration and other issues<sup>17</sup>. A number of international instruments were nurtured to prevent creative works of the authors or creators. The first International Convention for the Protection of Industrial Property commonly known as Paris Convention<sup>18</sup> was held in 1883. The second international Convention for the Protection of Literary and Artistic Work popularly known as Bern Convention<sup>19</sup> was adopted by the member countries to protect literary work of authors in 1886 and subsequently revised at Berlin in 1908 at Rome in 1928, at Brussels in 1948, at Stockholm in 1968 and at Paris in 1971. The next convention was adopted as Universal Copyright Convention in 1952 and subsequently its second edition in 1971 at Paris. World Intellectual Property Organization (WIPO) was adopted in 1967 with the objective to preserve and respect intellectual property throughout the world. Apart from, a number of other related international tools were adopted i.e. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations 1961 (Rome Convention); Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of their Phonograms, 1971 and Convention relating to the Distribution of Programme carrying Signals transmitted by Satellite, 1974.

### **Copyright Laws in India**

India as a hub of intellectual output is well known for its ancient manuscripts like Manu Smriti, Vedas and Upanishads. The Nalanda University was very famous for its library having three buildings called Ratan Sagara, Ratnaodahi and Ratnaranjaka and it had the readership from international countries like China, Japan, Malaysia and Myanmar<sup>20</sup>. The first law relating to Copyright was adopted and applied in India in 1847. The Indian Copyright Act, 1847 was passed by the Governor General of India in Council on 15<sup>th</sup> December 1847 and it came into force till 1911<sup>21</sup>. The Copyright Act passed by British Parliament in 1911 replaced all other colonial acts applicable to all colonies of the British Government. With a view to cope with the conditions of Indian literature, the Governor General of India enacted Indian Copyright Act in 1914, which was an extended version of British Copyright Act 1911. The Copyright Act 1914 came into existence till 1957. The Indian Copyright Act 1957 was framed and adopted on the basis of international instruments i.e. Berne Convention, 1886 and Universal Copyright Convention

1952<sup>22</sup>. The Copyright Act 1957 contains a number of leading sections like creation of copyright office, setting up of copyright board, enlargement of the scope of copyright; reacquire copyright, extension of right to translation and rights to Akin to copyright. The Copyright Act, 1957 was amended several times in 1984, 1992, 1994 and 2012.

### **Age of Intellectual Assets under Copyright Laws**

Copyright laws empower the right holders to enjoy financial and presentation rights over the literary work, music, sound recording and other intellectual assets but with specific period. Copyright laws of different countries speak these privileges in little bit different manners.

United Kingdom Copyright Act 1988 says the copyright of a literary, dramatic musical or artistic works keep enforce upto 70 years from the end of the calendar year in which the last remaining author of the work dies. If the author is unknown, copyright will last for 70 years from end of the calendar year in which the work was created, although if it is made available to the public during that time, (by publication, authorised performance, broadcast, exhibition, etc.), then the duration will be 70 years from the end of the year that the work was first made available. The UK copyright act also provides certain restricted acts. It is an offence to perform any of the following acts without the consent of the owner: Copy the work. Rent, lend or issue copies of the work to the public. Perform, broadcast or show the work in public. Adapt the work<sup>23</sup>.

United States of America enacted first copyright law in 1787 in US Constitution and a separate law was introduced as Copyright Act in 1790 which is lastly revised in 1976. US Copyright act says that any work published after 1<sup>st</sup> January 1978 shall be treated as copyrighted till 70 years after the death of author(s) or creator(s). However the work published before 1923 shall be treated free from copyright.

Indian Copyright Act 1957 states that the term of copyright **in published literary, dramatic, musical and artistic works** shall subsist within the lifetime of the author until fifty years from the beginning of the calendar year next following the year in which the author dies. In case of anonymous and pseudonymous works copyright shall subsist until fifty years from the beginning of the calendar year next following the year in which the work is first published. In the case of a record,

copyright shall subsist until 50 years from the beginning of the calendar year next following the year in which the record is published. In the case of Government work, where Government is the first owner of the copyright therein, copyright shall subsist until 50 years from the beginning of the calendar year next following the year in which the work is first published. In the case of a work of an international organisation, copyright shall subsist until fifty years from the beginning of the calendar year next following the year in which the work is first published.

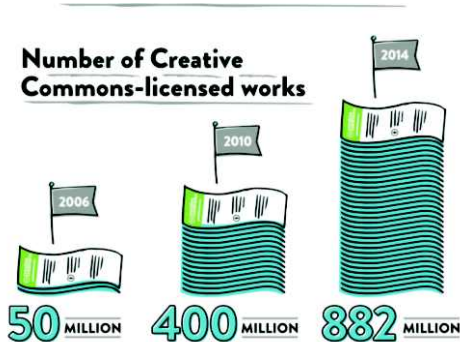
### **Copyright Laws vs. Open Access and the Role of Creative Common Licenses**

One should be very cautious while using open access literary work. It must be clearly kept in mind that open access contains only a right to access without monetary consideration but not without the implications of copyright laws. Open access is a movement to motivate academic researchers, authors and scientists to provide their research findings to general public without control of commercial players. But it should not be contradicted with the term of public domain. Public Domain is a term used for the literary work for which the copyright terms have expired under the law.

A number of efforts have been taken to prevent copyright of work available in open access. Creative Commons Licence is one of the effective steps to prevent rights of the owner or creator providing their work in open access environment for public reference. Center for the Public Domain initiated the pioneering support to create Creative Commons in 2001 supported by leaders, education experts, technologists, legal scholars, investors, entrepreneurs and philanthropists. Creative Commons introduced its first set of copyright licenses in December 2002 for public. Creative Commons undertook a number of projects on science, education and global infrastructure for sharing culture, education, government, science, and more. Creative Commons provides a simple, standardized way to give the public permission to share and use your creative work as per conditions selected by the contributor. The terms and conditions of the copyright can be altered by the owner by himself. Internet is the biggest role player for universal access of research, education and culture. The use of copyright licenses and tools of Creative Commons permits the creators of creative work to mold copyright terms and conditions according to their own discretion.

The below mentioned figures from Creative Commons certify the state of open access culture around the world<sup>24</sup>.

Figure one shows that till 2006 50 million Creative Commons licensed works were available which were increased by 400 million till 2010 and 882 million till 2014. The growth of creative common licensed works is remarkable and shows the positive interest of institutions and organization to put their research outcome in open access under creative commons license work.



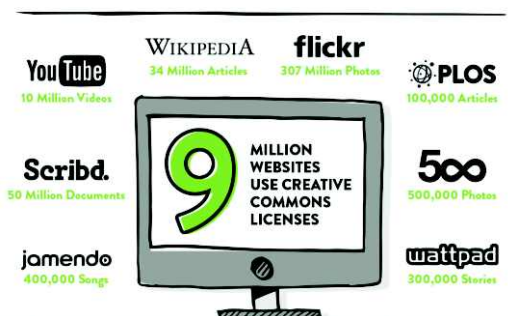
*Figure 01: Creative Common Licenses*



*Figure 02: Where CC licensed works are published*

Figure 02 shows that CC Licensed works are majorly published in North America preceded by Europe. The growth of CC Licensed work is 16% in Asia Pacific countries which are not at par with rest of the world. African continent has the least growth of CC Licensed works in open access.

Figure 03 shows that the social networking websites like You Tube, Wikipedia, Flickr, Plos, Scribd., jamendo and so on are using CC Licenses. A total of 9 million websites use creative commons Licenses around the world to provide open access of videos, articles, photos, stories, songs and other research activities.



*Figure 03: Websites Using CC Licenses*



**Figure 04: Countries with National Commitments to Open Education**

Figure 04 is a presentation of 14 countries around the world having national commitments to open education. Netherlands, USA, United Kingdom, Scotland, South Africa, Argentina, Mauritius, Slovenia, Poland, Indonesia, China, India, New Zealand and Australia are among of these countries. It is very surprising fact that these countries provide text

books in open access environment under CC Licenses save 100 million dollars of students every year<sup>25</sup>.

## Conclusion

Open Access no doubt is a very supporting in the development of not science and technology but also for cultural and social development around the world. But it is also the moral duty of the users of open access material to respect intellectual rights of the creator of such work in any form. The war of socialist and law makers are as old as since 1662 AD when the first copyright law was passed in England, but the rights are still under control of commercial vendors to make easy money through selling ideas and hard core efforts of content creators. Internet technology has opened the ways of facilitating information at faster speed. A number of open access initiatives have also been adopted during a number of conventions which resulted in adoption of gold and green routes of open access and motivation of research institutions and government organization facilitating their research outcomes in open access. It is a very good sign to protect a right of an individual or institution through CC Licenses along with use of their intellectual output in open access environment.

## End Notes

- 1 [www.eprints.org/openaccess/](http://www.eprints.org/openaccess/)
- 2 Alma Swan "Open Access Scholarly Information Source Book- Open Access: A Briefing Paper" [http://www.openoasis.org/images/stories/briefing\\_papers/Open\\_Access.pdf](http://www.openoasis.org/images/stories/briefing_papers/Open_Access.pdf)
- 3 Peter Suber "Open Access Overview: Focusing on open access to peer-reviewed research articles and their preprints <http://www.earlham.edu/~>

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# Open Access Movement and Moral Rights: Rejuvenation of Digital Copyright

*Abhinav K. Mishra<sup>1</sup> and Rupesh Chandra Madhav<sup>2</sup>*

*[C]reativity is impossible without a rich public domain. . . . Culture, like science and technology, grows by accretion, each new creator building on the works of those who came before. Overprotection stifles the very creative forces it's supposed to nurture.*

J. Alex Kozinski in *White v. Samsung Electronics of America* (9th Cir. 1993)

## Introduction

*If you have an apple and I have an apple and we exchange apples, then you and I will still each have one apple. But if you have an idea and I have one idea and we exchange these ideas, then each of us will have two ideas.*

- George Bernard Shaw

The aforesaid statement of G.B. Shaw creates an image of sharing things we have. But can we think same in matter of rights? Yes. The rights can be used in same way of sharing such as if we give another person right to do something that could also double our amount of knowledge. Knowledge is such area, where it can be applied at full extent. But for this we will have to stop restriction of knowledge and then we will have to provide another with a right with sufficient opportunity, to access to that knowledge. This Idea was applied in context of software, where the big corporations restricted the knowledge by hiding the source code of software and not making it available to public. The idea of free software<sup>3</sup> was originated by one computer scientist Richard M. Stallman, who later founded the Free Software Foundation and also GNU General Public License. The GNU GPL was written as a replacement of present End User License Agreement (EULA) which software companies were using for their proprietary software. The GNU GPL removed the restriction to use the source code and thus further to improve it on the condition of

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<sup>2</sup> *The Indian Law Institute, New Delhi*

<sup>3</sup> Here the term 'free' does not connote 'being priceless' but it is to denote 'freedom', which Stallman provided through its GNU GPL license to others as freedom to use, reproduce, modify and publish. R. M. Stallman defines free software in his own language as:



respecting the moral rights of authors/computer programmers. Latter, on the same the other copy-left licenses for creative works came into existence noted of which are the, Creative Commons License and Artists' License. And the open access to literary works is the outcome of same licenses. The digital space has made a boost in the creative works not only physically but virtually too. The physical and as well as digital works can be seen at growth. The reason behind it is twofold: *one* the ease of using the digital products out of which as artistic or creative output can easily be sought. *Two* is the ease and speed of communication among general public. The earlier one has helped for digital contents and the other one to the conventional work of arts. This makes the reputation of artist subject to a large number of people. Thus in above condition, it is necessary that the authors should also have the moral right to be identified when their works are exploited and to object to derogatory treatment of their works.

Copyright law begins with the premise that the copyright owner has exclusive rights to many uses of protected works like right to reproduce, distribute, make derivative works, and publicly display or perform the work. But with the advancement of information technology in digital form, our intellectual and creative works are created and stored in unified digit format of 0 and 1 format and can thereby be transferred or copied easily making duplicates. On the other hand, ease of updating web sites by erasing, rewriting or replacing its contents, resulted in fluid publishing, bringing collaborative authoring such as Wikipedia into its existence while making the Internet virtually a space for open creative collaboration which led to copy-left movement and created a question on copyright and moral rights as well, although created a platform of information sharing in public domain and providing access to information.

The open access is the outcome of copy-left movement. Although the copy-left's basic and initial objective was not to support the copyright or moral rights; its initial and basic purpose was the access to information as against excessive copyright yet with the use of moral rights<sup>4</sup> copy-left has rejuvenated the digital copyright. Although the primary purpose of copy-left was not to protect the interests of authors but of user's, yet for now copy-left appears to protect more interests of authors than the dying digital copyright. The actual copyright laws and provisions

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<sup>4</sup> A matter of liberty, not price. To understand this concept, you should think of "free" as in "free speech" not as in "free beer." See "The Definition of Free Software", *GNU Operating System*, available at: <http://www.gnu.org/philosophy/free-sw.html> (last visited on: 15 April, 2014).

are not so much sophisticated and even sufficient to protect the author's rights in digital space<sup>5</sup>. This may be because in digital space where the information resides in 0 and 1 binary format, the conventional copyright is like a creature of another planet and where copy-left, unlike copyright, seem to be the creature of same planet<sup>6</sup> and thus even if it does not as much rights as copyright gives but actually provides better protection in matter of enforcement. The physical example of it can be seen in the cases of some big organizations' releasing their products under open-source/copy-left license<sup>7</sup> and big projects being open-sourced.

The scope of this research paper is to the study of concept of 'moral rights' under the copyright law as well as in open access licenses and assessing the relationship between the copyright and open access. While talking about the protection of moral rights, reference will be made copy-left movement which strengthened the copyright terms in digital space by applying the copyright terms as fall-out position

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<sup>5</sup> Professor Mira has called Reputation the *Heart of Open Access*, which also has almost same value in the context of moral rights and thus copy-left and moral rights seem to have the common objective. About the moral right and open access she writes: An overall consideration of the components of the Creative Commons licenses suggests that, seen in context, the requirement of attribution, like the "share-alike" and "no-derivatives" principles, aim to promote the individuals behind the creation of works. In particular, all three principles accomplish the same goal: they affirm the author's right to control his or her own work. Mira T. Sundara Rajan, *Moral Rights: Principles, Practice and New Technology* 502 (Oxford, New Delhi, 2011).

For further discussion see Simon Stokes, *Digital Copyright: Law and Practice* (Hart Publication, London 2013) Digital technology poses a number of challenges to copyright. The two most significant aspects are first the digitisation of copyright works (so a photograph, for example, can be scanned into an image file) and the creation of new purely digital products (such as software). Second, the growth of networks such as the Internet which allow the rapid global transmission of digital information. (at 11).

<sup>6</sup> One interesting argument can be given in favour of this conception is that the copy-left movement is the brain-child of the computer scientists, programmers and software developers. One of the most celebrated person, the founder of *Free Software Foundation* and *GNU GPL* license, Richard Stallman is a software developer himself.

<sup>7</sup> In early 1998, Netscape Communications Corporation to release their popular Netscape Communicator Internet suite as free software. This code is today the basis for Mozilla Firefox and Thunderbird. In August 1999, Sun Microsystems released the StarOffice office suite as free software under the GNU Lesser General Public License. The free-software version was renamed OpenOffice.org. see Wikipedia, "History of Free and Open-source Software" available at: [en.wikipedia.org/wiki/History\\_of\\_free\\_and\\_open-source\\_software](http://en.wikipedia.org/wiki/History_of_free_and_open-source_software) (accessed on 25 April, 2014). Even the Microsoft, the arch rival of Linux operating System, In 2006, launched its CodePlex open source code hosting site, to provide hosting for open source developers targeting Microsoft platforms. In July 2009 Microsoft even open sourced some Hyper-V-supporting patches to the Linux kernel, because they were required to do so by the GNU General Public License, and contributed them to the mainline kernel. See Gavin Clarke "Microsoft opened Linux-driver code after 'violating' GPL" *The Register* available at: [http://www.theregister.co.uk/2009/07/23/microsoft\\_hyperv\\_gpl\\_violation/](http://www.theregister.co.uk/2009/07/23/microsoft_hyperv_gpl_violation/). (Retrieved on 14<sup>th</sup> April 2014) (Accessed on 25 April, 2014). "Recently Microsoft has launched a subsidiary know as Microsoft Open Technologies Inc. with the aim of bridging the gap between proprietary Microsoft technologies and non-Microsoft technologies by engaging with open source standards." See Ovide, Shira "Microsoft Dips Further into Open-Source Software" *Wall Street Journal* (16 April 2012) Available at: <http://online.wsj.com/article/SB10001424052702304432704577347783238850756.html>. (Accessed on 25 April, 2014).

which actually reverts back on the failure to fulfil the precondition of any copy-left license. Thus, this paper focuses on the strengthening idea of Copyright through open access licenses and open collaboration while moral rights being on the frontiers. Authors argue that copy-left does not oppose copyright rather rejuvenates it in for digital environments. Lastly, paper also makes some suggestions for improvements for open access such as financial schemes for authors etc.

### **Emergence of Open Access Movement**

In the olden days, the authors, poets and artists were not given of any economic right of distribution or reproduction to have control over his work<sup>8</sup>. For their livelihood they have to be dependent on their patrons such as King or any other big personality, who would love and appreciate their work of arts. But they were considered as sacrosanct of the society and dealt with very respectful manner because of their work for which they were given due credits. Thus the whole system was only around the attribution provided to the author because that led to his reputation in society. The works were thought to have been incorporation of the author's personality<sup>9</sup>.

Later, on the verge of industrial revolution in 18<sup>th</sup> century<sup>10</sup>, the copyright system was adopted to provide authors some economic rights so that writers may earn their livelihood out of their works. Earlier they were provided with only certain economic rights but now copyright is a bundle of rights which includes both types; the economic rights to exploit the work economically and moral rights to gain reputation and its preservation thereof. Now with the transformation of knowledge into digital space and with the burst of artistic creations, moral rights seem to have acquired more important position digital space. By far the copyright system has been a success in protecting the works of the authors, writers, poets, artists, composers and with its extended wing to any kind of performers and broadcasting

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<sup>8</sup> "Payment for one's work was considered fundamentally incompatible with creativity," Mira T. Sundara Rajan, *Moral Rights: Principles, Practice and New Technology* 40 (Oxford, New Delhi, 2011). For example, in ancient India, the *Brahmin* community members were only given with the work of teaching and preaching the community and they were considered as keepers of the knowledge. The other community members were required to provide them the life's necessities including foods and all. And this was not like payment at all.

<sup>9</sup> "Moral right rest on the foundation of a special relationship between author and work, a creative reality that has little to do with law *per se*." *seeIbid*.

<sup>10</sup> In 1709, the Statute of Anne in England was the first copyright statute, which actually also recognized the moral rights of publication of authors but that was only out of the economic consideration that this right was provided to them.

organizations. With the advent of digital world of internet and computer, copyright also included the computer programs/software and computer databases to its portfolio, broadening the scope of its protection umbrella. Thus the copyright has been always of inclusive nature. But the inclusive nature of copyright could provide its new subjects, such as computer programs and computer databases, only the limited protection. These new subjects were added into the portfolio of copyright to fit into the space between the provisions or by making space for them by the interpretation of the given definitions but the basic structure of copyright was not made fit for them. And this led to insufficient and vague protection by copyright system which was realized by later<sup>11</sup>. The computer software companies and big organizations were trying to seek the stringent protection for their products. They were trying for patents at the first place and then for copyright. But software patents<sup>12</sup> being detrimental to the basic features and requirements of patent protection, was not included into *per se*<sup>13</sup> but added as an exception to this which in combination with the machine creates desired result and cannot be so separated from the process<sup>14</sup>. The big software companies were protecting their software issuing them under proprietary license<sup>15</sup> and without any source code. Software was provided in binary form or in object code without source code, which is essential to make changes to that software. In binary form, software can be used but not modified. To fill this black hole of knowledge universe and to provide freedom to the users of the computer programs to modify it and to have access to knowledge that what functions they are using on their machine, copy-left movement was brought it, in form of licensing software to freely use with its source code.

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<sup>11</sup> The EU directives on legal protection of databases is one such example. Now if the database consists of original contents, it would be protected under copyright law and if it lacks originality, it would be protected under *sui generis* system of EU directives.

<sup>12</sup> For software patents *see generally*, Wendy Seltzer, "Software Patents and/or Software Development" 78(3) *Brooklyn Law Review* 929 (2013).

<sup>13</sup> Section 3(k) of Indian Patents Act, 1970 excludes from being patented: "a mathematical or business method or a computer program *per se* or algorithms".

<sup>14</sup> "In the UK and other EU states, software "as such" cannot be patented. However, if that software is incorporated in some invention, then it can be patent-protected. So, e.g. a machine tool controlled by software may be patentable, in which case both the machine tool and the incorporated software are protected." *See* Naomi Korn and Charles Oppenheim, et. al. "IPR Issues and Software: A Briefing Document" *JISC* 4 (Oct. 2007).

<sup>15</sup> *See* Naomi Korn, Charles Oppenheim, et. al., "IPR Issues and Software: A Briefing Document" *JISC* (Oct. 2007). Microsoft licensed software is a good example of software which is distributed without the source code being made available. Generally, permission will be granted to the user via their "click-wrap" consent to terms and conditions, without which access is denied. This usually takes the form of a dialogue box containing the terms and conditions and a choice of 'Accept' or 'Reject' interface buttons. Other forms of agreement may include a licence on the back of box, terms and conditions on CD and/or DVD or in rare cases, consent to a written agreement. These licenses may be supported by technological protection measures, the circumvention of which may itself constitute an infringement of copyright in addition to any infringement that eventually results from the circumvention. (at page no. 8)

### Copy-Left Licenses: The Progenitor of Open Access

Etymologically, Copy-left is a play on word 'copyright'. However, the suffix 'left' is somewhat misleading. Copy-left is not just the reversal or opposite of copyright rather it can be said that it only reverses or opposes the excess privatization of knowledge. In the traditional parlance, the “left” side of the political spectrum indicates socialism, equality, and government controls and regulations as favoured solutions to societal challenges, whereas the “right” denotes support for the free market, competition and the private sector<sup>16</sup>. According to GNU website Copy-left: “uses copyright law, but flips it over...instead of a means of privatizing software, it becomes a means of keeping software free”<sup>17</sup>

Copy-left is a generic term which represents “any kind of license arrangement that codifies and creates a license to work created by an author who wishes to allow any member of the general public to use their work however they wish so long as the derivative work is credited to the original author and is distributed in the same public manner.”<sup>18</sup> Copy-left generally refers to the application of any such 'open access' licenses like GNU's GPL or Creative Commons' CC-BY license. The term Copy-left has not been used by any specific kind of organization like the Free Software by Free Software Foundation and thus it remains to be generic term. Therefore, this can be used collectively for Open Access or Free Software Movement and *vice versa*. Simply put, Open access enables the users to view and read the works which is made public by use of such copy-left licenses. Mostly the licenses keeps the condition to give acknowledgement to its author and some may licenses also goes to extent to issue the modified work under the same license or terms on which it was issued<sup>19</sup>. Thus, Open access using the copy-left licenses makes the literary work of author in public making access to knowledge without any restriction. However, these works cannot be used for commercial purposes or the work cannot be modified to the name of end-user.

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<sup>16</sup> “Copyleft: Ideological Origins of the Open-Source Movement” available at: <http://certmag.com/copyleftideological-origins-of-the-opensource-movement/> (accessed on 23 April, 2014).

<sup>17</sup> Available at: <http://www.gnu.org>.

<sup>18</sup> Joh Padgett, “Copyright v. Copyleft” *FireDogLake* (August 1, 2009) available at: [my.firedoglake.com/finifinito/2009/08/01/copyright-vs-copyleft/](http://my.firedoglake.com/finifinito/2009/08/01/copyright-vs-copyleft/) (accessed on 23 April, 2014).

<sup>19</sup> GNU GPL and CC's 'share-alike' are two such examples of licenses, issuing further work under the same license.

## The Ideology behind Open Access

The ideology of copy-left licenses is basically the freedom<sup>20</sup> from the restriction from proprietary software makers. It was expressed by Richard Stallman as: Proprietary software developers use copyright to take away the users' freedom; we use copyright to guarantee their freedom. That's why we reverse the name, changing "copyright" into "copy left."<sup>21</sup> While copyright law protects the rights of the authors of the creative works by providing them some rights to control the distribution and modification of their work, the idea of copy-left is to protect the interest and freedom of end users. Open access licenses explicitly remove those restrictions, which tries to trespass the freedom of end user by the authors of work through the use of copyright licenses. Basically, started from the licensing of software, the copy-left makes available source code in public which enables end users to make desired modifications and thus protects freedom of end user. Another open access license, 'The Free Art License' states the following mission statement and basic aim of open access in its preamble as: The intention is to make work accessible and to authorize the use of its resources by the greatest number of people: to use it in order to increase its use, to create new conditions for creation in order to multiply the possibilities of creation, while respecting the originators in according them recognition and defending their moral rights [...] Knowledge and creativity are resources which, to be true to themselves, must remain free [...] This is the basic aim of this Free Art Licence: to promote and protect artistic practice freed from the rules of the market economy<sup>22</sup>.

## Open Access Licenses: Contracts or Licenses?

Any open access general license to the public works similar to that of contract between the parties, 'which overrides the terms of copyright law'.<sup>23</sup> To explain this better, Professor Mira took the example of employment relationship contract. She

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<sup>20</sup> "More Precisely, it refers to four kinds of freedom, for the users of the software:

- (1.) The freedom to run the program, for any purpose. (freedom 0)
- (2.) The freedom to study how the program works and adopt it to your needs (freedom 1) Access to the source code is the pre-condition to it.
- (3.) The freedom to redistribute copies so one can help their neighbor (freedom 2)
- (4.) The free to improve the program, and release your improvements to the public, so that the whole community benefits (freedom 3)."

See Priti Suri & Associates, *Open Source and the Law* 3 (Lexis Nexis, New Delhi, 2006).

<sup>21</sup> See <http://www.gnu.org/licenses/licenses.html>.

<sup>22</sup> See <http://artlibre.org/licence/lal/en/>.

<sup>23</sup> *Supra* note 2, at 497.

said that it depends upon the individual's contractual terms of employment that to whom the copyright would go. Generally under copyright law under work-for-hire condition, the initial copyright in the work goes to employer. But if the contract says otherwise then it may be in the author itself and may prevail over copyright law. Same as in case of copy-left the contractual terms of the license makes the work usable by general public on the precondition to respect the conditions of given therein. Where most of the copy-left licenses, stipulates the condition to respect the moral right of attribution of author by duly acknowledging the work of original author. Failing to respect this condition, the copyright's provision would revert back making that subsequent user infringer of original author's copyright. The question of contractual liability or licensing of open access licenses was seen in the case of *Jacobsen v. Katzer*,<sup>24</sup> where interpreting the terms of license as equivalent to the 'conditions' of contract and there for making it binding upon all those who used the work, (not only those to whom license was issued) Judge J. S. White commented: Thus, if the terms of the Artistic License allegedly violated are both the covenants and conditions, they may serve to limit the scope of the license and are governed by the copyright law. If they are merely covenants by contrast, they are governed by copyright law.<sup>25</sup>

### **Enforceability of Open Access Licenses**

Copyright infringement is the means of enforcing the open access licenses. They stipulates such terms that if the conditions given are failed by any user, the copyright which was temporarily suspended would again come back into effect and thus the use of such work not fulfilling the conditions stipulated would lead to infringement of the author's work under copyright regime. On this, original author can very well enforce his rights given there under the copyright regime in general. Open access licenses need both the contract law and copyright law both working at the same time. The violation of contractual term would lead to copyright infringement. Thus it can be said that copy-left or open access do not reverse the copyright but only suspends for the interest of general public and on the violation, reverts back the full copyright regime. Even if court fails to recognize the contract law application in the copy-left license because the general contract needs parties to be mutually agreed on the terms of contract, the copyright regime would still be protecting author according to terms of the license.

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<sup>24</sup> 535 F.3d 1373 (Fed. Cir. 2008).

<sup>25</sup> *Id.* at 1380.

## Moral Rights: Connecting Fabrics between Open Access and Copyright

Although there are several moral rights<sup>26</sup> but most widely recognized moral rights are the rights of *attribution* (*paternity*) and *integrity*. The attribution/paternity right means simply that an author is unfailingly entitled to have his name associated with his own work. According to the integrity right, the author also has the right to demand that the artistic integrity of his work remain uncompromised by modifications or distortions—though in most jurisdictions, the author must show that his reputation is at stake in the matter. The essence of attribution and integrity interests is the author's ability to respond to the mistreatment of his work by asserting his rights in a court of law.<sup>27</sup> “With the arrival of the information society the question of moral rights is becoming more urgent than it was. Digital technology is making it easier to modify works.”<sup>28</sup> This statement clearly asserts that explosive growth of the Internet and online services and technological tools that allow users to access and manipulate creative works directly has resulted in massive violation of copyright including moral right<sup>29</sup> and also non performance of moral right of author of work. The ability to reproduce, modify and redistribute artworks through information technology has made it extremely difficult for authors to monitor the use of their works and, where problems arise, to assert their moral rights.<sup>30</sup> In commenting on moral rights in digital age, the Thomas P. Heidi<sup>31</sup>,

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<sup>26</sup> Though there is no uniformity about types of moral rights among scholars, some of the rights recognized as moral rights are:

- The right to Integrity (*droit au respect de l'oeuvre*)
- The right of attribution
- The right of disclosure
- The right of access to work
- The right to withdraw or retract
- The right to reply to criticism
- The right to freedom from excessive criticism
- The right to create or not to create.

<sup>27</sup> Mira T. Sundara Rajan, “Moral Rights in the Digital Age: New Possibilities for the Democratization of Culture” 16 (2) *International Review of Law Computers & Technology* 188 (2002).

<sup>28</sup> European Commission Green Paper on Copyright and Related Rights in the Information Society Brussels, (19.07.1995) COM (95) 382 final, on line (November 16, 2007): [http://aei.pitt.edu/1211/01/copyright\\_info\\_society\\_gp\\_COM\\_95\\_382.pdf](http://aei.pitt.edu/1211/01/copyright_info_society_gp_COM_95_382.pdf).

<sup>29</sup> See also Robert C. Bird and Lucille M. Ponte, “Protecting Moral Rights in the United States and the United Kingdom: Challenges and Opportunities under the U.K.’S New Performances Regulations” 24(214) *Boston University International Law Journal* 215 (2006).

<sup>30</sup> See Abstract in Mira T. Sundara Rajan, “Moral Rights in the Digital Age: New Possibilities for the Democratization of Culture” 16 (2) *International Review of Law Computers & Technology* 187–197 (2002). Though she held a clear contrast view about technological effect on the protection of moral rights in digital age.

In spite of these difficulties, however, this paper argues that moral rights are actually growing in



noted that: Before the digital age, different approaches to the [moral] right, largely corresponding to the division between civil and common law countries, did not cause significant problems in practice. Consumers were limited in what they could do with hard-copy goods, and as between authors and intermediaries, contractual practice more or less addressed the situation. Now, however, the possibilities of borderless exploitation of works, the endless ways of using digital work, and the changes in how works are created, raise controversy about the difference in approaches.<sup>32</sup>

### Challenges to Moral rights in Digital Age

Professor Mira in her book *Moral Right: Principles Practice and New Technology* lays down that in digital age doctrine of Moral right faces *three* kinds of challenges.<sup>33</sup> *Firstly*, 'copyright law has become the primary form of the legal regulations governing new technology.'<sup>34</sup> She took the example of computer program and databases being protected under copyright as 'literary work'.<sup>35</sup> With the inclusion of these kind of new works, the traditional norms of copyright law sometimes becomes inadequate to fulfil the needs of these type of new subject-matters and this is especially in case of digital works such as computer programs and computer databases. The problem of authorship and originality is the main problem with the works related to digital space. The *second* challenge she stated arises out of new creative possibilities generated by technology.<sup>36</sup> Information technological advancement has created various ways to easily create new copyright and easily modify,<sup>37</sup> adopt<sup>38</sup> and use the existing copyrighted work.<sup>39</sup> *Third* and last

importance because of new technologies. It is precisely when the capacity to manipulate works is greatest that concerns about artistic integrity and the preservation of cultural heritage become most pressing. This paper suggests that technological change calls for a new approach to moral rights: the focus in the future should be on cooperative efforts between authors and their public to protect culture. Technology has the effect of 'democratizing' the relationship between author and audience by allowing the audience to participate more directly in the creative process with the author. Despite the potential threat to artistic integrity, this transformation should nevertheless be embraced by authors and artists for its positive implications for cultural vitality in the long term.

<sup>31</sup> Thomas P. Heide, "The Moral Right of Integrity and the Global Information Infrastructure: Time for a New Approach", 2 *U.C. Davis J. Int'l L. & Pol'y* 211 (1996).

<sup>32</sup> *Supra* note 2, at 214.

<sup>33</sup> *Id.* at 19, *See further* Ch. 1 Introduction: Moral Rights in the Virtual Age.

<sup>34</sup> *Ibid.*

<sup>35</sup> Section 2(o) of Copyright Act, 1957 defines 'literary work' as:

"[L]iterary work includes computer programmes, tables and compilations including computer databases."

Similar provision has been added in UK and US law too.

<sup>36</sup> *Supra* note 2, at 19.

<sup>37</sup> Modification is directly the infringement of copyrighted work, infringing not only the moral right of integrity as well as economic rights of author.

problem according to her is that 'new technologies have made it possible for members of public to intervene in creative works in a new way, making seamless and imperceptible changes.'<sup>40</sup> Creative open collaborative works where the authorship vests in the huge number of persons out in public. In these kind of works, they can legally make seamless and substantial changes according to their choice. For the substantial changes made, they surely are the authors but the problem always arises about the recognition of moral right. The moral right of integrity of earlier author when other person changes the work according to him and moral right of paternity when considering the whole work or document. And these rights becomes important to talk as these are the inherent rights of author and mostly rights which are *in perpetuate* and can be enforced even after the term of copyright expires. And also because it may be in question even when economic right of author is clearly determinable or even clearly protected. What counts in digital technology for gross infringement of moral rights of author? The speed and ease, which the information technology particularly computers have provided, increased numbers of infringing cases even by the novice user to that field. Sometimes the cases of infringement even can't be counted because of its huge number. For this Heide<sup>41</sup> has ascertained four main trends in computer; power and speed, portability, integration capability and user friendliness. Power and speed taking less time and where portability, integration capability and user friendliness making number of cases double, has make this virtual world a hell for author where even moral rights of author is not secure. And that is where the area of digital copyright starts working not only for protection of economic rights but also of moral rights.<sup>42</sup> The aforesaid challenges not only pose the problem of practical implementation of moral rights but also show a threat to the 'culture' and 'conceptual foundation' of moral rights doctrine among youths. Mira T. Sundara Rajan wrote very aptly saying that combination of these two causes problem by making moral right insignificant

<sup>38</sup> Circumventing the Rights Management Information (RMI), by the use of technology itself such as use of hacking and cracking software, is an easy way of adopting that work and violating the moral rights of author.

<sup>39</sup> See *Supra* Note 29 at 214-15, Heide notes that: The integration of various devices, such as musical instruments, video recorders, telephones and facsimiles, with computers is increasingly becoming possible. Similarly, software has become easier to use, making it possible to create high quality, virtually flawless reproductions, and to adapt and modify content to an increasing extent. The end-user is virtually unrestrained in how she can use digitized information. She is no longer limited by the constraints of the tangible world. For example, sampling makes it possible to modify a work, mix different works or performances, or use small pieces of the content to create or "compose" a completely new work, perhaps a multimedia product.

<sup>40</sup> *Supra* note 2, at 20.

<sup>41</sup> *Supra* Note 29 at 217-18

<sup>42</sup> For further discussion see Simon Stokes, *Digital Copyright: Law and Practice* (Hart Publication, London 2005) Ch. 1 Why Digital Copyright Matters.

doctrine: In the current legal environment, two kinds of basic difficulties confront authors' moral rights. First, there is the practical problem of enforcing these rights when the author's capacity to control the use of his work is severely limited. Second, at a deeper level, the conceptual integrity of moral rights doctrine is threatened by the transformation of culture in the 'Information Age'. The combination of these factors has led to a general malaise among copyright scholars—often unexpressed but implicit in the research—and a sense that moral rights have somehow become irrelevant.<sup>43</sup> Copy-left or open access movement's objective of free access to knowledge has helped creating a new way of protection to moral rights of author in digital contents. And the importance of moral rights in digital space has been summed up by Professor Mira<sup>44</sup> in lines below, as; an emphasis on moral rights may help, not only to redirect copyright reform in less developed jurisdictions, but also, to re-establish a balance among the different interests implicated in copyright on the international stage. In particular, moral rights may help to build a new alternative to copyright for the Digital Age.<sup>45</sup> Yes, the digital contents are going away from the limited jurisdiction of copyright law and the olden, non-economic, and basic protection of moral right is the one which can only be used to bring all digital content into the unified auspice of copyright. But as we know, moral right itself was not active enough and especially in different countries' copyright law system, the open access system became the one viable thing to complete the above said purpose and stop the copyright from dying. Though in open access, the copyright does not come actively in front of us but the reality is that copy-left is not opposite of copyright, its merely a word play. open access uses the copyright as its armour and moral rights as its weapon and it collectively fights the complexities of digital contents in digital space.

### **What Copy-Left has Changed?**

Over the last twenty years, open access movement has taken up serious attentions of authors in digital space and eventually been part of most of growing business organizations and amateurs to protect their digital contents. And undoubtedly it can be well said that open access movement has been a success in protecting digital contents and as a grant providing their authors' attribution due to them. It's been

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<sup>43</sup> Mira T. Sundara Rajan, "Moral Rights in the Digital Age: New Possibilities for the Democratization of Culture" 16 (2) *International Review of Law Computers & Technology*, 188 (2002).

<sup>44</sup> Mira T. Sundara Rajan, *Copyright and Creative Freedom: A Study of Post-socialist Law Reform* (Routledge, London, 2006).

<sup>45</sup> *Id.* at 5.

clear that in digital contents, copyright protection or any other protection would not be sufficiently able to trace the violation and stop infringement completely.<sup>46</sup> Even the most sophisticated technological measures such as Rights Management Information (RMI)<sup>47</sup> fell prey in the hands of hackers and crackers. The live use of internet and PC being the part of life, the infringement could be coupled by and by without any gain and even by the use of these mechanism the copyright protection, including of moral rights is diluted. This incapability has started the gradual death of copyright. "The survival of copyright is under threat."<sup>48</sup> The open access movement as an add-on to copyright law<sup>49</sup> has come to serve the both ends; the *reader end* as well as *author end*. Since, copyright violation dilutes not only economic rights but also moral rights of author and it is not pertinent to stop the violation at all by means of protection or force, the open access makes the dissemination of knowledge without any *excessive protection* among the public on the condition that the attribution to its author is well provided. Thus the public, when gets knowledge free, in turn back tries to respect the moral rights of author or contributor.<sup>50</sup> The *reader* then gets free access to information as a matter of right and *author* voluntary gets recognition among public and his moral rights are protected even in the very fragile kind of works *i.e.* digital contents.

<sup>46</sup> In practice digital copyright law and a combination of technical and/or contractual steps will need to be applied or at least considered when protecting digital content. See Simon Stokes, *Digital Copyright: Law & Practice* 20 (Hart Publications, London 2013).

<sup>47</sup> RMI is the technological measure or tool to recognize the author/ copyright holder of that digital content. The information relating to author is written and locked up by the use of technology that it can be well seen by anyone but can only be changed by the author or copyright holder itself.

"[d]igital copyright management systems (CMS) will enable copyright owners to enforce automatically many of the rights afforded them by copyright law." See Julie E. Cohen, "Lochner in Cyberspace: The New Economic Orthodoxy of "Rights Management"" 97(2) *Michigan Law Review* 463 (Nov. 1998).

"Digitisation may also lead the way to new collective ways of administering rights. 'Micro payments' and other Internet technologies could play a part in enabling proper remuneration for rights holders." See Simon Stokes, *Digital Copyright: Law & Practice* 20 (Hart Publications, London 2013).

<sup>48</sup> *Supra* note 2, at 488.

<sup>49</sup> Even the copy-left modal use the copyright protection as base. The license of copy-left makes the condition of respecting the moral right of author to freely use the content. And if the person using the content does not follow this condition, the content copying would cause the copyright infringement. Thus the copy-left license may be said a combination of both copyright and contract law, where author has contracted not to use the copyright provisions until the condition is fulfilled. Copyright owners maintain that different rules are necessary in cyberspace because, absent technological protection, it is so easy to make and distribute unauthorized copies of digital content. Rules that undermine their control over their creative property, it is argued, will reduce, or even destroy, their incentives to distribute creative works digitally.

See Julie E. Cohen, "Lochner in Cyberspace: The New Economic Orthodoxy of "Rights Management"" 97(2) *Michigan Law Review* 471 (Nov. 1998).

<sup>50</sup> Professor Mira also poses two possible solutions to the threat to the survival of copyright in digital era, *first*, to fight fire with fire rule *i.e.* using technological measures such as locks and DRM to stop the copyright infringement but very correctly she realizes that "[n]o encryption technology is entirely secure and code-breaking is a persistent threat." and *second* is freedom of existing media. Criticizing the lobbying of copyright excess (impliedly supporting copy-left), She writes:

## Better Protection of Moral Rights

As a matter of fact, all open access licenses preserve moral rights to the extent they apply. Unlike copyright, the open access licenses stipulate the provision of explicitly recognizing the moral right of paternity, when using the work of any author without even express consent or permission from him. Moral rights are inalienable and rights *in perpetuate*. Most of the countries doesn't allow waiver of moral rights. The open access license makes the work in public only without any copying restriction. Professor Mira, talking about moral right's implicit recognition in Creative Commons Licenses<sup>51</sup> acknowledges: Creative Commons aims to promote the dissemination of works without the restriction of copyright law. It provides an alternative to copyright protection by proposing that authors release their works under the terms of a license to the general public. The exact terms of the license vary according to number of possible modals provided by Creative Commons, and examples may be seen on the Creative Commons website.<sup>52</sup> But, actually any open access license, never takes away the copyright. Rather, they impose an obligation on the user of that work to respect the moral rights of author in case if he wishes to continue use the work without the permission. And even that person doesn't oblige to do the same the whole copyright including the moral rights imposes upon him. For protecting moral rights of author it's a 'double edged sword', which in any case protects the same. Thus, open access has protected moral rights of author *firstly* in a 'double edged sword' manner, making them legally liable in either case and *secondly* making people liable to protect moral rights on their own by providing them right to free access to information, where cost is only to recognize and respect the moral rights of author, which in turn they do very happily; and *thirdly* by a whole new author- user relationship.<sup>53</sup> The Creative Commons (CC) license, a very famous copy-left license, protects the moral rights. Reader at

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A second and subtler strategy has been to raise a more abstract fight – to resist the freedom of digital media by attempting to impose legal restrictions on the use of copyright works where technological limits either do not exist, or can be circumvented. But here, corporate strategy has not only attempted to hold on to existing rights. Rather, copyright industries have also attempted to expand their rights in the digital environment- lobbying government to reform copyright reforms, and pursuing lawsuits against group and individuals who could be held for copyright infringement.

*Supra* note 2, at 489.

<sup>51</sup> See <http://www.creativecommons.org/about/licenses/>

<sup>52</sup> *Supra* note 2, at 497.

<sup>53</sup> As the cost of creation, distribution, storage, and processing of expression continues to fall towards zero, there are increasing incentives to adopt open content licenses [copy-left] to facilitate wide distribution and reuse of creative expression. Thinking of these protocols not only as reducing transaction costs but of setting normative principles of participation assists in conceptualizing the role of open content licenses and the continuing tensions that permeate modern copyright law.

*London School of Economics and Political Science*, Anne Barron<sup>54</sup> acknowledges that: Unlike copyrights, moral rights cannot be licensed away, and unless expressly or impliedly waived, they persist even after the exchanges entered into by an author in respect of his or her copyright (in my view, CC-BY cannot be read as impliedly waiving these rights). Hence, for example, even when s/he licenses derivatives under CC-BY, the moral right to object to derivatives which are derogatory treatments of the scholar's original work remains available. Meanwhile the moral right of attribution is always available in respect of works released under a CC-BY license, which only reinforces that right by itself requiring attribution.<sup>55</sup>

### **Does Open Access License Affect Moral Rights?**

The some stringent type of open access licenses such as Creative Commons' CC-BY license give some scope to some practices that may affect “copyright and academic norms, yet would likely not breach moral rights.”<sup>56</sup> Moral rights are inherent rights of authors which are inalienable. As it has been already discussed that moral rights cannot be waived or 'licensed away', even when all copyrights (economic rights) has been waived. By waiving merely all rights relating to copyright does not render moral rights waived or even affected. No question on this waiver is tenable. Anne Barron argues that: Certainly, CC-BY gives the legal green light to some practices that would otherwise infringe both copyright and academic norms, yet would likely not breach moral rights: for example, it allows an article to be cut down for use in an anthology without the author's specific agreement to the inclusion of the article in the collection and without his or her approval of the edits. (This would only rarely be legally actionable as an infringement of the author's moral rights: in law, a treatment is only derogatory if it affects the reputation of the aggrieved author, and this can be hard to prove.) Yet under their traditional arrangements with journal publishers, academic authors have generally been unable to invoke copyright to prevent these acts anyway, even when – as in the example given – they clearly do implicate copyright law.<sup>57</sup> Even the creative commons website accepts that: The attribution requirement contained in all of our licenses is intended to satisfy the moral right of attribution, but it must be adhered to

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<sup>54</sup> Anne Barron, “Open access and Creative Commons licensing: copyrights, moral rights and moral panics” available at: <http://blogs.lse.ac.uk/impactofsocialsciences/2013/10/18/open-access-creative-commons-moral-rights/>.

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

whether or not the applicable jurisdiction recognizes moral rights.<sup>58</sup> Ultimately it may be held that any open access does not affect moral rights of author as these being their basic rights. Mostly the copy-left licenses try to protect right of attribution and sometimes in turn the right to integrity is sacrificed on the altar of right to access. The fundamental license on which the entire open access licensing system is built is an 'attribution' license. Moreover, in most countries right to integrity needs the proof of attack on the reputation of author. Until the reputation of author is hurt right to integrity is of no use and thus even outside open access arena, right to attribution takes over right to integrity.

### **From Privatized Intellectual Property to Collaborative Intellectual Activity**

Digital technology unleashed new ways for creative expressions. It's just not limited to pen and paper or paint and brush within a room's jurisdiction. It has gone far beyond, the pen and paper is replaced by keyboard and word processor and brush with mouse and animation software and moreover it's not limited within a room's jurisdiction but the sharing on the internet enables it to be across the universe in just the matter of seconds and then any one can be either user or may even be collaborator in that project. Internet enables more than just consuming culture but it makes them interactively engaging in that. The internet has benefitted both the user and the author at the same time. It provides opportunities to *firstly*, small businesses & young entrepreneurs engaging authoring activities and *secondly* those users who engage in such collaborative works and *finally and thirdly* to the authors and creators and especially to those who want to collaborate. But one thing can be adjudged for sure that all the authors, notwithstanding that they like collaboration or not, want to be consulted for their work and its derivatives. And this is where these moral rights creep in. As we have seen earlier, the copy-left is the hero in digital space in protecting the moral rights of authors. Moreover, collaborative intellectual activity creates a set of problems before copyright regime because of its complexities and peculiarities. The copyright seems to more confuse it than protect the rights in such works. For example, Wikipedia, the great internet encyclopaedia running on the wiki engine<sup>59</sup> and licensed under creative commons license, uses the open collaborative platform,

<sup>58</sup> <http://creativecommons.org>

<sup>59</sup> "A wiki is a type of website that allows the visitors themselves to easily add, remove and otherwise edit and change some available content, sometimes without the need for registration. This ease of interaction and operation makes a wiki an effective tool for collaborative authoring." See <http://en.wikipedia.org/wiki/Wiki>. See also <http://wiki.org> and <http://c2.com>.

where any person may add or edit any entry. Under the terms of its license, it protects the moral rights of author or may be collaborators, which it turns would have been a very difficult task for copyright to provide protection to thousands of collaborators at a time.

### Open Access as a Panacea for Digital Copyright

The example of Creative Commons (CC) licenses can be taken to show the practical protection of moral rights in digital space. It is already clear that copyright is a tool to enforce any open accessory CC license. The basic condition of the user of the work under this license is that 'new user must credit the creator of the original work in his new creation'.<sup>60</sup> The Creative Commons issues basically *three* types of licenses which sometimes are subdivided into others. Each level of license is more restrictive than the last. The *basic* license: **attribution license** needs only the attribution to earlier author for his original work to suspend the operation of copyright and where attribution is the basic foundation of the moral rights. Anyone can use the work even commercially as long as he acknowledges the author's moral right of attribution. This license represents a total rejection of copyright and recognizes only attribution right and does not talk about integrity but the explanation on the website of Creative Commons states that "author's moral rights are in no way affected by the license."<sup>61</sup> The second level of license shows the principle of "**share-alike**", which means that the work used would be issued and shared under the same and original terms of licensing as the original one. This can be issued for commercial as well as non-commercial uses. Professor Mira praises this license for its "considerable restrictiveness".<sup>62</sup> The third one is from the family to protect the moral right of integrity as "**no-derivatives**". This 'no-derivative' license is a type of 'moral right' license which only excludes the economic right of author in reference to right of reproduction. But for making derivative, other person will have to take consent of the original author of that work. This can be used to circulate the work freely in public domain along with to maintain the attribution of author and integrity of work. Thus the open access works for the reputation of author. It not only *protects* the reputation of author through the protection of moral rights but also *promotes* the reputation by the free dissemination of the work in general public. We here live in the work where reputation does matter. The

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<sup>60</sup>Supra Note 2, at 499.

<sup>61</sup>Available at: <http://www.creativecommons.org/licenses/by/3.0> (last visited on Apr. 25, 2014).

<sup>62</sup>Supra Note 2, at 500.



YouTube as an open platform, stood out for the cause of rise of many young professionals and some good amateurs got fame. The reputation is like an advertisement which leads to better economic purposes.

### A New Way to Copyright

The open access movement is another legal way taken to redefine the existing copyright system for its incompatibility in digital space. Though it has been seen to abolish the copyright or as opposite to copyright law by some persons but it's not true, it is not even the half-truth. The reality is that the open access licenses makes use of copyright and moral rights and makes copyright to exist in the digital world. Sachiko Hayasi writes that By legally making use of copyright law, open access license grants, on share and share-alike term, each person possessing the work the following freedoms which have been traditionally protected as the exclusive rights of the copyright holder: "1. the freedom to use and study the work, 2. the freedom to copy and share the work with others, 3. the freedom to change the work, 4. and the freedom to distribute changed and therefore derivative works."<sup>64</sup> But all these freedoms are subject to condition to protect the moral rights of original author and if this is not fulfilled, *original copyright protection* would emerge taking the copyright infringement. Copyright becomes a "fall-back position- it serves, implicitly, to enforce" the terms of license. Open access recognizes the rights of author explicitly moral rights and promotes the reputation and on the breach of any conditions evolving his right of attribution or integrity, invokes the copyright system in to action and thus paves a new way for copyright to act even into the digital space. Open access makes copyright to work in a different manner, it does not deactivate it rather only suspends till the breach is done. This sentence clearly carves out the importance of open access in reinforcing the copyright in digital space. "A closer examination of the Creative Commons reveals the presence of the author in a new and interesting form."<sup>65</sup>

### Concluding Observations

Moral rights are the *connecting fabrics* between the two systems: copy-left and

<sup>63</sup> Sachiko Hayashi, "Behind Technology: Sampling, Copyleft, Wikipedia, and Transformation of Authorship and Culture in Digital Media" 9 *Hz Journal FYLKINGEN'S NET JOURNAL* available at: <http://hz-journal.org/n9/hayashi.html> (accessed on 25 April, 2014).

<sup>64</sup> *Supra* note 2, at 499.

<sup>65</sup> *Id* at 497.

copyright. Open access uses the moral rights protection to protect and promote the reputation of authors, which is the basic goal of this movement but the meantime it is the infringement of moral rights which leads to invoke the copyright system against the potential infringement. The basic infringement procedure is the same but depends upon the moral rights. Most of the copyright system of the world recognizes the moral rights, and copy-left makes them enforceable also there where the moral rights are not duly recognized into the copyright system. Moral rights are the conditions to use the copy-left or revert back to copyright protection and thus open access is nothing but a switch to start copyright protection between them are the moral rights. In the US court of Appeal judgement of *Jacobsen v. Katzer*,<sup>66</sup> the court held that the terms of the particular license in issue before it which appeared to protect moral rights pertained to issues of attribution and other such factors. Typically these would be understood as moral rights, not enforceable under US law. Nonetheless, the Court chose to include those rights within the domain of copyright protection by holding that rights of attribution serve to “drive traffic towards the open-source incubation page and inform downstream users of the project”. This was considered to be a “significant economic goal” of copyright law.<sup>67</sup> At the end it would be pertinent to quote Mira T. Sundara Rajan here, who writes: [o]pen access movements share something interesting with copyright: a moral dimension to their views. In case of open access movements the moral argument can mean two things. The first is a moral perspective in the largest sense of the term: many proponents of open access believe that it is morally wrong to restrict access to a technology of such importance to society. But secondly, open access also recognizes certain interests that resemble, at least superficially, the moral rights of authors in the literary and artistic context. The interests of attribution and integrity are present in the terms of open access software, both in the Free Software Foundation's GNU license and beyond.<sup>68</sup>

## Suggestions

From the above observations, following suggestion can be drawn to strengthen and promote the relationship of copy-left and copyright.

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<sup>66</sup> 535 F.3d 1373 (Fed. Cir. 2008). *Remanded* 609 F. Supp. 2d 925, settled on 16<sup>th</sup> Feb., 2010.

<sup>67</sup> Mihir Naniwadekar, “Moral Rights and Open-Source” *IP Osgood* (November 2, 2008) available at: <http://www.iposgoode.ca/2008/11/moral-rights-and-open-source-mihir-naniwadekar/> (visited on: 5<sup>th</sup> March, 2014).

<sup>68</sup> *Supra* note 2 at 509.

1. The open access licensing can be recognized by the copyright systems as to provide better protection to the digital contents in digital space and copyright would be rejuvenated. This would also lead to better enforcement of rights of authors recognized under copy-left license as well as under copyright scheme. The infringers then would have more surety of being caught and would try not to violate the terms of licenses. It may provide a more legal way to authors of opting to release their works under copy-left licenses.
2. The uniformity among the open access licensing is necessary step to be taken before recognizing it in the copyright system explicitly. The variety of licenses showing variety of terms under creates a state of confusion not only among authors but also user and law enforcers. The licensing terms of different organizations need to be uniformed along the line through any guideline or rules under the auspice of one universal organization or the group of countries.
3. The international law community should come forward with any international document in the hand to facilitate better protection of author's right, cross-country. The international law or document will also be useful not only to bring harmony among national laws but also to uniform the laws by acting as a guide of uniformity in rules of licensing.

“By separating intellectual work from money, Creative Commons is therefore not proposing anything new. How does society intend to support creation of culture?”<sup>69</sup> The copy-left organizations should propose a new system for financial consideration for authors providing their works in general public in public interest. Proposal may be given of a common fund for authors who will take money from users as donation or other organizational activities and will let the authors take their shares accordingly.

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<sup>69</sup> *Id.* at 505.

# Open Access & Copyright Policies for Publishing: A Study

*Vanita Khanchandani<sup>1</sup>*

*The paper deals with the serial crisis and its consequences on the libraries. To overcome the problem and to stop the monopoly of publishers, new access model of scholarly publication has been adopted by the academia. The open access movement has snowballed by 3Bs declarations and statements. The paper also endeavors that the open access model has changed the concept of copyright transfer to the publishers. In open access, authors can retain their all or some of the rights as determined by Creative Commons License Agreement or the addendum. Different types of licenses by Creative Commons are dealt in the paper. The paper may be very useful in highlighting the issues involved in Open Access publishing and also related to copyright.*

Keywords: Scholarly Communication, Open Access, Copyright, Creative Commons License Agreement, Serial crisis

## Introduction

The word “Serial Crisis” has been used to highlight the budget related problems of libraries for subscription of the on-line journals. The libraries are facing serious budget crunch and the cost of on-line serials is increasing day by day, forcing them to delete a number of serial titles. The contents writers for these journals are also facing challenges as after publication of their findings in these journals, they are forced to pay for their access and download. This “Serial crisis” has led to change the current model of scholarly publishing and information accessibility. The current model of publishing has divided the world into haves and have-nots. It is based on commercial interest of publishers. Due to dwindling budgets and increasing prices of journals, many libraries have to relinquish their subscription. The divide and frustration in the current scholarly model has sprung up new model for disseminating scholarly information with the help of technological developments. The two major developments, i.e., 'open access journal model' and 'institutional repository model' has gained momentum in the current scenario.

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These two new access models envisage not to replace the current model of publishing but to provide complementary role in publishing and disseminating the information among the research community (Anbu K. 2006). The new models of publishing will definitely breakdown the monopoly of academic publishers. The new model of scholarly publishing has also made the copyright a debatable issue among the academia. The practice of transferring the copyright to publishers by the authors has resulted into the accumulation of copyrights with the publishers and thereby creating the imbalance of powers between different stakeholders such as publishers, authors, educational institutions and research community as readers, etc. (Hoorn and Graaf M. 2005). The new open access model of scholarly publication will definitely provide fresh breeze and oxygen to the suffocated and choked information.

### **Open Access**

The open access model has snowballed by various declarations and statements. But the three important declarations which have accelerated movement and bring it into limelight are:

- (i) Budapest Open Access Initiative Statement, 14<sup>th</sup> February, 2002;
- (ii) Bethesda Statement on Open Access, 20<sup>th</sup> June 2003;
- (iii) Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, 22<sup>nd</sup> October 2003.

**The definition which has resulted from these aforesaid declarations and statements are as follows:**

An Open Access Publication is one that meets the following two conditions:

- (i) The author(s) and copyright holder(s) grant(s) to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use.
- (ii) A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic

format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving.

Thus, the two main characteristics of open access publications are:

- (i) Free online;
- (ii) Can be used for responsible purpose.

### **Driving Force for Open Access**

**There are two main reasons for adopting open access. These are:**

- (i) **Serial Crisis:** Research is mainly publicly funded and for accessing the results of research it has to pay again in the form of subscription price. Publishers for their profit earning are increasing the subscription rates everyday and thereby enabling libraries to cut the subscription of important research journals. To breakdown the monopoly of publishers, many institutions have come forward to change the current traditional model of publication.
- (ii) **Technological Developments:** Internet and its related technologies are also responsible for making the scholarly contents freely accessible to the public.

### **Modes of Open Access**

There are two important modes of providing open access scholarly publications. These are:

- (i) **Self- archiving (Green road):** In this, author can deposit his pre-print of the article in the institutional repository or can archive post-print (directly upon publication or after embargo period) such as arXiv.
- (ii) **Open Access Journals (Gold road):** The golden road refers to change in academic publishing: the academic journal itself is an open access peer-

reviewed journal. Published content is freely accessible over Internet and the users have right to download, use and further distribute it with proper attribution. The business model is however different here. In traditional publishing model, it is the “end-user” that pays to access the paper. Open access journals cost money to produce and distribute, especially since they are peer reviewed and edited like conventional journals. Various funding strategies are in use like, direct author fees, institutional memberships to sponsor all or part of author fees, funding agency payment of author fees, grants to open access publishers and institutional subsidies.

### Advantages of Open Access

There are two basic advantages of open access journals. These are:

- (i) Free accessibility to scholarly content;
- (ii) Wider visibility to research results.

### Open Access Initiatives around the World

So many countries are participating in open access initiatives in the world. Some of the important initiatives are as follows:

- (i) SPARC (Scholarly Publishing and Academic Resources Coalition): It is an alliance of academic and research libraries, working together to make scholarly publication one to everyone.

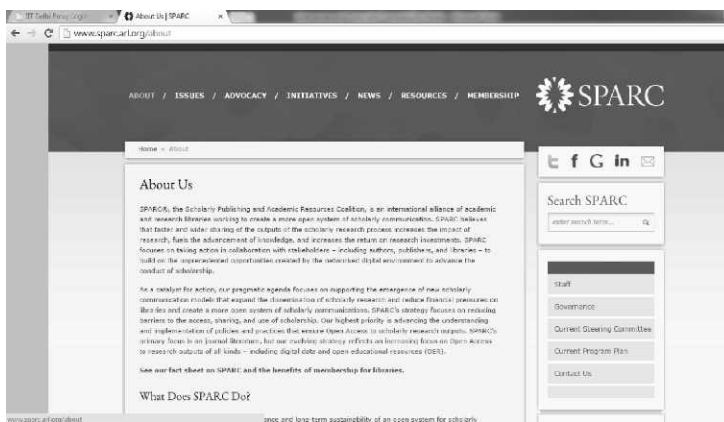


Figure 1: SPARC website (<http://www.sparc.arl.org>)

(ii) OAI (Open Archives Initiatives) OAI develops interpretability standards for effective dissemination of information.



Figure 2: OAI website (<http://www.openarchives.org/>)

(iii) PLoS (Public Library of Science): PLoS is an open access non-profit publisher who wants the progress of communication in Science and Technology.



Figure 3: PLoS website (<http://www.plos.org/>)

(iv) DOAJ (Directory of Open Access Journals): It was founded in 2003 at Lund University. It indexes all the open access journals and thereby increases their visibility.





prejudicial to his honour or reputation. While exploitation rights comprises right of reproduction, distribution, adaptation or translation. The author mainly transfers the exploitation rights to the publisher. This means that republication, redistribution or reuse of that publication is governed by the permission of the publisher. In scholarly publication, the exploitation is limited to reuse for educational purposes such as translating it into another language or reprinting the work in books, etc.

### **Open Access and Author Rights**

In open access publishing, authors can retain the full ownership of their work. But with this model publishers are not comfortable. Instead, they say that authors can retain some of their rights to archive their post-publications in their websites. Often, publishers demand to retain the full rights of authors, but the authors can ask to retain some of their rights by allowing the addendum. One of the important addendum is **SPARC author addendum**.

Some open access publishers such as Public Library of Science (PLOS) allow authors to retain their all rights by agreeing to license agreement dealing with how their work will be used. One of such license agreement is by **Creative Commons Attribution License (CCAL)**.

Creative Commons was founded in 2001. In December 2002, Creative Commons released its first set of copyright licenses for free to the public. Recently they have changed their slogan from "all rights reserved" to "some rights reserved". Creative Commons have incorporated unique three layers in their licensing agreement. These are:

- (i) Human-readable layer,
- (ii) Lawyer- readable code, and
- (iii) Machine-readable layer

### **Open Access and User Rights**

Generally the articles can be made used under the doctrine of 'Fair Use' only. Any other use requires the permission from the publisher. But in open access users can use them, distribute or can also reproduce them under the license agreement by Creative Commons. The six major Creative Commons licenses are based on the following four conditions:

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## Role of Libraries

Libraries can help in promoting open access by creating awareness among the users regarding open access journals. Library professionals should encourage the researchers and faculty to publish their contents in open access journals or archive their post-prints in the institutional repositories. They should conduct information literacy workshops pertaining to licensing and copyright issues in open access publications.

## Conclusions

The Open Access movement will definitely provide a new discourse for scholarly publications. The users can freely use the research content funded by them with the help of innovative technologies. Many countries across the world are participating in the movement. Even many commercial publishers have adopted the open access movement and metamorphosis their traditional method of publication into the open access model of scholarly publication. They are adopting the Creative Commons Licensing Agreement for the use of research content. Different academia has joined the movement to make it a successful one. Definitely, the society will be able to breathe a fresh breeze which was choked along due to close access. "Let we all together, open up the fresh discourse."

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# **The Electronic Resources in Public Domain: A Study of National Law Universities in India**

*Sonam Singh<sup>1</sup> and Shalender S. Chauhan<sup>2</sup>*

## **Abstract**

*The open access has become the instrument to eradicate the digital divide among the information haves and have-nots. The present study investigates the efforts of National Law Universities in India for promoting open access initiatives. The finding of the study reveals that there is a lot of work need to be done by national law universities for disseminating their publications in public domain.*

**Keywords :** Electronic Resources, Public Domain, Open Access

## **Introduction**

Free flow of information is an essential element of information society. With the advent of IT based services, use of information has become the reality. The advocacy of free availability of information is also increasing and promoting the adoption of 'open access policy' as an instrument to bridge the digital divide. The open access movement, which promotes free access of information and scholarly content especially public funded research, lay down the path of access and free flow of information. The National Knowledge Commission of India and its Working Group on Open Access and Open Educational Resources and Working Group on Libraries have strongly recommended open access to public funded research literature and supported establishment of open courseware repositories for country wide dissemination of quality courseware to many cross sections of people.

The Law Schools in India are also in a process to adopt open access as an approach towards disseminating their publications especially journals and working papers in public domain. It may help the law graduates and law professionals to discover new facts.

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## **Definition**

Budapest Open Access Initiative defines open access to this literature, “its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for any other lawful purpose, without financial, legal or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and dissemination, and the only role for copyright in this domain, should be give authors control over integrity of their work and right to be properly acknowledged and cited”<sup>1</sup> International Federation of Library Associations and Institutions adopted a Statement on Open Access to Scholarly Literature and Research Documentation<sup>2</sup> and put its efforts in the development of open access scholarly literature. In the Glasgow Declaration<sup>3</sup> on libraries IFLA lay down the various principles for the widest access to information for all people.

## **Objectives of the Study**

1. To find out the open access initiatives adopted by National Law Universities in India.
2. To find out number of publications especially journals in electronic format of National Law Universities of India available in public domain.
3. To understand the current status of e-journals of National Law Universities of India.

## **Need of the Study**

In the age of information, open access of information is inevitable and becoming instrumental to bridge the gap of information divide. Law and its allied areas are also becoming the part of open access movement. Therefore, there is a need to discuss about the open access initiative adopted by National Law Universities of India.

## **Methodology**

This study is to find out the initiative and adoption of open access policies for disseminating the institutional publications especially journals by national law universities in India. The information about national law universities were collected from the website of Bar Council of India. Bar Council of India is a nodal

agency for promoting and maintaining standards in legal education in India.  
<http://www.barcouncilofindia.org/about/legal-education/national-law-universities-2/>



## Review of Literature

(Ammon J. Salter and Ben R. Martin, 2001)<sup>4</sup> This paper critically reviewed the economic benefits of publicly funded research. The authors believed that “the relationship between publicly funded research and economic performance is an important one.” The present study use the term 'economic' quite broadly and considered direct and indirect benefits such as competencies, techniques, instruments, network and the ability to solve complex problems. The basic objective of government-funded research is to be economically useful and freely available to all.

(Dawson, Diane, 2013).<sup>5</sup> The author argued that OA is now considered to be inevitable, with one prediction estimating that it will be the dominant model for scholarly literature in the next decade. The author provided a ready reference to the researchers and the librarians who are supporting the OA movement and willing to publish their research in OA model.

(Krishan Lal, 2008)<sup>6</sup> This paper discussed open access and its feasibility and usability especially in the developing world. The author believed that, “free availability of scientific data, information and knowledge has played a key role in the phenomenal development in science.” The increasing subscription cost of



scholarly literature and technological advancements has played a very pivotal role for the conceptualization of open access model of scholarly communication.

**(Chris Awre, 2003)**<sup>7</sup> This paper described the advent and development of open access movement. The author inquired various aspects pertaining to open access. The author believed that cost of traditional publishing, increasing subscription cost of serials and decreasing the fund of the libraries had change the dynamics of publishing, purchasing and provides the ample place for popularizing the open access model for scholarly communication in a changed environment. The author also argued that the development of open access would bring radical especially in STM field.

### **National Law Universities in India and Their Efforts for Promoting Open Access**

1. **National Law School of India University, Bangalore:** The National Law School of India University came into existence through a notification under the National Law School of India University Act (Karnataka Act 22 of 1986). It signified the culmination of efforts by the Judiciary, the Bar Council of India, the Karnataka Bar Council, the Bangalore University and the Government of Karnataka to reform legal education and to establish a centre of excellence for legal education and research in India.<sup>8</sup> The NLIU, Bangalore has no e-resources in public domain.
2. **The West Bengal National University of Juridical Sciences, Kolkata:** The West Bengal National University of Juridical Sciences was established under the WBNUJS Act, 1999 (West Bengal Act IX of 1999) adopted by the West Bengal Legislature in July, 1999. The University was notified under Clause (f) of Section 2 of the UGC Act, 1956 in August 2004 and has been granted permanent affiliation by the Bar Council of India in July 2005.<sup>9</sup> The university is publishing the following journals which are also available in public domain:
  1. NUJS Law Review <http://www.nujslawreview.org/>
  2. Journal of Telecommunication and Broadcasting Law <http://www.jtbl.org>
  3. Journal of Indian Law and Society <http://jils.ac.in/>
  4. Asian Journal of Air and Space Law

5. Asian Journal of Legal Education
6. International Journal of Law and Policy Review  
<http://www.ijlprnujs.com/>
7. International Journal of Legal Studies & Research  
<http://www.ijlsr.in/>

**NUJS working paper series can** also be accessed and downloaded.

1. “Prevention of loss or Decline of Vernacular and Indigenous Languages in the Indian Sub-Continent” by Prof. (Dr.) P. Ishwara Bhat”
2. Analysing the Status of the Surrogate Mother under the Assisted Reproductive Technologies (Regulation) Bill 2010
3. Euthanasia Regime- A Comparative Analysis of Dutch and Indian Positions
4. Juxtaposing Scientific Uncertainty with Legal Certainty-The Carbon Conundrum
5. Vertical Agreements in Competition Law - Striking the Right Balance between Regulation and Competition
6. Alternate to Alternatives - Critical Review of the Claims of ADR.

**3. The National Law Institute University, Bhopal:** The NLIU was established in 1997 by the Act of the Rashtriya Vidhi Sansthan Vishwavidyalaya Adhiniyam, 1997 (Madhya Pradesh act no. 41 of 1997). The NLIU publishes three journals:

1. Indian Law Review
2. NLIU Journal of Intellectual Property Law
3. NLIU Law Review (this journal is available in public domain)  
<https://www.nliu.ac.in/publication/iplaw/iplaw1.html>

And other publications are also available in public domain:

1. CBCL Corporate Law e-journals  
<https://www.nliu.ac.in/publication/others/other3.html>
2. Newsletter  
<https://www.nliu.ac.in/publication/others/newsletter.pdf>

**4. National Law University, Jodhpur:** The NLUJ was established in 1999 in Jodhpur, Rajasthan. The NLUJ has published following periodicals,

which are available in public domain with archives except **Journal on Governance:**

1. NLUJ Law Review  
[http://www.nlujodhpur.ac.in/nluj\\_law\\_review.php](http://www.nlujodhpur.ac.in/nluj_law_review.php)
2. Trade, Law and Development: TL&D is a signatory to the Budapest Open Access Initiative, and is also indexed on HeinOnline and the PKP-Open Archives Harvester2 archive. TL&D has been ranked as the best law journal in India (2012, 2011) and the tenth best law journal in the field of international trade worldwide (2012) by the Washington and Lee University Law Library in its annual rankings of law journals.<sup>10</sup>  
<http://www.tradelawdevelopment.com/index.php/tld>
3. Indian Journal of Arbitration Law <http://www.ijal.in/>
4. Journal on Governance
5. Journal on Comparative Law and Administrative Law Quarterly  
<http://calq.in/content/publication>

5. **NALSAR, University of Law, Hyderabad:** The National Academy of Legal Studies and Research (NALSAR) was established in 1998 by a Statute of the State of Andhra Pradesh.<sup>11</sup> It is considered one of the top law schools of the country. NALSAR has adopted the policy of open access and dedicated a particular webpage for it and stated that “the university's effort to make knowledge accessible and to showcase scholarship of the global south and especially the SAARC region. Towards this end, we seek to make all of NALSAR's scholastics output freely accessible and also have to collaborate with organization with similar goals.”<sup>12</sup> NALSAR has published the following periodicals:

1. NALSAR Law Review
2. Indian Journal of Intellectual Property Law
3. Environmental Law and Practice Review
4. Medical Law Journal
5. Journal of Corporate affairs and Corporate Crimes
6. NALSAR Student Law Journal
7. The Indian Journal of Constitutional Law
8. The Indian Journal of Law and Economics
9. NALSAR ADR Journal

**All these journals will be available in public domain very soon (as per the information available on university's website)**

6. **Gujarat National Law University:** Gujarat National Law University (GNLU) is the statutory university established by the Govt. of Gujarat under the **Gujarat National Law University Act, 2003**. The University is recognized by the **Bar Council of India (BCI)** and **University Grants Commission (UGC) (2f & 12b)**. The University is also member of the **Association of Indian Universities (AIU)** and the University is functioning as nodal agency to uplift the legal education in the State of Gujarat.<sup>13</sup> The GNLU has the following periodicals:
  1. The GNLU Law Review
  2. The GNLU Journal of Law, Development and Politics (GJLDP)
  3. Developing World Review on Trade and Competition
  4. Gujarat Law Journal
7. **Hidayatullah National Law University, Raipur:** Hidayatullah National Law University, Raipur, established by the Government of Chattisgarh under the Hidayatullah National University of Law, Chattisgarh, Act (Act No.10 of 2003). HNLU has been included in the list of the Universities maintained by the University Grants Commission under Section 2(f) of the UGC Act, 1956 and has been declared fit to receive Central assistance in terms of the rules framed under Section 12 (B) of the UGC Act, 1956. The university is recognized by the Bar Council of India under section 7 of the Advocates Act.<sup>14</sup>
8. **National University of Advanced Legal Studies, Kochi, Kerala:** The National University of Advanced Legal Studies (NUALS) was established by Act 27 of 2005 of the Kerala State Legislature. By the same Act, the National Institute for Advanced Legal Studies (NIALS) established by the Bar Council of Kerala Trust in 2002 merged with the NUALS. In 2008, an amendment streamlined the powers and functions of the authorities of the University and ensured the active involvement of the Government of Kerala. The University is recognized by the University Grants Commission under section 2(f) of the UGC Act. It is also a member of the Association of Indian Universities (AIU).<sup>15</sup> The Centre for Consumer Protection Law and Policy of NUALS has its own webpage and made available the compendium 1-one day national seminar on

equipping consumer despite redressal agencies for the present and future  
[www.nulas.ac.in/web/ccplap/publications\\_compendium.html](http://www.nulas.ac.in/web/ccplap/publications_compendium.html)

- 9. Ram Manohar Lohia National Law University, Lucknow, Uttarpradesh:** Dr. Ram Manohar Lohiya National Law University, was established by an Act of Govt. of Uttar Pradesh in 2005, U.P. Act No. 28 of 2005 and came into being on 4th of January 2006 to meet up the new challenges in legal field and to strengthen the vision that was given by the establishment of first National Law School of the country. Originally incorporated as 'Dr. Ram Manohar Lohiya National Law Institute, Uttar Pradesh' word 'Institute' was substituted by the 'University' later, vide an amendment in the Act in November 2006. This was done to give a comprehensive national character to the Institute on lines with the other premier National Law Universities of the Country.<sup>16</sup> There is only one journal available in public domain i.e. Web Journal. [http://www.rmlnlu.ac.in/web\\_journal.html](http://www.rmlnlu.ac.in/web_journal.html)

- 10. Rajiv Gandhi National University of Law, Patiala, Punjab:** Rajiv Gandhi National University of Law (RGNUL), Punjab, was established by the State Legislature of Punjab by passing the Rajiv Gandhi National University of Law, Punjab Act, 2006 (Punjab Act No. 12 of 2006). The Act incorporated a University of Law of national stature in Punjab, thereby fulfilling the need for a Centre of Excellence in legal education in the modern era of globalization and liberalization. RGNUL started functioning from its Headquarters-Mohindra Kothi, The Mall, Patiala w.e.f. 26 May 2006. The University acquired approval of the Bar Council of India (BCI) in July 2006. The University also got registered with the University Grants Commission (UGC), New Delhi under Section 2(f) of the University Grants Commission Act, 1956 and has been declared fit to obtain grant from the (UGC) under Section 12-B of the UGC Act, 1956.<sup>17</sup> The RGNUL published following journals namely:

1. RGNUL Law Review
2. RGNUL Social Sciences Review
3. RGNUL Financial & Mercantile Law Review (available in public domain/open access environment, [www.rgnul.ac.in/rfmlawreview/index.htm](http://www.rgnul.ac.in/rfmlawreview/index.htm) )
4. Centre for Advanced Studies in Human Rights (CASIHR)

published a news letter namely **Human Rights Communiqué** available in public domain [www.rgnul.ac.in/cashir.htm](http://www.rgnul.ac.in/cashir.htm)

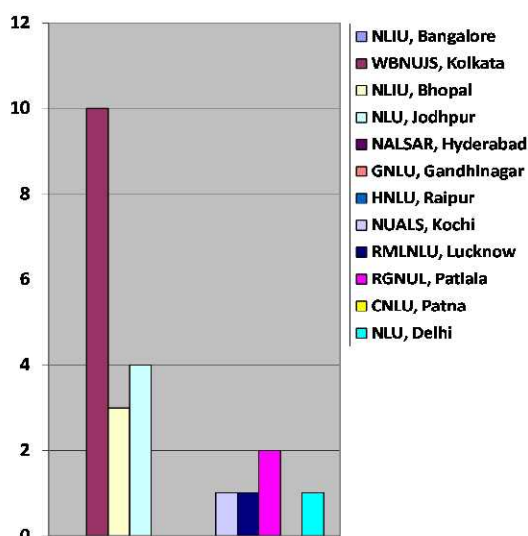
**11. Chanakya Law University, Patna:** The University was established under the Chanakya National Law University Act, 2006 (Bihar Act No.24, 2006) and included in section 2(f) & 12 (B) of the UGC Act, 1956.<sup>18</sup> The University published one journal namely **CNLU Law Journal**

**12. National Law University, Delhi:** The University established by the Act of Delhi Government, 2007. The University has various publications, however only one publication is available in public domain. The publications are following:

1. Digital library –Legal Education and Research
2. Current developments in Air and Space Law
3. Access to legal information and research in digital age
4. Index to India and Foreign legal Articles (Vol. I &II, 2011)
5. Documents on Universal Periodic Review Human Rights Report India (2008-2012)
6. NLUD-Student Law Journal
7. Transformative Constitutionalism: Comparing the Apex Courts of Brazil, India and South Africa. Download available on link [www.pulp.up.ac.za](http://www.pulp.up.ac.za)

**Table 1**  
**No. of E-resources available in public domain by NLUs**

S. No.	Name of the University	No. of E-resources available in public domain
1.	National Law School of India University, Bangalore	0
2.	The West Bengal National University of Juridical Sciences, Kolkata	10
3.	The National Law Institute University, Bhopal	3
4.	National Law University, Jodhpur	4
5.	NALSAR, University of Law, Hyderabad	0
6.	Gujarat National Law University	0
7.	Hidayatullah National Law University, Raipur	0
8.	National University of Advanced Legal Studies, Kochi, Kerala	1
9.	Ram Manohar Lohia National Law University, Lucknow, Uttarpradesh	1
10.	Rajiv Gandhi National University of Law, Patiala, Punjab	2
11.	Chanakya Law University, Patna	0
12.	National Law University, Delhi	1
	<b>Total no. of electronic resources available in public domain</b>	<b>22</b>



## Findings

- It is reflected from the study that the West Bengal National University of Juridical Sciences, (WBNUJS), Kolkata is providing highest publication in the form of e-resources in public domain.
- National Law University, Jodhpur and National Law Institute University, Bhopal are also on the track by providing 4 and 3 publications respectively in the form of e-resources in public domain.
- The Journal '*Trade, Law and Development*' (TL&D) of National Law University, Jodhpur is a signatory of *Budapest Open Access Initiative*.
- NALSAR, Hyderabad is also in a process to make their publications available in public domain.

## Conclusion

It is true that information has become the driving force in 21<sup>st</sup> century and availability of resources in electronic format especially in public domain has become the reality of developing nation. The national law universities in India are also exploring the possibilities for adopting open access approach for catering the information needs of law graduates and professionals. However, these efforts are not enough to take a leap in the open access environment. Technological

advancement strengthens people to access the information on a click, therefore the national law universities need to adopt open access policies for disseminating the research and publications of their universities in public domain. It may also help to the people to understand the legal perspectives of various issues related to their day to day life.

## End Notes

- 1 Budapest Open Access Initiative <http://www.budapestopenaccessinitiative.org/read> Accessed on 20/11/2014
- 2 The IFLA Statement on Open Access to Scholarly Literature and Research Documentation <http://www.ifla.org/publications/ifla-statement-on-open-access-to-scholarly-literature-and-research-documentation> Accessed on 20/11/2014
- 3 The Glasgow Declaration on Libraries, Information Services and Intellectual Freedom <http://www.ifla.org/publications/the-glasgow-declaration-on-libraries-information-services-and-intellectual-freedom> accessed on 20/11/2014
- 4 Ammon J. Salter and Ben R. Martin, The economic benefits of publicly funded basic research: a critical review. *Research Policy* Vol. 30 (2001) pp. 509-532. [http://ac.els-cdn.com/S0048733300000913/1-s2.0-S0048733300000913-main.pdf?\\_tid=0f1c8ede-e0d3-11e3-ba91-00000aacb361&acdnat=1400668464\\_084cedd54d17607b7fcb59cad19e1f86](http://ac.els-cdn.com/S0048733300000913/1-s2.0-S0048733300000913-main.pdf?_tid=0f1c8ede-e0d3-11e3-ba91-00000aacb361&acdnat=1400668464_084cedd54d17607b7fcb59cad19e1f86) Accessed on 14/05/2014
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- 8 Available at [https://www.nls.ac.in/index.php?option=com\\_content&view=article&id=16&Itemid=15](https://www.nls.ac.in/index.php?option=com_content&view=article&id=16&Itemid=15) accessed on 08/12/2014
- 9 Available at <http://www.nujs.edu/nujs.html> accessed on 08/12/2014
- 10 Available at <http://www.tradelawdevelopment.com/index.php/tld> accessed on 07/12/2014



- 11 Available at [http://www.nalsar.ac.in/about\\_nalsar](http://www.nalsar.ac.in/about_nalsar) accessed on 07/12/2014
- 12 Available at accessed on 07/12/2014
- 13 Available at <http://www.gnlu.ac.in/aboutus.php> accessed on 06/12/2014
- 14 Available at [http://hnlu.ac.in/HNLU\\_New/home2/](http://hnlu.ac.in/HNLU_New/home2/) accessed on 10/12/2014
- 15 Available at [http://www.nuals.ac.in/web/about\\_us\\_overview.html](http://www.nuals.ac.in/web/about_us_overview.html) Accessed on 05/12/2014
- 16 Available at [http://www.rmlnlu.ac.in/about\\_us.html](http://www.rmlnlu.ac.in/about_us.html) Accessed on 05/12/2014
- 17 Available at <http://rgnul.ac.in/history.htm> Accessed on 02/12/2014
- 18 Available at <http://www.cnlu.ac.in/> Accessed on 02/12/2014

# Software Patent and Open Source Software: How Big is the Door and How Wide Open?

*Ravindra Chingale*<sup>1</sup>

## Abstract

*There is always a clash between the supporter of software patent and open source software. Open source software promoter believe that the patenting of software hamper the growth and progress of the innovation in the software and thereby affecting growth of the industry. In contrary to this argument the companies who manufacture or develop software demand for the patent protection for their intellectual property. Currently, software is not patentable instead it is protected through copyright law. Patent protection is considered to be the stronger than copyright. This paper aims to focus on the debate on software patent and open source software by analysing the demand from the software industry. This study has collected empirical data from around 150 software engineers working in small, medium and large scale software companies about their opinion on software patent and open source software. This research paper also highlights some landmark cases in software patent in USA and India.*

Key Words: Software Patent, Software Patent, Open Source Software etc.

## Introduction

The year 2014 can be considered as most happening year in the field of software industry and its intellectual property rights. The first instance happened in the May 2014 when the two software giants in smart phone technology, Google and Apple settled their legal battle and decided to work together to reform patent law.<sup>2</sup> The second incidence took place when United States Supreme Court delivered its judgment in *Alice Corporation*<sup>3</sup> and stated that generic use of computer in software patent is not patentable. Further, in a story published in New York Times pointed to

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<sup>2</sup> Apple, Google settle patent battle, BUSINESS STANDARD, (May 17, 2014) available at [http://www.business-standard.com/article/international/apple-google-settle-patent-battle-114051701071\\_1.html](http://www.business-standard.com/article/international/apple-google-settle-patent-battle-114051701071_1.html).

<sup>3</sup> *Alice Corporation Pty. v. CLS Bank International*, U S 573 \_\_\_\_ (2014).

a Stanford University analysis which said that about US \$20 billion was spent on patent litigation and patent purchases over the past two years in the smartphone industry alone.<sup>4</sup> Though, internet has transformed world to make it closer with everything possible on one click, it has posed various challenges before governments about its policies, regulations, jurisdictions and protections. Considering India, it has been seen exponential growth in the internet and software industry in the beginning of 21<sup>st</sup> century. Increase in online transactions, use of plastic money, innovative online business methods and many other creative business solutions has promoted young mind for new vision and inventions. India has seen tremendous growth in Indian Software Industry with significant contribution in the GDP. Patents are supposed to protect innovation and intellectual property and encourage the development of new ideas and products, but, in today's technology world, patents can also be used as a weapon to hobble competitors and innovation. It's becoming clear to many observers that the patent system needs an overhaul for the digital age.<sup>5</sup> The patent system should not become the hindrance in the path of development and progress and the same is the concern of the promoter of open source software.

India is coming up as fastest growing economy and it is expected to be the third largest economy of the world after US and China by 2035.<sup>6</sup> As a cost effective and labour intensive economy, India has benefited immensely from outsourcing of work from developed countries, and has maintained a reasonably good manufacturing and export oriented industrial framework.<sup>7</sup> While India is currently amongst the most attractive destinations globally, for investments and business, it is innovation and efficiency that shall increasingly play a key role in ensuring long-term economic survival and success. India has launched its Make in India campaign and also come up with the draft of Intellectual Property Right Policy. In this background it important to study what the software employee think about the protection of their intellectual property.

Open source software is based on the concept of free availability of software where

<sup>4</sup> Charles Duhigg and Steve Lohr, The Patent, Used as a Sword, NY Time (Feb. 19, 2014, 1:23PM), <http://www.nytimes.com/2012/10/08/technology/patent-wars-among-tech-giants-can-stifle-competition.html?pagewanted=all>.

<sup>5</sup> National Post's Financial Post & FP Investing (Canada), **November 6**, 2012 Tuesday, National Edition.

<sup>6</sup> Shyam Bhatia, *Indian economy will overtake UK, Japan by 2035: Goldman Sachs*, (May 15, 2014, 1:06 PM), <http://www.rediff.com/money/2003/oct/13shyam.htm>.

<sup>7</sup> Invitation of Views on the draft National IPR Strategy as prepared by the Sectoral Innovation Council on IPR (May 18, 2014, 3:30 PM), [http://dipp.nic.in/English/Discuss\\_paper/draftNational\\_IPR\\_Strategy\\_26Sep2012.pdf](http://dipp.nic.in/English/Discuss_paper/draftNational_IPR_Strategy_26Sep2012.pdf).

the programmers from across the globe are invited to copy, share, develop and modify the software. In the open source software the source code is made open to the public and one is allowed to use that code under some specific licensing agreement.<sup>8</sup> This paper tries to find out the responses of the software engineers about software patent and Indian Software Industry by focusing on issues of open source software and cases laws on software patent.

### **Protection of Software: Patent or Copyright**

Whether software or Business Method Patents can be protected by copyright or patent is always a debatable question. Therefore, the initiative by European Commission for Computer-Implemented Inventions Directive<sup>9</sup> is positive step towards minimizing the confusion. Aerotel/Macrossan,<sup>10</sup> settles the situation by looking at four-step test to apply in terms of patentability.<sup>11</sup>

Considering protection to software or computer implemented invention, there is always a debate between the expression of software in terms of idea or form of expressing the idea. Derclaye and Leistner (2011)<sup>12</sup> in their book tried to make distinction between ideas and expressions in computer programs. An overlap easily occurs since a computer program, which is new, inventive and industrially applicable, will generally be at the same time original. But the simultaneous overlap will be reduced because the patent protects only the ideas whereas copyright protects only the expressions. A program which would not be patentable could, however, quite easily be copyrightable. The converse is possible but will be rarer. Normally, the idea/expression dichotomy should ensure that apart from this specific overlap, no other copyright creation could also be protected by a patent,

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<sup>8</sup> Why “Free Software” is better than “Open Source”, (Dec. 18, 2014, 3:30 PM) <https://www.gnu.org/philosophy/free-software-for-freedom.html>.

<sup>9</sup> EC Proposal for Directive on Patentability of Computer-Implemented Inventions, *available at* [http://ec.europa.eu/internal\\_market/indprop/comp/index\\_en.htm](http://ec.europa.eu/internal_market/indprop/comp/index_en.htm). (Feb. 18, 2014)

<sup>11</sup> Aerotel Ltd. v. Telco Holdings Ltd. and Others and Patent Application by Neal William Macrossan, [2006] E.W.C.A. (Civ.) 1371, *available at* <http://www.bailii.org/ew/cases/EWCA/Civ/2006/1371.html> (Feb. 18, 2014).

Aerotel/Macrossan four step test:

Step 1: Construe the claim, actually assess what the claim is saying.

Step 2: Identify the actual contribution embodied in that claim.

Step 3: Ask whether that contribution covers the excluded area.

Step 4: If it passes that test — and it can pass that test even if it partially covers the excluded area — then assess whether the contribution is technical.

<sup>12</sup> Derclaye and Leistner, ESTELLE DERCLAYE AND MATTHIA LEISTNER, *INTELLECTUAL PROPERTY OVERLAPS: A EUROPEAN PERSPECTIVE*, 138 (Hart Publishing, Oxford and Portland) 2011.

and vice versa, so that there should not be any overlaps, be they simultaneous, negative or a posteriori.

Copyrights protect the form of expression and not the idea itself. For protecting ideas or abstract intellectual property patent protection is a must. For that companies often spend large amounts to develop special characteristics within their products or processes. However in the matters United States in *Gotschalk V. Benson*<sup>13</sup> Supreme Court observed that, 'Phenomenon of Nature, though just discovered, mental processes, abstract intellectual concepts are not patentable as they are the basic tools of scientific and technological work'. In other matter also it was observed that, 'one should look at the invention as a whole and not just at what was novel about it'. Thus the courts are of the view that Laws of Nature, Natural phenomenon and abstract ideas are excluded from patent protection. Therefore this debate needs a systematic study in the field of protection of software by patents.

### Open Source Software

In the report on Open Source and Commercial Software by Business Software Alliance prepared for World Intellectual Property Organisation (WIPO) the terms opens source software and commercial software are defines. It says, "Open Source is a software-licensing model where the source code of the software is typically made available royalty-free to the users of the software, under terms allowing redistribution, modification and addition, though often with certain restrictions. Whereas Commercial Software is the model where the software developed by a commercial entity is typically licensed for a fee to a customer either directly or through channels."<sup>14</sup>

Open Source Software allows the academia, researchers and developers across the world to come together and share, interact and access many more resources at minimum cost of transaction.<sup>15</sup> The open source movement developed in the Massachusetts Institute of Technology and the University of California. General Purpose Licence (GPL), Berkeley Software Distribution (BSD) license, Mozilla Public License are some of the examples of the movements originated in US.<sup>16</sup>

<sup>13</sup> 409 U.S. 63 (1972).

<sup>14</sup> *Supra* note at 29.

<sup>15</sup> Eric Steven Raymond, *The Cathedral and the Bazaar*, (Dec. 24, 2014, 3:30 P.M.), <http://www.unterstein.net/su/docs/CathBaz.pdf>.

<sup>16</sup> Julia Sitarz, *Legal Issues Affecting the Use of Open Source IT Solutions in the Enterprise* (Dec. 24, 2014, 3:40 P.M.), [www.wipo.int/edocs/.../wipo...ge.../wipo\\_smes\\_ge\\_07\\_www\\_81605.ppt](http://www.wipo.int/edocs/.../wipo...ge.../wipo_smes_ge_07_www_81605.ppt).

Open source Software includes Free, Libre and Open source software. These terms are more popularly known as FLOSS (Free Libre/ Open Source Software), FOSS (Free/Open Source Software) and OSS. Traditionally software is protected by copyright, but with the evolution of new technology and development of technology, the present IP regime started protecting different software by various protections such as Copyright, Patent, Trade Secrete etc. Thus the open source technology can be interpreted by various IP laws.<sup>17</sup>

Free Software Foundation (FSF) founded by Stallman opposes the trade secret protection as it is violation of GPL. It shows that open source and trade secret are not compatible to each other.<sup>18</sup> In case of copyright protection, which is not giving free access to the public, the open source can be considered as in inverse relation with the copyright protection. In *SCO v IBM*<sup>19</sup> the issue of open source code and proprietary code was deliberated. In this case the court held that the Linux has infringed the code of the SCO's UNIX programme.<sup>20</sup> In case of patent protection to software there is strong opposition that it created patent thickets and there is strong demand that the patent law should be revisited. However, there is huge demand from the software industry for patent protection and the decided lawsuits indicate that there are some beneficiaries of the patent system. Thus the different IP rights such as copyright and patent protection of software have different aspects. Only copyright protection will not be sufficient. The numerous patents granted in EU and US to computer implemented invention shows that there is market demand to broaden the scope of patent in terms of software.<sup>21</sup>

## Indian and Software Patent

In India, the Patent Amendment Act, 2005 sought to introduce software patents. The amendment proposed in the Patent Amendment Act 2005 for Clause 3(k) was,

<sup>17</sup> Vikrant Narayan Vasudeva, *Open Source Software Paradigm and Intellectual Property Rights*, 17 J. INTELL. PROP. RIGHTS 511(2012) available at [http://nopr.niscair.res.in/bitstream/123456789/15019/1/JIPR%2017\(6\)%20511-520.pdf](http://nopr.niscair.res.in/bitstream/123456789/15019/1/JIPR%2017(6)%20511-520.pdf).

<sup>18</sup> David S. Evans & Bernard J. Reddy, *Government Preferences for Promoting Open-Source Software: A Solution in Search Of a Problem*, 9 Mich. Telecomm. Tech. L. Rev. 313 (2003), available at <http://www.mttlr.org/volnine/evans.pdf>.

<sup>19</sup> *Caldera Sys., Inc. v. Int'l Bus. Machs. Corp.* (D. Utah 2003) (No. 03-CV-0294).

<sup>20</sup> Kerry D. Goettsch, *SCO Group v. IBM: The Future Of Open-Source Software*, J. L. TECH & POLICY 582(2003), available at <http://jltip.uiuc.edu/recdevs/goettsch.pdf>.

<sup>21</sup> Mihai Avram, *Software Legal Protection: Shaping the EU Software Patent*, AMSTERDAM LAW FORUM (2014) available at SSRN: <http://ssrn.com/abstract=2525015> or <http://dx.doi.org/10.2139/ssrn.2525015>

*“a computer programme per se other than its technical application to industry or a combination with hardware; a mathematical method or a business method or algorithms.”* However, this amendment was rejected by the Indian Parliament, which chose to retain Clause 3(k) as it is. On reviewing the Draft Patent Manual (2008),<sup>22</sup> we find that it seeks to make technical applications of software patentable. The Ordinance attempted to strike a balance between the arguments for and against software patents. But, it was not possible as the ordinance was not converted into statutes and the changes suggested in the ordinance were taken back.

The Manual of Patent Office Practice and Procedure by the office of Controller General of patents, Designs and Trademarks accepted on March, 2011 in its chapter 8.03.05.10 explains the guidelines for patents under section 3(k) of Indian Patent Act. These guidelines give direction that patents cannot be granted to mathematical methods, business methods, algorithms and only computer programmes. These guidelines have tried to differentiate between pure software and technical application of software. Differences are also found in the draft patent manual and this final manual. Provision mentioned in the draft manual is not accepted. As the Patent Act clearly says that computer software per se is not patentable, there are differences among pro software and anti software patent supporter.

Inventive step as an important aspect of the invention. Inventive step is nothing but a step towards the value addition which is not commonly observed in the previous invention and can be considered as new innovation. In the Indian Patent Amendment Act, 2005, a new section 2(1) (ja) substituted the existing definition of 'inventive step' to mean *“a feature of an invention that involves technical advances as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art”*.

<sup>22</sup> Draft Manual 4.11.10: *A mathematical method is one which is carried out on numbers and provides a result in numerical form (the mathematical method or algorithm therefore being merely an abstract concept prescribing how to operate on the numbers) and not patentable. However, its application may well be patentable, for example, in Vicom/Computer related invention [1987] 1 OJEP 14 (T208/84) the invention concerned a mathematical method for manipulating data representing an image, leading to an enhanced digital image. Claims to a method of digitally filtering data performed on a conventional general purpose computer were rejected, since those claims were held to define an abstract concept not distinguished from a mathematical method. However, claims to a method of image processing which used the mathematical method to operate on numbers representing an image can be allowed. The reasoning was that the image processing performed was a technical (i.e. non- excluded) process which related to technical quality of the image and that a claim directed to a technical process in which the method used does not seek protection for the mathematical method as such. Therefore the allowable claims as such went beyond a mathematical method. (Jan. 29, 2014, 7:12PM), [http://ipindia.nic.in/ipr/patent/Draft\\_Patent\\_Manual\\_2008.pdf](http://ipindia.nic.in/ipr/patent/Draft_Patent_Manual_2008.pdf).*

Inventive step is cardinal criteria of patentability that is of great importance for Patent law of a country. The attempt to redefine this term is interesting to all of us. In the original; Act of 1970 'Inventive Step' was defined to mean 'a feature that makes the invention not obvious to a person skilled in the art'. The Explanatory note to Art. 27 (1) of the TRIPS Agreement states that 'inventive step' is synonymous with 'non-obviousness'. There are large numbers of judicial pronouncements that recognize what constitute 'non obviousness' as a criterion of patentability. US Supreme Court, in its judgment in the case of *KSR International v. Teleflex*<sup>23</sup> stated that inventive step is a step in applying balanced patentability criteria for granting patents. In his opinion, Justice Anthony Kennedy wrote, "The results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise, patents might stifle rather than promote the progress of useful arts."

Indian manual of Patent Practice explains about inventive steps or non obviousness as a feature of an invention that involves technical advance as compared to existing knowledge or having economic significance or both, making the invention non obvious to a person skilled in art. Here definition of inventive step has been enlarged to include economic significance of the invention apart from already existing criteria for determining inventive step. To judge the inventive step, the following question is to be borne in mind- "Would a non-inventive mind have thought of the alleged invention?" If the answer is "No", then the invention is non-obvious. For the purpose of determination of inventive step the prior art shall include the prior publication in relevant field.

In *Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries*<sup>24</sup> hon'ble Supreme Court of India discussed about the inventive step and obviousness of the invention. The court held that the fundamental principle of Patent Law is that a patent is granted only for an invention which must be new and useful. That is to say, it must have novelty and utility. It is essential for the validity of a patent that it must be the inventor's own discovery as opposed to mere verification of what was, already known before the date of the patent.<sup>25</sup> The question of 'inventive steps' involved mix question of law and fact and it has to be decided mainly on the circumstances of the case.

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<sup>23</sup> 550 U.S. 398 (2007).

<sup>24</sup> AIR 1982 SC 1444.

<sup>25</sup> *Id.* at 1448.



In a case *M/s Aditi Manufacturing Co. v. M/S. Bharat Bhogilal Patel* (2012) the Intellectual Property Appellate Board (IPAB) of India revoked the granted patents<sup>26</sup> stating that it is lacking inventive step and all the claims and specification are based on the known inventions.<sup>27</sup> The board stated that in this invention prior arts have the features of the invention and there is nothing new in the features that have been claimed as new. The invention was already known and there is neither any novelty nor any inventive step.<sup>28</sup>

In *Enercon India Limited, Daman v Aloys Wobben, Germany*<sup>29</sup> Intellectual Property Appellate Board has discussed on the invention containing the steps for controlling the wind turbine based on the external ambient conditions by using automatic control units like the computers. The board mentioned that the invention cannot be treated as computer program per se or a set of rules of procedure like algorithms and thus are not objectionable from the point of view of patentability.<sup>30</sup> Section 3(k) of Indian Patent Act was again discussed by Intellectual Property Appellate board in *Yahoo v. Controller and Rediff*,<sup>31</sup> and also in case of *Accenture Global Service GmbH, Switzerland v Assistant Controller of Patents and Designs, New Delhi and another*.<sup>32</sup>

### Empirical Study of Indian Software Industry

A questionnaire has been prepared to assess the impact of patent law on software industry in India. An attempt was to see the whether the patenting of software product helps to promote innovation in the particular software company, what types of efforts have been made by the company/ organisation to aware the employees of the company about the protection of the software. As software is the creation of the

<sup>26</sup> Patent no. 189027 and 188787 were granted. The advocate of applicant referred to Sections 3(k), 3(f) and 10(4) of the Patent Act and stated that on these grounds the grant of patent was attacked.

<sup>27</sup> *M/s Aditi Manufacturing Co. v. M/S. Bharat Bhogilal Patel*, MANU/IC/0090/2012.

<sup>28</sup> *Id.*

<sup>29</sup> M.P. Nos. 8/2010, 36/2010 and 59/2010 in ORA No. 20/2009/PT/CH and ORA No. 20/2009/PT/CH decided on 18th November 2010.

<sup>30</sup> *Id.* The Judgment was delivered by Technical Member of the Intellectual Property Board S. Chandrasekaran and In this connection the board referred to the famous *Vicom case*/ computer related invention decided in EPO (1987) 1 OJEP 14 (T208/84).

<sup>31</sup> The Intellectual Property Appellate Board (IPAB) decides that pure business methods are not patentable in India as per the section 3 (k) of Indian Patent Act. *Yahoo Inc. (Formerly Overture Service Inc.) v. Assistant Controller of Patents and Designs*, OA/22/2010/PT/CH decided on 8th December, 2011. (Jan.23, 2014, 2:34PM), <http://www.ipab.tn.nic.in/222-2011.htm>.

<sup>32</sup> OA/22/2009/PT/DEL and Miscellaneous Petition No. 118/2012 in OA/22/2009/PT/DEL decided on 28<sup>th</sup> December 2012.

company it is treated as intellectual property. This intellectual property is to be protected so as to get benefit from its commercial utilisation.

The questionnaire is divided into five parts. First covers background of the software employee (respondents) and its organisation/ Software Company. Second part deals with the awareness about the laws of intellectual property to the respondents and their company. Part three deals with opinions of the respondents about the software patenting. A likert scale has been prepared to observe the attitudes of the respondents towards the patent and software industry, government effort to aware small medium enterprises, open source movements, life of patent, cost of patent system and need for introduction of patent law in engineering institutes and colleges. Next part four elaborates on the responses over the use of patent for commercialisation and benefit of industry and effort of organisation to aware the employees about patent and other intellectual property rights. Part five is the last part which summarises by handling questions relating to investment for protection of IP rights, hurdles in patent filings, reason for use of IPR in company and overall opinion of employees towards the impact of patent law on software industry in India.

As the questionnaire contains non disclosure clause of the respondents and their companies, no names are disclosed and stated here. Total about 150 responses received from the software employees from various companies in India. As the research aims to study the impact of patent law on software industry in India the research targeted Indian companies or such companies where their head quarter is situated in India. Mostly employees working in all the leading companies from India have been approached and requested to fill the questionnaire. The effort has been made to cover the employees working as software developer, designer, manager, consultant, programme analyst, technical test lead, solution architect and quality assurance engineer. While circulating a questionnaire snowball sampling method was used. As most of the respondents rejected and declined to respond to the questionnaire stating that the information is security related and they are not permitted to disclose the information about the company without any permission. Attempt has been made to get the official permission from the HR department of the most of the companies but except a few most of the companies rejected and other not responded back.

Online form of questionnaire was prepared and sent through an email. With the snowball sampling the known persons working in software companies and who

were willing to participate in the survey were selected and requested to circulate the questionnaire among their colleagues and other friends working in other software companies. As the questionnaire contains questions relating to law, technology mainly focused on software patent a target respondents were selected who are software engineers having engineering graduation or any other equivalent graduation which satisfies the criteria to work as a software developer in a software company. Accordingly the respondents from educational background like Master of Technology, Master of Business Administration, Bachelor of Technology, Bachelor of Engineering, Master of Computer Administration, Bachelor of Computer Administration, Master of Computer Management and Bachelor of Science were selected. Most of the respondents are software or computer specialist but others are specialist of other software application from other fields such as mechanical, electrical, chemical etc. The working experience of the respondents in the field is ranging from 1 year to 17 years. Primary information and types of software applications: While considering the primary study about the software industry in India the nature of the company like government, private, public limited, non profit and other was considered to understand from which of the companies the respondents are working. Further, the information has been sought to understand the nature of software industry. There are different types of software industries based on the applications. Software has become now the integrated part of most of the industry. Many industries need software applications for effective, efficient and smoother work and working environment. Thus it can be said that software can be used for different industries for different types of applications. In this questionnaire an attempt was made to understand types of applications performed by a software company so as to analyse applications of software. Pure software cannot be patented and always software cannot be used for the working with the computer. However, software is generally divided into two categories 'system software' and 'application software'.<sup>33</sup> System software performs basic machine function necessary for all users regardless nature of their particular problems.<sup>34</sup> Application software deals with users particular problem.<sup>35</sup> Some of the companies are developing more than one software application so that the respondents had given an option to choose more than one software application. Many of the times the software application varies from subject matter like mechanical, electrical, chemical, medical etc. Thus, in this question the question

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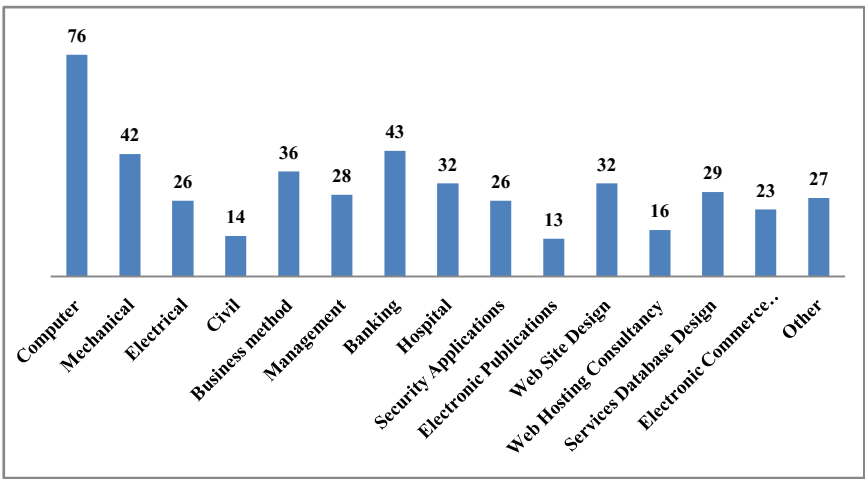
<sup>33</sup> DAVID BENDER, COMPUTER LAW: A GUIDE TO CYBERLAW AND DATA PRIVACY LAW, §1.05 [1] (Mathew Bender Rev. Ed.) (2009).

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

has not restricted to one particular answer, however, the respondents freely answered to choose the applications of the companies. It was also observed that a single companies involving a lot of variety of projects so that every employee has chosen more than one choice. In this connection a question of type of industry relating with the software development was asked and it was observed that most of the companies are involved in more than one type of software development. Fig. no. 1 shows the graphical representation of the types of software developments. It is observed that the most of the companies are involved in the business of the development of computer related software but other applications are also executed by the software engineers.

**Fig. No. 1: Types of Software Functionalities and Industrial Applications**



Mechanical, business method and banking are next to the computer applications. After that hospital, web site design, service database design, management, electrical, security applications and electronic commerce applications are some other software applications were performed by some of the respondent. Some respondents are also developing civil, electronic publications and web hosting consultancy related applications. Information Technology services, business intelligence, retail, locomotive embedded, telecom domain, insurance, fabric, automotive product, ERP, networking, pharmaceutical, manlog,<sup>36</sup> healthcare and bioinformatics are some of the other software applications performed by the respondents.

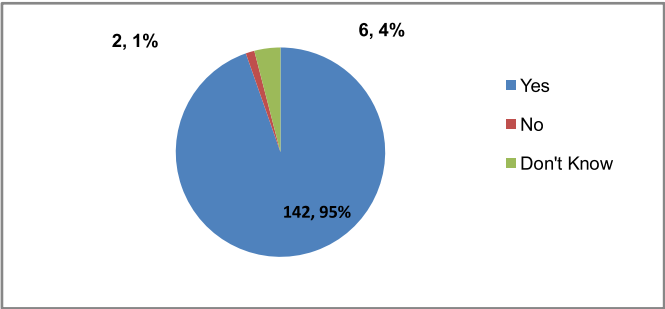
<sup>36</sup> Manlog is combination of two words manufacturing and logistics.

From the above fig. no.1 it is observed that software is not only related with the development of compute applications but the use of computer and software is enlarged to the different types of industries to make the human work more effective, efficient and less time consuming. It is also observed from the above data that software has now become part of each and every industry and there is demand of variety of software. This software may be sometime standard; sometime tailor made depends on the demand of specific industry or manufacturing of business applications. Thus it can be understood that the software are not only related with the computer to say that it is pure mathematical approach, rather it will be better to say that the software are used with different types of technical applications to achieve productive result. This question has been asked to determine if the particular industry is producing or creating software which has technical application or software is a part of a whole technical product then in that case what steps the company is taking to protect its software which is obviously its intellectual property.

**Necessity of Protection of Software as an Inventor**

In the survey all the respondents were working in software companies following question was asked, 'Do you think protection of your software products is necessary for you as an inventor and for your organisation as an Institution?' In response to this question out of 150 respondents 142 said that they think it is necessary to protect the software products developed by them or their institution, company or organisation. 2 people were of negative opinion and 6 people did not know about this or they don't have opinion on this question. The pie chart showing the status of the figures is presented by Fig. No. 2.

**Fig. No. 2: Necessity of Protection of Software**



From the above figure it is observed that almost all the software engineers and developers demand protection of software. In this survey around 95% people have agreed for the necessity for the protection of software. Thus for the growth of the software industry the protection of the intellectual property is necessary and it is observed that most of the large scale and medium scale companies are actively protecting their intellectual property.

### **Protection of Software**

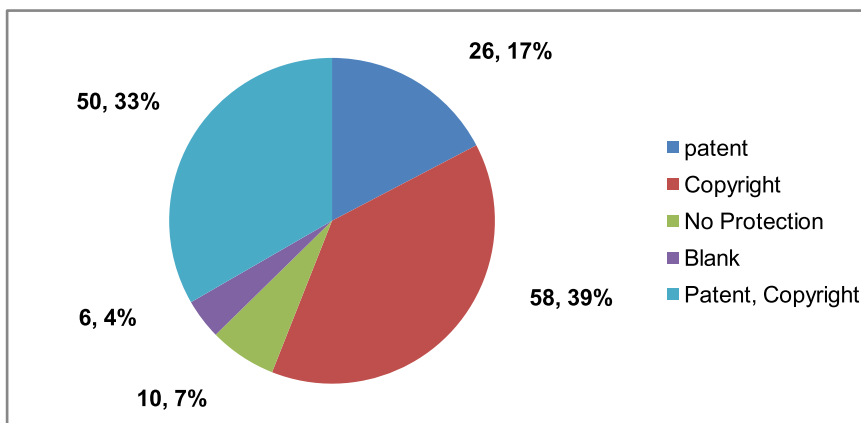
Generally software is protected as copyright, but with the growth of technology and innovation software can be used in different types of technologies and patent protection has been given to it. To determine whether software developers have knowledge of protection of software a question 'how do you protect software?' either patent or by copyright has been asked in the survey. Most of the respondents answered that software can be protected by copyright but many more answered both patent and copyright is necessary. Very few were said that no protection is required. It is observed that out of 150 respondents 50 respondents were of the view that software can be protected both by patent and copyright. It means that the dual protection to the software is required depending on the quality of the invention and around 33% of the respondents in favour of the dual protection to software patent. The demand for copyright protection is also higher in number than the patent protection. About 58 people said that they need only copyright protection and 26 people have chosen to go for exclusive patent protection. Only 10 people demanded that they don't want any kind of protection and 6 people were reluctant to answer anything as they have not answered the question. It has been observed with this data that most of the software engineers, around 89%, demand some kind of protection to their intellectual property, either it may be in terms of copyright or patent or both. The survey has covered the people having experience of minimum of one year to maximum of seventeen years, so mainly the respondents covered in the survey are youth of the nation. Software industry is considered as the most creative industry and creative industries are the engine of growth and development of the youth and nation.<sup>37</sup> From this study it is seen that there is majority demand of protection to the software and it is the duty of the government to provide the protective environment

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<sup>37</sup> United Nations Industrial Development Organisation (UNIDO), Creative industries for youth: unleashing potential and growth (Sept. 14, 2014, 3:24PM), <http://www.unesco.org/new/fileadmin/MULTIMEDIA/FIELD/Dakar/pdf/EbookCreativeIndustriesYouth.pdf>.

through the laws, regulations and awareness about rights for the growth of the industry.

**Fig. No. 3: Protection of Software**

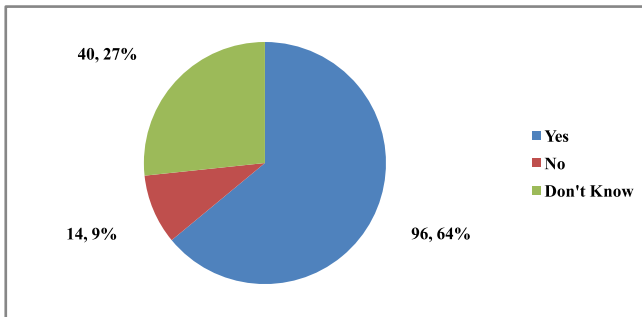


### Organisation and Active Software Protection Policy

Active software protection policy is required for the growth of the industry as the continued growth of the overall software economy is founded on the protection of such intellectual property rights. Without such protection, software owners lack the incentive and legal basis for commercializing their creations, and the software industry cannot be an engine of economic growth.<sup>38</sup> To determine how a software industry or organisation recognises important of the software protection a question was asked 'Does your organisation conduct an active software protection policy?' The responses received shows that many companies more than 60% were considering about software protection policy. It was also found that around 1/4<sup>th</sup> of people who have responded that they don't know about the stand of the company about its policy of protection of intellectual property. This shows that there is still need of awareness about the protection of Intellectual property rights and laws among the software employees. Out of 150 respondent 96 employees know that their company conduct active software protection policy. Very few, around 14 employees said that their company do not conduct active software protection policy. About 40 people said that they don't know whether their company conduct any such kind of policy or not.

<sup>38</sup> Business Software Alliance, Open Source and Commercial Software an In-Depth Analysis of the Issue (Sept. 14, 2014, 4:25PM), [http://www.wipo.int/edocs/mdocs/copyright/en/wipo\\_ip\\_cm\\_07/wipo\\_ip\\_cm\\_07\\_www\\_82575.pdf](http://www.wipo.int/edocs/mdocs/copyright/en/wipo_ip_cm_07/wipo_ip_cm_07_www_82575.pdf).

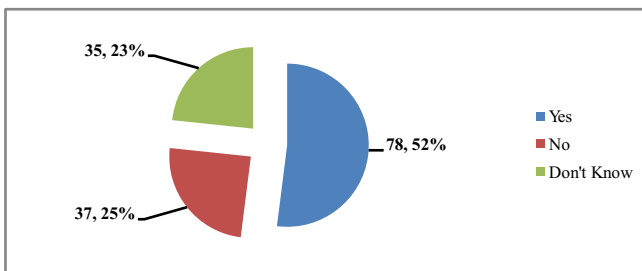
**Fig. No. 4: Active Software Protection Policy by Organisation**



### Copyright Protection of Software

In case of copyright protection specific registration of copyright is not necessary. When a person has created something it becomes his/her own copyright on the created thing. Then the creation may be any art, architecture, literature, picture and songs etc. Generally software is considered as the set of mathematical formula and it is nothing but an algorithm. Software is written in different language like c, C++, JAVA, VB, FORTRON, BASIC etc. in the form of source code and object code. Hence this question was asked to understand how many employees know that, when they develop or write any software, it is their creation and can be automatically copyrightable. More half of the respondents know that they get copyright on the creation of software. The no. of answering yes to the question is 78 out of 150. Around 37 employees did not know that software is automatically protected by copyright. Almost 35 people said that they did not know about any kind of protection. If we add the people who said no to the question and who said did not know, the number goes to 72 people are still unaware about the copyright protection of software which they do not want to do anything. If a person is self employed software developer and he/she was not aware about the copyright protection there might be a chance of economic loss of that person.

**Fig. No. 5: Copyright Protection of Software**





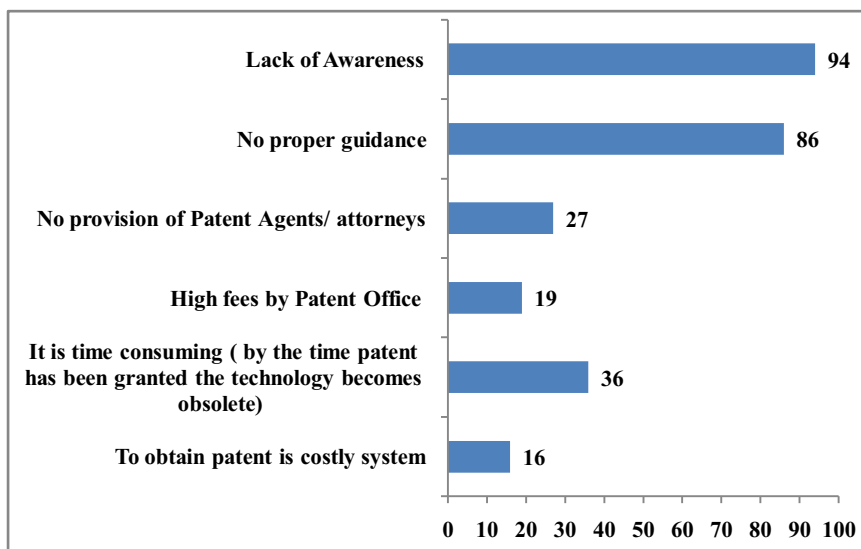
### **Major Hurdle in Filing Patent Application**

An attempt was made to find out the major hurdle faced by the employees in filing patent application. This is also one of the aspects to determine the impact of patent law on the software industry in India. If there is not any patent application filed then there might be a chance of reduction in growth of creativity and innovativeness. It will also affect the overall development of the industry. In all six primary reasons were found out after discussing with the researcher and software engineers. These are lack of awareness, no proper guidance, no provision of patent attorney/ agents in the industry, high fees structure of the Indian Patent Office, time consuming procedure and costly system. The trend is shown in the following figure no. 17.

The options given to the respondents are the reasons generally faced by the software employees in software industries. There is chance of one or more reasons may be true so while asking this question it was not limited to only one answer. The respondents were permitted to choose one or more options which they think fit and proper as a reason for hurdle in patent filing. All the employee/ respondent answered this question. Around 94 people think that lack of awareness about IP law and policies is one of the major hurdles in filing patent applications. 84 people said that they require proper guidance about the IP laws and filing of patent application procedure. It is clearly seen that lack of awareness and proper guidance are two major reasons which most of the respondent selected as a big hurdle in the filing patent application. Next to that, 36 respondents were in favour of the time consuming procedure. It means that the by the time the patent is granted to any software or computer related invention the technology becomes obsolete. As the changing nature of the software technology and its speed is tremendously vast the technology becomes obsolete within the span of 3-4 years. The normal time for grant of patent in Indian Patent Office is normally 3 year so some software engineers said that the time taken for examination and grant of patent is also major hurdle in less number of patent filing. 27 software engineers feel that no provision of full time patent agent/ attorneys in company is major reason of filing less patent application. 19 people observed that high fee structure of patent office is a hurdle of filing patent application. Only 16 people out of 150 supported that patent is costly system. Software employee from small scale companies supported to the high fees of patent office and costly system. If India wants to promote patent filing in small and medium enterprises they have to think over the fee structure of filing of patent. In the amended patent rules in 2014 provides separate category for applicant of

patent in the form of “small entity” and less fee has been fixed which is in between the fees for a natural person and for all persons other than natural persons (except a small entity).<sup>39</sup>

**Fig. No. 6: Hurdles in Filing Patent Application**



### Software Patent and Software Industry

The nexus is found between technology and industry. Technology improves the performance of the industry. Every industry always strives for the better and new technology for the growth and improvement.<sup>40</sup> Software has now become inevitable part of each and every Industry. Thus it becomes necessary to find out opinion of the software engineers about the relation between the software patent and software industry. There are two opinions about the software patent and its impact on the industry.<sup>41</sup> Bessen, Meurer, Hunt said that software patents are not beneficial for the growth of the software industry<sup>42</sup> but Mann said young software

<sup>39</sup> Patent (Amendment) Rules, 2014 (Sept. 23, 2014, 3:45PM), [http://www.ipindia.nic.in/iponew/patent\\_Amendment\\_Rules\\_2014.pdf](http://www.ipindia.nic.in/iponew/patent_Amendment_Rules_2014.pdf).

<sup>40</sup> Bradford L. Smith and Susan O. Mann, *Innovation and Intellectual Property Protection in the Software Industry: An Emerging Role for Patents?*, 71 The University of Chicago L. Rev. 241, 2420 (2004).

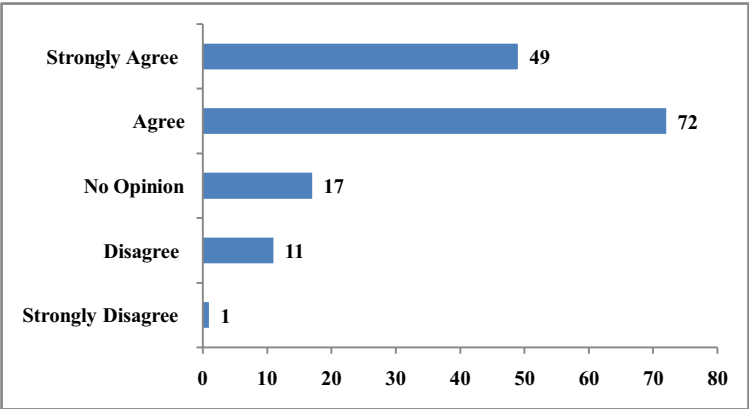
<sup>41</sup> Bruce Abramson, *Promoting Innovation in the Software Industry: A First Principles Approach to Intellectual Property Reform*, 8 B.U. J. SCI. & TECH. L. 75 (2002).

<sup>42</sup> James Bessen & M. R. Hunt, *An empirical look at software patents*, 16 J. Eco. & Management Strategy, 157, 160 (2007).

patent firms will not affect from the large patent portfolio of big software firms.<sup>43</sup> The main aim of this exercise is to study about impact of patent law on software industry in India. To understand opinion about the impact of software patent on software industry it was asked whether patenting of software promotes innovation in software industry as it has created greater attention of technical engineers and academics.<sup>44</sup>

Out of 150 respondents 49 were strongly agree and 72 were agreed that patenting of software promotes innovation in the software industry. 17 software engineers said that they have no any opinion and 11 were disagreed and 1 person was strongly disagree to the statement. Thus it is observed that around 121 people think software patent promotes innovation in software industry. The data has been compiled and shown in the graphical format in the following figure no. 7.

**Figure No. 7: Software Engineers, Software Patent and Software Industry**



**Open Source and Indian Software Industry**

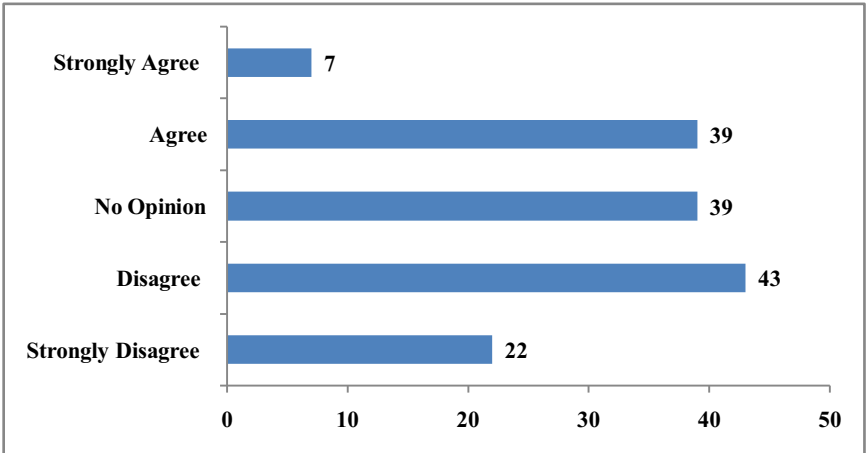
Further, in case of open source software, supporters of Open source software generally oppose the software patent.<sup>45</sup> There is strong attack from such supporter as they consider that software patent hinders the growth of software industry.<sup>46</sup> Open source movement is very much popular in all over the world and it has also its

<sup>43</sup> Ronald J. Mann, *Do Patents Facilitate Financing in the Software Industry*, 83 TEX. L. REV. 963(2004).  
<sup>44</sup> Julie E. Cohen and Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 Cal. L. Rev. 1,4 (2001).  
<sup>45</sup> FADI P. DEEK & JAMES A. M. MCHUGH, *OPEN SOURCE: TECHNOLOGY AND POLICY*, Cambridge University Press (2008).  
<sup>46</sup> David S. Evans & Anne Layne-Farrar, *Software Patents and Open Source: The Battle over Intellectual Property Rights*, 9 VA. J. L. & TECH 1, 27(2004).

existence in India.<sup>47</sup> Thus to access the opinion of the stakeholders about the open source movement in India and its effect on software industry it was asked that whether the Open Source movement is a threat to the Indian software industry.

While answering this statement mixed reply was observed from the group of software engineers. Most of the engineers considered that open source would not be threat to software industry in India. 22 people were strongly disagreed and 43 people were disagreed with the statement. 39 respondents said they did not have opinion. 7 people were strongly agreed and 39 were agreed that open source would be threat to software industry. The bar diagram is shown as per the below figure no. 8.

**Figure No. 8: Software Engineers: Open Source and Indian Software Industry**



**Conclusion**

The issue Open Source Software and Software Patent is highly debated across the world. Both of these protection need for the benefits of the technology and industry. The empirical data shows that there is demand from the software engineers and developers that there should be protection to their intellectual property. Most of the Indian Companies and software engineers are not aware about the IPR laws and policy. Thus it is necessary that all the engineering colleges should initiate IP helpdesk in their institutes. Except a few software giants like Infosys, TCS, Wipro no other companies have companies have separate focused innovation department.

<sup>47</sup> Patents as a threat to Free and Open Source Software (Sept, 30, 2014, 6:34AM), <http://www.fosspatents.com/search/label/NoSoftwarePatents>.

For improving competitiveness and innovativeness for growth of technology there is need to emphasis on the IP laws in small, medium and large scale industries. John Allison and Starling Hunter<sup>48</sup> argued that the there is very thin line in granting and non granting software patents and to try to eliminate software patents would prove largely futile and possibly even counterproductive. It would be futile because skilled patent attorneys can often draft applications so as to opt out of a predefined category, and counterproductive because of the increased transaction costs associated with tortuous drafting.<sup>49</sup> Thus it is not easily possible to complete ban on the software/ Business method patent though the act denies it. Though there is strong demand from movement of free software for not to patent software so as to prevent the industry from further innovation and growth it is not possible to ban it permanently. In the debate of software patent and open source software, it can be said that both protection are required for the benefit of the industry. Without a patent system, the software industry would have to rely on the open source movement to provide innovation.<sup>50</sup> Though open source cannot provide patent protection and thereby suited for innovation it provides a good counterbalance to market dominant companies. Open Source Software and Patenting of Software are complementary and counterbalance to each other and it is difficult to judge how big is the door and how wide open.

<sup>48</sup> John R. Allison & Starling D. Hunter, *On the Feasibility of Improving Patent Quality One Technology at a Time: The Case of Business Methods*, 21 BERKELEY TECH. L. J. 729, 736 (2006).

<sup>49</sup> John R. Allison & Emerson H. Tiller, *The Business Method Patent Myth*, 18 BERKELEY TECH. L.J. 987, 1081–82 (2003).

<sup>50</sup> Grant C. Yang, *The Continuing Debate of Software Patents and The Open Source Movement*, 13 TEX. INTELL. PROP. L.J. 171.

# Online Reference Management Tools: A Comparative Account Of Endnote, Mendeley and Zotero

*Dr. Faizul Nisha,<sup>1</sup> Dr. Samar Iqbal Bakhshi<sup>2</sup> and V Senthil<sup>3</sup>*

## Abstract

*Reference is a link or relationship between two objects in which one gives acknowledgement to other. In today's world references are not limited to books and journals but they include variety of web resources including websites, e-publications, audios, videos etc. A reference management tool makes easier for researchers not only collect and store their items, but also to organize, tag them (add metadata), save PDFs and provides a facility to correct format for citing references in academic and research community papers. This study tries to find out the role of online reference management tools in research, a brief description about Endnote, Mendley and Zotero. The study further provides a comparative account about the three online reference management tools (Endnote, Mendley and Zotero) on the basis of certain features.*

**Keywords:** Reference Management Tools, Mendley, Endnote, Zotero

## Introduction

Research originates from ideas that had already been brought out by someone else and provides one step ahead what can be done further in the same area. Being a researcher, it is imperative to be aware of the current trends going on in his/her area of interest by acknowledging pioneer works from appropriate authentic sources and cite them genuinely that have assisted in reproducing his/her ideas. This would make the people reading investigator's work to identify his/her actual sources and disclose that he/she has not pilfered others viewpoint, researcher's engrossment and understanding of research he/she has carried out as well as quoting the work of other researchers. If a researcher has lifted up the work/duplicated the efforts of

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other researchers, it is required to mention his contribution and cite him properly otherwise it would be an act of plagiarism. In order to arrange a complete list of references, it is mandatory to keep correct records of books, journal articles and other sources if somebody has recited in his work. Suppose a person had gone through a book few months back it is quite difficult to memorise a reference for the same and it is a tedious process as well. To avoid this practice the person has to record and manage the reference as he/she go ahead with his learning and research. One of the major challenges is to manage and record all references in a regulated way. Several software tools are available nowadays that will facilitate in collecting and maintaining references adequately and efficiently.

### **Online Reference Management Tools**

Online reference manager tools have been recognised as one of the most advantageous digital tools for present day researchers. They are the influential mechanisms which guide in handling, organising and recording individual's research specially in formatting bibliographies. Technology has altered the manner researchers used to provide footnotes for the citations occurring in their text. Online reference management tools cater a researcher the facility to import references from variety of sources such as bibliographic databases, library catalogues and websites etc. A researcher can manage or edit the references if they are available in the system and if he can't be able to find the references online he may add them manually. These reference management tools allow to export references into a document, helps to create researcher's own critical abstract, links to word processing documents and insert footnotes, endnotes, or in-text citations and also contribute in formatting a bibliography as per the reference style/pattern of individual's choice and re-format whenever is required.

Reference management softwares are available for recording and utilising bibliographic references. Once a citation is being recorded, it can be reused numerous times in producing bibliographies (lists of references in scholarly books, articles and essays). The evolution of reference management packages has been directed by the rapid growth of scientific literature. These software packages consist of a database wherein complete bibliographic references can be undertaken along with a procedure for generating selective lists of articles in the distinct formats needed by publishers and scholarly journals. Modern reference management packages can easily be integrated with word processors and help out

in creating reference lists in suitable formats whenever an article is written thereby reducing the risk for a cited source not included in the reference list. These softwares also have the provision for importing the details of publications from bibliographic databases.

On contrary to a bibliographic database which lists all articles published in a specific area, Reference management software collects a much smaller database of the publications that are likely to be used by a specific author or group and the database can easily be hosted on an individual's very own personal computer. Besides managing references, most reference management softwares facilitate searching references from online libraries which are generally based on Z39.50 protocol. Users are required to define the IP address, database name and keywords to start a Z39.50 search. It is prompt and more coherent than a web browser. Reference management tools assist researchers to build and organize their checklist of references for research projects and are designed to arrange citations into certain formats for the composition of manuscripts and bibliographies. Several search tools impart ways to download references into reference management tools. Here we are discussing a brief about Endnote, Mendley and Zotero.

## Endnote

It is a commercial reference management tool for managing references and bibliographies at the time of writing articles, project reports and theses. Endnote is developed by Thomson Reuters.

It has unlimited storage with Desktop version. Some research databases offer export options for specially Endnote.



(Ref: [www.endnote.com](http://www.endnote.com))

## Mendley

Mendley is free reference management and academic social network tool which authorise a researcher to build up and organise his library of citations and PDFs, collaborate online with peers and unearth the current research trends. It has about One thousand build in citation styles.



(Ref: [www.mendley.com](http://www.mendley.com))



Mendley automatically rename PDF by Journal Title, Author, Year etc. It can also organise PDF into multiple files. It is maintained and managed by Elsevier and provides free storage of up to 2GB of files. Mendley Desktop can support Windows, Mac and Linux.

## Zotero



(Ref: [www.zotero.org](http://www.zotero.org))

Zotero is free of cost and uncomplicated research tool downloaded as an extension of the Firefox browser that helps in aggregating, constructing and interpreting research and helps people share in different fashion. Zotero includes the best parts of older reference management softwares i.e. the ability to store author, title, and publication fields and to export that information as formatted references including the best aspects of modern software and web applications, such as the ability to organize, tag, and search in advanced ways.

Zotero collaborates smoothly with web resources and whenever it finds you of reading a book, article, or other object on the web; it can immediately extract and save complete bibliographic references. Zotero conveniently disseminates information to and from other web services and applications, and it runs both as a web service and offline on personal computers.

### EndNote, Mendeley and Zotero: Comparison

Features	EndNote	Mendeley	Zotero
<b>Developed By</b>	Thomson Reuters	Elsevier	Centre for history and New Media, GM University USA
<b>Year of Development</b>	1988	2008	2006
<b>Licence</b>	Proprietary	Proprietary	AGPL
<b>Cost</b>	Some cost is involved for EndNote	Free for basic account, some cost for more online storage space.	Free for basic account, some cost for more online storage space.
<b>Web Based</b>	Yes, with EndNote basic account	Not primarily, but can synchronised with an online account which is editable	Yes, works with Firefox browser and can synchronised with online account, connectors for Chrome and Safari available.
<b>Accessibility</b>	Can be used from any computer having internet access.	Can be used online and offline, with desktop installation required on an individual computer for offline access.	Can be used on any computer with internet access but is currently only available for use in Firefox Browser.
<b>Operating System</b>	Compatible with Windows and Mac Operating System.	Compatible with Windows, Mac and Linux Operating System	Compatible with Windows, Mac and Linux Operating System
<b>Browser</b>	Any	Any	Firefox only
<b>Storage</b>	Unlimited local storage (stored to individual's computer drives). Limited to 50,000 citations 2GB in EndNote Web.	Unlimited local storage and data synchronising; 1GB personal and 100 MB shared online space.	Unlimited local storage and data synchronising; 100 MB free Zotero file syncing.
<b>Word Processor Compatibility</b>	MS Office, Open Office, iWork Pages	MS Office, Open Office, Latex	MS Office, Open Office, Google Docs
<b>Export File Formats</b>	BibTex, Endnote/Refer/BibIX, Medline, RIS	BibTex, Endnote/Refer/BibIX, Medline and RIS, Endnote XML.	BibTex, Endnote/Refer/BibIX, Medline, RIS. Others: RDF, TEI, Wikipedia citation templates, Endnote XML.
<b>Import File Formats</b>	CSA, Endnote/Refer/BibIX, ISI Medline, Ovid, PubMed, RIS, SciFinder	BibTex, Endnote/Refer/BibIX, RIS, Browse Bookmarks	CSA, Endnote/Refer/BibIX, ISI Medline, MODS XML, Ovid, PubMed, RIS, SciFinder
<b>Search full text of PDFs</b>	Yes	Yes	Yes
<b>Attachment</b>	Attach associated files (PDFs etc) and Highlight and annotate PDFs.	Attach associated files (PDFs etc) and Highlight and annotate PDFs.	Attach associated files (PDFs etc) with option to attach automatically.
<b>Citation Styles</b>	APA, Chicago, Harvard, MLA. 6506+ Customizable ( <a href="http://www.endnote.com/support/enstyles.asp">http://www.endnote.com/support/enstyles.asp</a> )	APA, Chicago, Harvard, MLA. 6781 styles ( <a href="http://www.mendeley.com/citationstyles">http://www.mendeley.com/citationstyles</a> )	APA, Chicago, Harvard, MLA. 16 installed. 6000+ can be added.
<b>Database Connectivity</b>	It can import the academic databases and search engines such as ArXiv, IEEEExplore, PubMed and any Z39.50	ArXiv, IEEEExplore, PubMed	ArXiv, IEEEExplore, CiteSeer and PubMed

**Note:** Referred (<http://guides.library.utoronto.ca/content.php>; <http://www.imperial.ac.uk/admin-services/library/learning-support/reference-management/>; [http://www.libraries.psu.edu/lls/choose\\_citation\\_mgr.html](http://www.libraries.psu.edu/lls/choose_citation_mgr.html); <http://en.wikipedia.org/wiki/> websites for making comparison among Endnote, Mendeley and Zotero)

## Conclusion

Reference management tools are quite helpful for researchers and academicians in creating and organising their lists of references in specific formats for preparing manuscripts and bibliographies. EndNote and Mendley are developed by two renowned publishers; however Zotero is developed by Centre for history and New Media, George Mason University and Cooperation for Digital Scholarship, USA. Endnote was developed in 1988, whereas Mendley and Zotero were developed in 2008 and 2006 respectively. Almost all the citation styles are covered in all three reference management tools; however Mendley has most number of citation styles i.e. 6781 as compared to Endnote and Zotero. The comparison among three reference management tools shows that Endnote is web-based with EndNote basic account, Mendley is not primarily web-based but can be synchronised with an online account which is editable whereas Zotero is web-based and works with Firefox browser and can be synchronised with online account. Mobile applications for iPad, iPhone and other smartphones are also available for Mendley and Zotero. Multimedia information like URLs+snapshots, video, images etc. can be saved in Mendley and Zotero, however Endnote works only for PDFs, Book chapters, articles. Mendley is most popular reference management tool followed by Zotero and Endnote, due to its user-friendliness.

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# Dspace an Open Source Dynamic Digital Repository

*Dr. Anil Kumar Jain<sup>1</sup> and Sanjeev Kumar<sup>2</sup>*

## Abstract

*For the past two years the Massachusetts Institute of Technology (MIT) Libraries and Hewlett-Packard Labs have been collaborating on the development of an open source system called DSpace that functions as a repository for the digital research and educational material produced by members of a research university or organization. Running such an institutionally-based, multidisciplinary repository is increasingly seen as a natural role for the libraries and archives of research and teaching organizations. As their constituents produce increasing amounts of original material in digital formats—much of which is never published by traditional means—the repository becomes vital to protect the significant assets of the institution and its faculty. The first part of this article describes the DSpace system including its functionality and design, and its approach to various problems in digital library and archives design. The second part discusses the implementation of DSpace at MIT, plans for federating the system, and issues of sustainability.*

Keywords: Dspace, institutional repository, digital libraries

## Dspace Definition, Features and Functionality

In March 2000, Hewlett-Packard Company (HP) awarded \$1.8 million to the MIT Libraries for 18-month collaboration to build Dspace a dynamic repository for the intellectual output in digital formats of multi-disciplinary research organizations. HP Labs and MIT Libraries released the system worldwide on November 4, 2002, under the terms of the BSD open source license, one month after its introduction as a new service of the MIT Libraries. As an open source system, Dspace is now freely available to other institutions to run as-is, or to modify and extend as they require to

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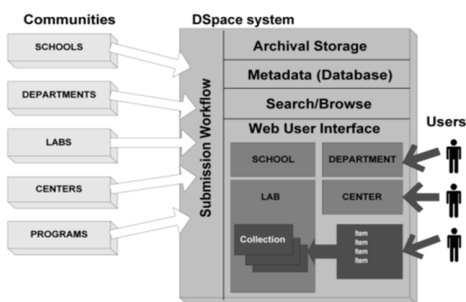
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[Sanjiv\\_panwar@yahoo.co.in](mailto:Sanjiv_panwar@yahoo.co.in)

meet local needs. From the outset, HP and MIT designed the system to be run by institutions other than MIT, and to support federation among its adopters, in both the technical and the social sense. The Dspace Federation will be explored in a later section.

So what is Dspace? It is an attempt to address a problem that MIT faculty has been expressing to the Libraries for the past few years. As faculty and other researchers develop research materials and scholarly publications in increasingly complex digital formats, there is a need to collect, preserve, index and distribute them: a time-consuming and expensive chore for individual faculty and their departments, labs, and centers to manage themselves. The DSpace system provides a way to manage these research materials and publications in a professionally maintained repository to give them greater visibility and accessibility over time.

Dspace was built breadth-first: it supports every function that a research organization needs to run a production digital repository service, but as simply as possible. The project focus was on building a production quality system. It complements and was influenced by previous research in computer science and digital library architectures. Our goals were to build a system that: would be immediately useful at MIT, and hopefully at other institutions; could be expanded and improved over time; and could serve as a platform for future research. With the help of developers at other institutions that adopt DSpace under its open source license, we will work to add features and improve the different functions of the system as we learn what users actually want, and how to best support such complex requirements as digital preservation and digital rights management. DSpace is designed to make participation by depositors easy. The system's information model is built around the idea of organizational "Communities"—natural sub-units of an institution that have distinctive information management needs. In the case of MIT

(a large research university) "Communities" are defined to be the schools, departments, labs, and centers of the Institute. Each Community can adapt the system to meet its particular needs and manage the submission process itself



**Dspace Information Model**

## **Metadata**

Dspace uses a qualified Dublin Core metadata standard for describing items intellectually (specifically, the Libraries Working Group Application Profile). Only three fields are required: title, language, and submission date, all other fields are optional. There are additional fields for document abstracts, keywords, technical metadata and rights metadata, among others. This metadata is displayed in the item record in Dspace, and is indexed for browsing and searching the system (within a collection, across collections, or across Communities). For the Dissemination Information Packages (DIPs) of the OAIS framework, the system currently exports metadata and digital material in a custom XML schema while we work with the METS community to develop the necessary extension schemas for the technical and rights metadata about arbitrary digital formats.

## **User Interface**

Dspace's current user interface is web-based. There are several interfaces: one for submitters and others involved in the submission process, one for end-users looking for information, and one for system administrators.

The end-user or public interface supports search and retrieval of items by browsing or searching the metadata (all fields for now, and specific fields in the near future). Once an item is located in the system, retrieval is accomplished by clicking a link that causes the archived material to be downloaded to the user's web browser. "Web-native" formats (those which will display directly in a web browser or with a plug-in) can be viewed immediately; others must be saved to the user's local computer and viewed with a separate program that can interpret the file (e.g., a Microsoft Excel spreadsheet, an SAS dataset, or a CAD/CAM file).

## **Workflow**

Dspace is the first open source digital repository system to tackle the complex problem of how to accommodate the differing submission workflows needed for a multidisciplinary system. In other words, different Dspace Communities, representing different schools, departments, research labs and centers, have very different ideas of how material should be submitted to Dspace, by whom, and with what restrictions. Who is allowed to deposit items? What type of items will they

deposit? Who else needs to review, enhance, or approve the submission? To what collections can they deposit material? Who can see the items once deposited? All of these issues are addressed by the Community representatives, working together with the Libraries' DSpace user support staff, and are then modeled in a workflow for each collection to enforce their decisions. The system models "e-people" who have "roles" in the workflow of a particular Community in the context of a given collection. Individuals from the Community are registered with DSpace, then assigned to appropriate roles.

For example, a department may choose to have two collections: one for working papers and another for datasets. They may then decide that any member of the faculty can deposit items to either collection directly, and that any member of the general public can have access to these collections. In this example the workflow is very simple, and the only "role" is that of submitter.

In a more complex example, the same department may have a working paper collection that requires tight editorial control by the head of the department. In this case, they may choose to again designate all faculties as "submitters", but also designate a small group of people as "reviewers", an administrative staff person as a "metadata editor", and the head of the department as the final "coordinator". An item deposited by a faculty member would then go through a process of review, cleanup and approval before finally being deposited to the relevant DSpace collection. Each person with a role to play in this process is notified of the new submission, and goes to a personal workspace in the system to perform their assigned task. Items that do not make it through the process are not archived in the system.

## **Technology Platform**

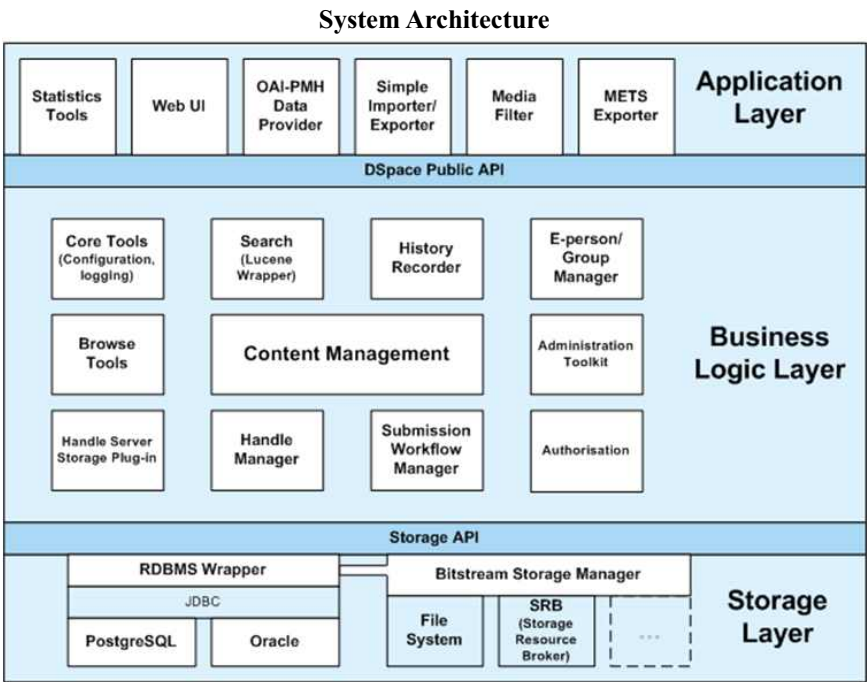
DSpace was developed to be open source, and in such a way that institutions and organizations with minimal resources could run it. The system is designed to run on the UNIX platform, and comprises other open source middleware and tools, and programs written by the DSpace team. All original code is in the Java programming language. Other pieces of the technology stack include a relational database management system (PostgreSQL), a Web server and Java servlet engine (Apache and Tomcat, both from the Apache Foundation), Jena (an RDF toolkit from HP Labs), OAICat from OCLC, and several other useful libraries. All leveraged components and libraries are also open source software. Libraries are bundled



where possible (exceptions are described in the installation instructions). The system is available on SourceForge, linked from both the DSpace informational web site and the HP Labs site.

While DSpace is open source and freely available, neither MIT Libraries nor HP offer formal support for DSpace adopters. It is our assumption that institutions that use DSpace will have resources to use the system, including adequate hardware that runs the UNIX operating system, and a UNIX systems administrator to install and configure the system. Most institutions using DSpace will also want the services of a Java programmer who can localize and customize for them, or enhance it, although this is not absolutely necessary to run the system.

As DSpace continues to be improved by staff at HP, the MIT Libraries, and other institutions that adopt it during the coming year, MIT will take responsibility for evaluating and reincorporating these improvements into the main open source system available to the public. Plans for building a more sustainable open source maintenance strategy through the DSpace Federation will be discussed later.



## **Dspace Technical Architecture**

The DSpace architecture is a straightforward three-layer architecture, including storage, business, and application layers, each with a documented API to allow for future customization and enhancement. The storage layer is implemented using the file system, as managed by PostgreSQL database tables. The business layer is where the DSpace-specific functionality resides, including the workflow, content management, administration, and search and browse modules. Each module has an API to allow DSpace adopters to replace or enhance that function as desired. Finally, the application layer covers the interfaces to the system: the web UI and batch loader, in particular, but also the OAI support and Handle server for resolving persistent identifiers to DSpace items. This is the layer that will get much of the attention in future releases, as we add web services for new features (e.g., to support interoperation with other systems) and define Federation services across the range of institutions adopting DSpace.

## **Open Archives Initiative (OAI)**

To further its goal of supporting interoperability with other DSpace adopters, and with other digital repositories, preprint, and e-print servers, the system has implemented the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). DSpace used the OCLC OAI Cat to accomplish this, and is currently exposing Dublin Core metadata for every item in the system. For material that is restricted to local access, the item metadata is exposed to OAI harvesters but the system will enforce the restriction when a user requests the associated bitstream. DSpace at MIT has recently been added to the OAI registry, and as the system is deployed at other institutions, we intend to investigate what added-value services might be built on top of this promising piece of infrastructure to work across the Federation. For example, we may examine the possibility of defining and building preprint and e-print collections for a particular academic discipline with individual items distributed among many institutionally-based multidisciplinary repositories, all OAI compliant.

## **Persistent Identifiers (Handles)**

One goal of persistent digital repositories is that it be possible to find and retrieve deposited items far into the future. In particular, it is considered crucial that citations to archived material, whether found in printed articles or online, remain

valid for long periods. To this end, DSpace chose to implement CNRI handles as the persistent identifier associated with each item. The Handle System covers assignment, management, and resolution of these persistent identifiers (or "handles"). Although CNRI has not registered with the IETF for an official namespace, handles are compliant with the IETF's Uniform Resource Name (URN) specification.

Handle resolution can be done using a special client, or handles can be packaged in the form of URLs and a proxy server used to resolve these into the handle form, which is, in turn, resolved to the local system location for the item. This second approach is the one we have taken in DSpace. The main alternative to using handles is to use persistent URLs with HTTP redirection to allow items to move around over time. The long-term viability of these alternatives is not yet sufficiently understood. We plan to discuss this decision and its implications with other institutions adopting DSpace over the coming year, to see if the DSpace Federation can support other systems of persistent identification while supporting distributed services.

### **MIT Libraries' Dspace Implementation**

DSpace is a system, a tool, and a platform for collecting, managing, indexing, and distributing digital items. Exactly how it is used, for what sort of digital material, by whom, for how long, and so on, are policy issues to be decided by each organization adopting the system. In order to make the difference between system and policy more transparent, and to help other institutions get started, MIT is openly sharing its own policy decisions with regard to DSpace. It is our hope that, while we acknowledge that our policies may not work well for other institutions, and will certainly evolve over time, they may offer guidance to others regarding the depth and breadth of issues that should be considered.

### **Collections Scope**

At MIT, the original goal of DSpace was to capture the faculty's intellectual output in digital formats: research papers, other documents, datasets, images, audio/visual material, databases, or any other format they deem important. This goal led to two important policies: only *faculty* research would be accepted (not student material, not institutional records, and not material from non-faculty researchers without sponsorship from faculty), and *faculty* would choose what would be submitted (within certain general constraints set by the Libraries and Archives).

As a result of discussions with faculty, early adopter Communities, and others, the goal is unchanged but the policies have evolved. The first change was in what could be submitted. If a DSpace Community defines a collection that, in order to be useful, should include material authored by non-faculty (or non-MIT faculty) then it can be deposited by that Community as long as the necessary copyright permissions are obtained. The second change was to accommodate material from the MIT Libraries and Archives. We will create a Libraries and Archives Community to hold digital collections of material such as e-theses and reformatted images—material that is heavily used and represents valuable assets of the institution.

Beyond faculty-authored documents and data, another category of material has taken the spotlight for possible support by DSpace: educational material, or "Learning Objects". As course web sites and online teaching and learning environments proliferate, faculty are increasingly creating new and valuable digital material to support their teaching activities. These can take the form of traditional lecture notes, sample exams, and course calendars, but also include things like complex simulations and visualizations, multimedia presentations, or videos of key lectures. As a matter of local policy, the MIT Libraries will accept this type of material and is actively collaborating with two MIT-based projects in this area: the Open Knowledge Initiative (OKI) and Open Course Ware (OCW). For OKI, DSpace could serve as an active repository of course "content items"—those items of persistent, ongoing value (e.g., a physics simulation used regularly in various courses). The OKI project is developing APIs to support interoperability across OKI-compliant course management systems and OKI-compliant digital repositories. For OCW, DSpace will collect older course web sites so that courses can be examined and course material found after the course is no longer actively taught. Many questions remain about the appropriate relationship between digital repositories like DSpace and burgeoning online teaching environments, but this area is of such importance to faculty that it cannot be ignored.

### **Faculty Engagement**

There are several ways to describe the value of an institutional repository to the faculty who will contribute material, and the administration that will support the effort. And it is critical to explain those benefits, and to market the service, to both constituencies.

As a multidisciplinary repository that represents the scholarship of MIT, DSpace at MIT showcases the international prominence of our faculty both individually and collectively. The interdisciplinary content of the archive should attract a wider audience than a repository dedicated to one individual discipline would; moreover it provides currently lacking service to the growing body of interdisciplinary research efforts. The ability to distribute research results quickly will emphasize the cutting-edge nature of MIT's research, and supports the mission of the Institute to generate, disseminate, and preserve knowledge.

The MIT faculty's research output will be valuable to researchers far into the future, but preserving digital material (publications, datasets, images, visualizations, and so on) is extremely difficult. To ensure long-term access to this important scholarship the MIT Libraries will manage Dspace as a preservation archive, keeping this material accessible, and often immediately usable, far into the future.

The Libraries provide guidance in establishing new Communities, and assistance to faculty and others in using the system. Dspace was envisioned by the MIT Libraries as a continuation of their mission to collect, make available, and preserve important scholarly material of all kinds, especially that of MIT's own faculty and research community. The Libraries are working to extend their services in the digital era, to reflect current trends in scholarly communication and education, and to offer new means of distributing research material that are enabled by network technology.

Over the past few years MIT has been placing new emphasis on educational technology with initiatives such as Open Course Ware and Open Knowledge Initiative. Faculty is investing a lot of time and effort in creating online educational materials that are valuable assets. Dspace is collaborating with the major educational technology initiatives at the Institute, including Open Course Ware, so that storing, relocating, reusing and repurposing course content becomes reliable and easy.

Faculty accustomed to finding documents online, whether published or pre-publication, expect to continue to work with discipline-defined collections. Dspace can store and deliver preprints and eprints from the host institution and could support virtual collections from different academic disciplines by means of federation across large numbers of participating institutions. Where disciplinary

archives already exist for an academic community (e.g., the arXiv system at Cornell University) Dspace could be made to automatically submit copies of relevant documents to these centralized archives during the local deposit process.

### **Transition Team and Business Plan**

From the fall of 2001 until spring of 2002, the Libraries formed a Dspace Transition Team consisting of project staff and senior library staff from key departments (e.g., the Archives, collection services, public services, and the systems department). This group was charged with figuring out how to deploy Dspace as a new service of the MIT Libraries: the necessary policies, staffing requirements, communications strategies, management and governance structures, training plans, and operational requirements. Participation in this group proved to be a useful vehicle for the library staff to become more familiar with the system, and discussions of these various issues were invaluable to the development of the production Dspace service.

Participating in the Transition Team group were two senior business consultants funded by a grant from the Andrew W. Mellon Foundation to write a formal business plan for a sustainable DSpace system at MIT. Their work consisted of compiling the results of the transition team deliberations and decisions, incorporating the work into detailed cost information for system operation, and outlining possible revenue options.

The major conclusion of this planning process was that Dspace at MIT would be offered as a combination of subsidized core services (built into the Libraries' operating budget), and cost-recovered premium services that would allow the Libraries to meet varying unique needs for Dspace from particular Communities (e.g., exceptional amounts of disk storage, assistance with metadata creation, or conversion of files to supported formats). With this strategy we have insured that Dspace is an affordable undertaking for the MIT Libraries without compromising the service that can be offered.

### **Preservation**

Recent discussions of digital preservation focus on at least two levels: "bit preservation", where a digital file is carefully preserved exactly as it was created

without the slightest change, and what we'll refer to as "functional preservation", where the digital file is kept useable as technology formats, media, and paradigms evolve. In the first case, it's very unlikely that the file could still be read or processed by software after five or ten years have passed, but we assume it's possible for "digital archeologists" to work with the file to try to unlock its secrets many years later, especially if they have some additional information about the format (e.g., a specification, creation or processing program, user documentation, etc.). In the latter case the material is always kept immediately useable (viewable, playable, searchable, or whatever you could *do with it* originally). Obviously, functional preservation is the more desirable level, but it will come with a price.

As a community, our understanding of functional digital preservation is at an interesting juncture: we know how important the need is, we know how it can be done at an abstract level (e.g., format migrations or complex system emulation and so on). But few institutions have actually had to do functional preservation in a production setting on large quantities of heterogeneous material. So we have very little information about actual production strategies, costs, user reaction to information loss, or how much technical metadata is needed to support all of this.

How does this all relate to Dspace? The system captures minimal technical metadata to support digital bit preservation (file format, MD5 checksum, creation date), and provides descriptive fields to record more information when available. With this metadata and proper production procedures (e.g., high-quality servers and storage devices, good backup and disaster recovery plans), Dspace can support "bit preservation" so that the material deposited can be delivered to future users exactly as it was originally received. For some digital formats this may be the best option available—for example, an executable program for which no corresponding source code was provided or a format that's so rare (or proprietary) that the Dspace host institution has no way of knowing how to provide functional preservation.

However, functional preservation is currently a matter of institutional policy, and will only be implemented more thoroughly in Dspace when we understand more about the production techniques, user requirements, and cost/benefit tradeoffs. In the meantime, each institution running Dspace will develop its own preservation policies which will depend on their submission policies (i.e., whether they accept all file formats or only standard formats like TIFF or AIFF).

MIT plans to provide functional preservation for a list of "supported" formats, listed on the web site and shown to users during the deposit process. Supported formats include those that are documented standards (e.g., TIFF, AIFF, XML) or have published specifications (e.g., PDF, RIFF). The other two categories of support for MIT's Dspace are "known" and "unsupported". "Known" formats are those that are common enough to be familiar and usually quite popular, but which are proprietary in that there are no published specifications on which to base functional preservation. "Unsupported" formats are those that are either unknown to the Libraries or are extremely rare (e.g., a compiled program, a commercial CAD/CAM file, etc.). The reason for distinguishing between "known" and "unsupported" is that for the former we expect to see commercial conversion programs become available as these formats become obsolete since there are so many files in these formats in existence with many industries dependent on them. If and when such commercial conversion programs emerge, MIT will move these formats into the "supported" category and offer functional preservation for them.

### **The Dspace Federation**

Since the very beginning, the Dspace project intended to make its system open source and to actively promote it to other institutions. Why? There are many reasons for taking this approach:

- Developing a critical corpus of content that represents the intellectual output of the world's leading research universities
- Promoting the continued development of the DSpace service through the open source community
- Promoting interoperability of archival repositories and long-term preservation of scholarly work

In 2002, MIT formed collaborative partnerships with a small number of other academic research institutions in the US, UK, and Canada, to address some specific questions such as: what will it take to successfully deploy the system at another institution? How much localization, how much customization, and how much time and effort are needed? What services can be defined to leverage the digital collections of these institutions, and how can they be implemented in Dspace? What sort of organization will the Federation become: A consortium? A new membership organization? An informal and loose collaboration? Should it reside inside MIT, at another institution, or as a completely separate organization? These



official partners include: Cambridge University (UK), Columbia University (US), Cornell University (US), Rochester University (US), and the Universities of Ohio (US), Toronto (Canada), and Washington (US).

In addition to these formal collaborations, many organizations have downloaded the Dspace system (almost 1,500 since early November) and many of these are in the process of evaluating it for adaptability to their local requirements. Clearly there is great need for a system like Dspace, and as we explore the definition of the Dspace Federation over the coming year, we hope to get feedback and advice from many of these institutions about how the system should evolve and how to make it sustainable beyond MIT.

## Conclusion

Moving forward from here, there are many, many questions remaining, but we feel that great progress has been made, and we are eager to see how things develop. At MIT we are very pleased and excited to have a platform to begin exploring these issues, both within the Institute and with other institutions that want to advance the agendas of open access to scholarly information and the management and preservation of digital material. At HP we are excited by the role that Dspace can play as a vehicle for exploring and developing standards, and for ongoing research in digital asset management, archival, and preservation systems. Together we anticipate that DSpace will play an important role in the future of academic libraries and archives, and we look forward to productive collaboration with other institutions in this area.

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# Digital Object Identifier: An Aid for Information Retrieval

*Purbi Dey Kanungo<sup>1</sup>*

## Abstract

*The present paper tries to study the concept of Digital Object Identifier (DOI) which is normally seen on right hand top of many articles. Basically DOIs are used to locate or identify the 'Objects' even after its initial location i.e. URL is changed. The paper tries to describe the history, characteristics, process, structure and future developments of Digital Object Identifiers.*

Keywords: Digital object identifier, DOI, international DOI foundation, cross Reference

## Introduction

With the advent of technology and information explosion the market is flooded with millions of publications which include journals, books, articles, etc. The major problem for the user was how to retrieve the right or required data/material with least efforts and time. Recognizing the seriousness of the problem, research has been carried out by numerous individuals and organizations to develop a methodology to overcome this problem. Normally users follow the URL of a particular journal site for reading online journals and books. Unfortunately, if somebody links to the URL of an article and the website gets reorganized, the journal changes hands, the publishers gets bought up then the URL will no longer work. Sometimes which shows as “404 the requested URL was not found” or “HTTP/1.0.404 object not found” Hence, it can be said that the URL is not permanent rather it is a locator not an identifier.

Hence, it was necessary for the scientific community to develop a system which is permanent and helps in easy retrieval of information for the users. Some years ago, a consortium of scientific publishers stuck their heads together in an attempt to

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come up with a solution for persistent links to items published online. This standard is known as the Digital Object Identifier (DOI).

A Digital Object Identifier (DOI) is a system to locate an object in a digital environment like internet. DOIs are used to reduce the search time for locating documents as well as for managing content, its metadata and to facilitate linking. DOIs are useful when a user wants to find documents or other published articles quickly and effectively. DOIs are often located on the upper right corner of articles in academic journals, and in fact the majority of DOIs registered are done for educational articles. The only limitation of using DOI according to the experts is that it is not open and is controlled by the international DOI Foundation.



Figure : A Snapshot of a Journal Article to show DOI.

### Structure of Digital Object Identifier (DOI)

A Digital Object Identifier is a unique alphanumeric string that is being provided by a registration agency (under the governing body of International DOI Foundation). It is type of link i.e. permanently available on the top most portion of a published article or abstract. All the DOI numbers begin with a 10 and contain a prefix and a suffix separated by a slash (/). The prefix is a unique number of 4 or more digits which is assigned to the organizations and the suffix is assigned by the publisher. The DOI for a article stays the same for the lifetime however, its location and other metadata may change. The DOI system has so been planned so that it can be used on the internet. A DOI name is everlasting being assigned to a journal article or book chapter to provide a permanent network link to the information available on that particular object. While information on that particular item could be changed with time the DOI number remains unchangeable. The DOI was concerned as a basic structure for managing identification of content over digital networks, recognizing the trend towards digital junction and multimedia availability, DOI is standardized as ISO 26324.

## **History of DOI**

The DOI system originated in a joint initiative of three trade association in the publishing industry (namely International Publishers Association, International Association of Scientific, Technical and Medical Publishers, Association of American Publishers). Although originating in text publishing, the DOI was concerned as a generic framework for managing identification of content over digital networks, recognizing the trend towards digital convergence and multimedia availability. The International DOI Foundation was created to manage the DOI system in 1997.

From the development of IDF it has worked with the corporation for National Research Initiatives (CNRI) as technical partners. The first application of DOI system for electronic articles was done by CrossRef registration agency which was launched in 2000. Since then a number of registration agencies have been appointed.

## **Benefits of Using DOI**

The DOI has many features and functionalities some of which are mentioned below:

- (a) Uniqueness: The numbers provided are unique in nature
- (b) Permanency: The numbers provided are permanent which cannot be changed
- (c) Interlinking: Interlinking of data from other sources is possible
- (d) Accumulation: Adding of new features and services through management of groups of DOI names
- (e) Dynamic Updating: Updating of metadata, application and services is possible.

## **Process of Registration for DOI**

The publisher of a journal has to apply to the DOI Agency for the publisher ID. Registration has a fixed cost, which may be expensive for small publishers. The publisher assigns items IDs to objects at the appropriate level (e.g. Journal issue, article, abstract). A file of DOIs and their associated database addresses e.g. URLs are sent to the DOI directory for validating and storing. The publisher is charged per DOI. CrossRef is one of the registration sites for registering DOIs. CrossRef

provides an easy to use HTML form for registering DOIs. There are 2 steps that are to be followed for creating DOIs in CrossRef

*Step 1: Select Data type*

This can be Journal, Book, Conference proceeding, Reports, Dissertations etc.

*Step 2: Identify the Journal*

In this step the particular article, book etc details have to be provide which includes title of the article, abbreviation, journal DOI, URL of journal, print and e-ISSN number, volume and issue number of journal, issue DOI.

Finally the username and password and e-mail address have to be filled before submitting the form. One receives 2 e-mails a submission report and a XML file. The changes required if any van be done through the XML file. The registration process link is [www.crossref.org/webDeposit](http://www.crossref.org/webDeposit). The format for filling a form is shown in figure 2.

Step 1: Select Data Type

Data Type Selection

Select Data Type: ☒ Journal ☐ Book ☐ Conference Proceedings ☐ Report ☐ Dissertation ☐ NLM

File *BETA* ☐ Supplemental-Metadata Upload *BETA* ☐

Step 2: Identify the Journal

+

Journal information

Title\*+

Abbr.\*+

Journal DOI+

URL+

Print ISSN\*+ Elect ISSN\*+ one ISSN required (either one)

Volume  Issue

Issue DOI

URL

Publication dates  
note: use numerical values: (YYYY, MM, DD)

Type: print

\*Year  Month:  Day:

Type: online

\*Year  Month:  Day:

\* a minimum of one publication year is required

**Figure : Format of Form in Cross Reference**

## DOI System Components

### (a) The Number Component in DOI

Each DOI has a unique number assigned to identify only one entity. The DOI syntax comprises of prefix and suffix and forwarded by a forward slash. There is no particular defined length for the DOI number.

#### DOI prefix

It is composed of a directory indicator followed by a registrant code. These 2 components are separated by a full stop. The directory indicator shall be always “10”. The registrant code is a unique string assigned to a registrant.

*Example:* Title of article: Specialization in Library and Information Science curriculum (DJLIT, Vol.34 Issue. 6, Nov 2014)

DOI: 10.14429- DOI prefix comprising of a directory indicator “10” followed by registrant code “14429”

The registrant code can be further subdivided into sub-elements for administrative conveniences, if required. Each sub-element of the registrant code shall be preceded by a full stop which implies no heretical relationship. However, for any changes as such one has to consult the ISO 26324 registration authority.

#### DOI suffix

The DOI suffix shall consist of a character string of any length chosen by the registrant. Each suffix shall be unique to the prefix element that precedes it. The suffix can be a sequential number or any other number generated by the registrant like it can be ISBN, ISSN number also.

*Example 1:* 10.1342.isbn.1347-3467- DOI suffix using an ISSN number (hypothetical)

*Example 2:* 10.14429/djlit.34.6.6582- DOI suffix using the journal acronym and a period

(b) Aresolution Service

DOI resolution is provided through 'Handle system' which is effortlessly and freely available to any user using DOI name. Resolution redirects a user from its DOI link to one or more pieces of typed data like URLs. To determine a DOI name, it may be input to a DOI resolver or may be characterized as a DOI HTTP string by preceding the DOI name by the string. The URL provides the location of the HTTP proxy server which will redirect web accesses to the correct online location of the linked item.

Example:

DOI-10.1021/ac0354342

To convert a web address to a particular URL to the DOI becomes:

<http://dx.doi.org/10.1021/ac0354342>

(c) Control of DOI names

The DOI system is executed through registration agencies. However, the main controlling authority of the DOI has been the International DOI Foundation (IDF), Geneva. This organization also protects the Intellectual property rights related to the DOI system. Basically IDF only acts as a central safeguarding agency, the standardization of the system through ISO 26324.

### **Various Registration Offices of DOI**

The various registration offices of DOI are- Airiti Inc, CrossRef, Datacite, Entertainment Identifier Registry (EIDR), The Institute of Scientific and Technical Information of China (ISTIC), Japan link centre (JALC) and Multilingual European DOI Registration Agency (MEDRA).

### **Conclusions and Future Developments**

The DOI system is a very innovative and ground-breaking system. The main need of the system was felt when some of the traditional systems like the ISBN and ISSN numbers also used as identifiers are not able to provide a level of individuality to all the published information, because the basic idea is to provide a identification to individual articles or other such publications as finding or locating information of



an single entity was getting absolutely impossible in this vast printing of publications. Though DOIs cannot be called as intelligent identifiers like ISBN or ISSN numbers because these identifier numbers have some meaning whereas the DOI numbers does not have any significant meaning hence, they are also called as dumb identifiers. However, they are considered as excellent concept and scheme to locate or identify a particular document or article.

While the DOI system will help to satisfy many of the needs of the major publishers, both in supporting commercial interactions and in protecting intellectual property, those publishers produce only a fraction of the total material available on the internet, since this is a very costly service and also due to its complex upkeep requirements. Hence, it is required that the publishers need to collaborate so as to develop a more efficient and affordable parallel system.

The DOI is currently undergoing a era of rapid progress, following the early recognition of the principles of the system and its espousal in initial applications. As of now, several million DOIs have been issued, with over 300 organizations assigning DOIs. More new DOI agencies have been proposed and in the pipeline. The advancement of DOIs hence, obvious in all aspects of the DOI system let it be in technology, method or execution of the policies.

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# **Cryptography: Right to Information Vis a Vis Right to Privacy**

*Navtika<sup>1</sup> and Shuchita Agarwal<sup>2</sup>*

## **Abstract**

*The notion of a right to privacy of citizens in their communications is discussed in the context of an international movement by governments towards regulation of cryptography, and consideration of key forfeiture systems in national cryptography use. Data security is the science and study of methods of protecting data in computer and communication systems from unauthorized disclosure and modification. It has evolved rapidly since 1975. Cryptography is about communication in the presence of an adversary. It encompasses many problems like encryption, authentication, and key distribution to name a few.*

*Advanced digital technologies have made multimedia data widely available. The basic issues pertaining to the problem of encryption has been discussed and also a survey on image encryption techniques based on chaotic schemes has been dealt in the present communication. Digital images are widely used in various applications, that include military, legal and medical systems and these applications need to control access to images and provide the means to verify integrity of images.*

**Keywords-** Cryptography, Privacy, Image Encryption, Chaotic Schemes.

## **Introduction**

The word cryptography derived from Greek word *kryptos* which means 'hidden' and though the graphic it mean 'writing'. Cryptography allows for the safety of sensitive information, either to save or to communicate, and it is an indispensable feature of any secure e-commerce, (including secure email and voice communication).

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There are a number of *cryptographic primitives*' basic building blocks, such as *block ciphers*, *stream ciphers*, and *hash functions*. Block ciphers may either have one key for both encryption and decryption, in which case they're called *shared key* (also *secret key* or *symmetric*), or have separate keys for encryption and decryption, in which case they're called *public key* or *asymmetric*. A *digital signature scheme* is a special type of asymmetric crypto primitive.<sup>3</sup>

Cryptography contains four main types of services related with data that is transmitted or stored:

1. **Integrity:** keep the data *unaltered*
2. **Confidentiality:** keep the data *secret*.
3. **Non-repudiation:** so that someone cannot *deny sending the data*.
4. **Authentication:** be certain from *where the data come*.

A digital signature has much in common with an ordinary signature, except that it works better: when properly used it is difficult to forge, and it behaves as if the signature were scrawled over the entire document, so that any alteration to the document would alter the signature. In contrast, ordinary signatures are notoriously easy to forge and are affixed to just one small portion of a document.<sup>4</sup> Taken all together, cryptography and its uses and implementations have become essential for mankind's technical civilization. The future promise is for the smooth functioning of these and other services to allow individuals, businesses, and governments to interact without fear in the new digital and online world.<sup>5</sup>

Cryptography is important for more than just privacy, however. Cryptography protects the world's banking systems as well. Many banks and other financial institutions conduct their business over open networks, such as the Internet. Without the ability to protect bank transactions and communications, criminals could interfere with the transactions and steal money without a trace.<sup>6</sup>

Cryptography stands where security engineering meets mathematics. It offers us with the tools that underline the most modern security protocols. It is certainly the key enabling technology for shielding distributed systems, yet it is surprisingly tough to do right. There are a number of reasons for this, such as different professional backgrounds (computer science versus mathematics) and different research funding (governments have tried to promote computer security research while suppressing cryptography).<sup>7</sup>

**Aims and Objectives**

- I. To analysis the issue related with cryptography.
- II. To discuss the provisions of cryptography with privacy.
- III. To investigate the future challenges of cryptography.
- IV. To investigate whether encryption could be a middle way to make a Balance

**Cryptography and Privacy**

The notion of a right to privacy of persons in their communications has been communicated in the agenda of a global movement by supervisions in the course of directive of cryptography, and observation of crucial forfeiture systems in national cryptography use. The writers claim that the right to privacy in communication setups is a matter of foremost significance, guaranteeing freedom of the individual in nationally and globally. Guidelines and directives of cryptography procedure on Internet by nationwide administration may lead to discrimination in the citizen/government command relationship, with resultant comprising extraordinary observation of inhabitants, disruption of transnational conversation due to absence of persuasive cryptography (and insufficiency of regulation), human rights exploitations by rarer democratic or non-democratic administrations, and detaining of the radical prospective of an Internet global political arrangement. The Internet as marketplace requires cryptography only as a means of keeping commercial transactions safe: it is in the area of political discussion and other public forum functions that the importance of cryptography as a social issue becomes apparent. However, it already offers a politicised environment where news groups and lobby groups actively inform the Internet “community”.<sup>8</sup>

This function may be seen as an important new “public good” which possesses potential for a global public forum.<sup>9</sup> Internet users are, in fact, highly vulnerable to the placing of national “security” measures which may impact heavily on individual privacy.<sup>10</sup>

Confidentiality of communications is not measured to be a human “right” in utmost nations as, for example, it is contended in international forums literacy must be a human “right”. The Japanese constitution is unusual in guaranteeing citizens privacy of communications (Article 21 of the Japanese Constitution states in part “No censorship shall be maintained, nor shall the secrecy of any means of

communication be violated”, making Japan one of the few countries with constitutional guarantees of privacy).<sup>11</sup>

### **Cryptography and Information**

Cryptography allows for the protection of sensitive information, either in storage or in communication, and is a necessary feature of any secure e-commerce or electronic communication system (including secure email and voice communication). In the United States, there are few restrictions on the use of cryptography. When operating overseas, however, companies must grapple with a bewildering array of regulations and restrictions on the use of cryptography. Some countries restrict the import or export of cryptographic technology, others restrict the import of encrypted data, and still others restrict or prohibit the use of encryption within their borders. These regulations create immense difficulties for firms attempting to operate overseas, especially where prohibitions on the use of encryption force them to put their intellectual property at risk of compromise. Furthermore, the United States places restrictions on the export of encryption technology, and these restrictions can place companies operating overseas at risk of severe penalties if cryptography systems are exported to prohibited countries or entities.<sup>12</sup>

With the meteoric rise of the Internet and e-commerce in the 1990s came great attention to the problems and opportunities associated with cryptography. Throughout that decade, the United States and many foreign countries debated and experimented with various forms of cryptography regulation, and attempts were made at international harmonization. Since then, however, policy-making activity around cryptography has slowed, if not halted altogether, leaving individuals and companies to face a bewildering array of regulations—or, in many cases, to face regulations that are extraordinarily unclear and haphazardly applied.<sup>13</sup>

Public key cryptography is an irregular preparation that exercises a duo of sources for encryption: a public key, to encrypt data, and a corresponding private, or undisclosed key for decryption. Frequently we mix our public key to the world however protecting our private key confidential. Any person with a replica of our public key can at that time, encrypt data that simply you can recite. Even peoples you have not once met. It is computationally not possible to interpret the private key from the public key. Any person who has a public key can encrypt information but

cannot decrypt it. Basically the individual who has the corresponding private key can decrypt the Information.

## **Cryptanalysis**

Cryptanalysis is the skill of examine cipher text to abstract the plaintext or the key. In other words, cryptanalysis is the contrasting of cryptography. It is the cutting of ciphers. Accepting the procedure of code breaking is very imperative while planning any encryption structure. The discipline of cryptography has saved the technological detonation of the previous half of the 20th century. Current systems require very powerful computer systems to encrypt and decrypt data. While cryptanalysis has improved as well, some systems may exists that are unbreakable by today's standards.<sup>14</sup>

Today's cryptanalysis is measured by the number and speed of computers available to the code breaker. Some cryptographers believe that the National Security Agency (NSA) of the United States has enormous, extremely powerful computers that are entirely devoted to cryptanalysis.<sup>15</sup>

Data Encryption Cryptography is nearly communication in the existence of an opposition. It involves many difficulties (encryption, key distribution, authentication etc). The field of modern cryptography provides a theoretical foundation based on which we may understand what exactly these problems are, how to evaluate protocols that purport to solve them, and how to build protocols in whose security we can have confidence.<sup>16</sup> We introduce the basic issues by discussing the problem of encryption.

## **Cryptography and Future Challenges**

There are two categories of cryptography in this domain: cryptography which breaks your kid sister to read your records, and cryptography which breaks major administrations from interpreting your files. For numerous years, this class of cryptography was the elite territory of the military. The United States' National Security Agency (NSA), and its counterparts in the former Soviet Union, England, France, Israel, and elsewhere, have spent billions of dollars in the very serious game of securing their own communications while trying to break everyone else's. Private individuals, with far less expertise and budget, have been powerless during

the last 20 years, public academic research in cryptography has exploded.<sup>17</sup> Whereas classical cryptography has been extensively used by regular people; computer cryptography was the private domain of the world, since World War II. Nowadays, state of heart computer cryptography is experienced separate in the protected walls of the military. The amateur can now hire security practices that can defend besides the most dominant adversaries' safety that may guard alongside military agencies for ages to come.

For whatever motive, the information and communications are private and no one else's business, to guard their personal confidentiality against these governments. Clipper and Digital Telephony do not guard confidentiality; they force persons to absolutely belief that the government will takes care of their secrecy.

### **Legal Issues**

Cryptography has been of unease to intelligence assembly and law enactment agencies for long. Secretive communications may be illegitimate or even treasonous. Due to its simplification of confidentiality, and the lessening of privacy connected on its prevention, cryptography is equally of substantial reputation to civil rights supporters. Subsequently, there have been olden times of contentious legal matters connecting cryptography, predominantly since the beginning of economical computers has prepared widespread contact to high class cryptography feasible.

### **Digital Rights Management**

Cryptography is indispensable to digital rights management (DRM), a cluster of skills for mechanically governing use of copyrighted constituent, being extensively implemented and situated at the demand of some copyright holders. In 1998, Mr. Clinton, President of the United States beginning 1993 to 2001, engaged the Digital Millennium Copyright Act (DMCA), which proscribed all formation, dissemination, and procedure of certain cryptanalytic processes and proficiency (now identified or later revealed); overtly, those that could be employed to avoid DRM technological schemes. This had a noticeable effect on the cryptography enquiry community ever since a disagreement can be equipped that *any* cryptanalytic enquiry dishonoured, or might intrude, the DMCA. Related verdicts have consequently been endorsed in several countries and areas, embracing the application in the EU Copyright Directive. Similar restrictions are called for by

arrangements contracted by World Intellectual Property Organization member-states. Unquestionably cryptography and in a better sense, cryptology, has frisked enormous role in the determining and development of many cultures and nations. Whereas past may garnish an unlike image, the fact that the prime candidate often inscribe antiquity is worth revealing. If a military has a concrete defense that was powerful in arranging facts and figures that directed to accomplishment, how suitable are they to divulge it in the events of the wars? As a substitute, it may seem well to have revered heroes than to uncover the wrap and breadknife approaches that actually led to achievement. Cryptography, by its real nature, proposes confidentiality and no direction; henceforth, the fact that the antiquity of this subject is small and rather unreachable is of no big amazement. Possibly it is the situation which veiled in what is has formerly been inscribed.

### **Encryption: A Middle Way to Make a Balance**

Encryption is the principal instrument that consents for material safety in the digital age. In its utmost elementary form, encryption takes a note or article and scrambles it so that merely proposed beneficiaries can interpret the subjects. An unencrypted article: for example, an email note can be seen and understood by everybody who accepts it; an encrypted file, on the other hand, cannot be delivered or seen by accidental recipients, even if they have custody of the file itself. Encryption works by taking an original, unsecured document called the *clear text* and using a key to transform it into a secured document the *cipher text*.<sup>18</sup>

Cryptography is not fresh; in fact, encryption in modest forms has been in practise for thousands of years. The Roman emperor Julius Caesar employed an encryption method based on a very simple key: in his communications, he would shift each letter in the alphabet up by three letters.<sup>19</sup>

### **Data Security**

Data security deprived of “strong” cryptography is challenging, and United States, working on increasing of power in the field of cryptography advancement, is providing an instance of a nation which toughly prefers its supposed benefits as a national government, but not completely at the cost of declining to attend to the worries of its peoples.



The next technique, weak encryption, is likewise difficult. The main opposition to this kind of encryption directive is that some encryption capable of being wrecked by the administration is equally capable of being wrecked by any new government, or by big companies, or planned crime, or a drug union, or even a scholar with access to some standby computing period. Banks and similar organisations already send huge amounts of data in encrypted form over electronic networks. Providing the ability to decrypt such data is an open ticket to commit financial fraud, and both weak encryption and key forfeiture encryption open electronic commerce systems to fraud.<sup>20</sup>

*"The ``quotation" above is ordinarily called a message or plaintext in cryptography. The cryptogram is the cipher text. The process of transforming the plaintext into cipher text is encryption, while the reverse process of recovering the plaintext from the cipher text is decryption. The 26 letters used for encryption and decryption is called the key. The particular method of translating plaintext to cipher text is called a cryptosystem".<sup>21</sup>*

It is imperative to understand that a particular key could convert an arbitrarily lengthy portion of plaintext. Thus instead of possessing a big message undisclosed, the practice cryptography so that one requires only retaining a short key undisclosed. The original system of cryptography was the simple inscription of a message, as utmost individuals could not read. Although, the very name cryptography arises from the Greek names *kryptos* and *graph in*, which refers to secreted and writing, respectively. Initial cryptography was exclusively concerned with changing messages into indecipherable clusters of figures to guard the messages during the period the message was being passed from one home to another. In the contemporary era, cryptography has matured from simple message privacy to comprise some stages of message truthfulness scrutiny, sender/receiver identity verification, and digital signatures amongst other things. Certainly cryptography and in a better sense, cryptology, has done a massive work in determining and growth of many civilizations and cultures.

It is the preparation and study of systems for protected communication in the existence of third parties (named opponents). Cryptography proceeding to the modern age was efficiently identical with *encryption*, the alteration of data from a legible state to ostensible nonsense. The creator of an encrypted note shared the decoding system required to mend the original data only by proposed recipients,

thus preventing uninvited individuals to do the alike. Ever since World War I and the arrival of the computer, the approaches used to carry out cryptology have turned out to be progressively multifaceted and its application more extensive.

## Conclusion

Cryptography is crucial for the secure operation of for all associations, and it is a key to protect the privacy of individuals. Though, in reality, most of the countries put strong limitations on the use of cryptography. Cryptology deals with a difficulty not found in usual academic disciplines: the need for the appropriate interaction of cryptography and cryptanalysis. All worldwide active firms must acquire steps to ensure that they are in conformity with encryption rules in all countries where they do trade, and at the same time must accept best practices to maximize their information security in spite of restrictions on cryptography use.<sup>22</sup> In such a way Cryptography has many roles and many applications to perform.

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# **Research Data Management (RDM): A Systematic Approach to Big Data Challenge in R&D and Higher Education**

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## **Abstract**

*Big Data creates numerous opportunities for driving research and development, increasing productivity and transforming public and private sector organizations. The questions of Big Data are also being considered a very crucial aspect in research. There are far reaching implication of Big Data on how research is being done and how the data is being treated which is being created during and as the end product of the research. As the quantum of research generated data increases and takes the shape of data warehouse, the need for research data management arises. This paper is an attempt to highlight the concept, need, importance, plans, pertaining to Research Data Management (RDM). Good research data management practice enables researchers to conduct their research more efficiently, offers greater opportunities for sharing and reusing the research data and allows for better management of research resources. It also briefly discusses the online tools which can be used for RDM like DMP online developed by Digital Curation Centre (DCC) and DMP Tool developed by University of California Curation Center (UC3).*

**Keywords:** Big Data, Research Data, Research Data Management (RDM), Data Documentation Initiative, DDI, DMP online and DMP Tool

## **Introduction**

Big data is a term for a collection of datasets so large and complex that it is beyond the ability of typical database software tools to capture, store, manage, and analyse them. 'Big' is not defined as being larger than a certain number of 'bytes' because as technology advances over time, the size of datasets that qualify as big data will also increase. Big data has touched every sector and every sphere of human civilization.

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It has implications for researchers and scientists all over the world as they are constantly engaged in data creation and consumption.

There is a continuous evolution of want, techniques and technologies for sharing resources to gain momentum in order to achieve greater and effective collaboration. As academics are producing more and more digital research assets, the need for effective research data management is being felt. Tools, services and standards are extending beyond well established traditional methods to help researchers manage and share their research assets. Effective management lead to finding new ways to synergize across research groups while producing new knowledge. This requires serious contributions from the side of academic stakeholders working at deferent levels to ensure reuse and reproducibility of valuable data in teaching, learning, research, commercial exploitation and sound policy development.

### **Big Data**

The term big data is used to describe an exponential growth and availability of massive volume of structured, semi-structured and unstructured data that has the potential to be mined for information but is so large that it's difficult to process using traditional database and software techniques. Because big data takes too much time and costs too much money to load into a traditional relational database for analysis, new approaches to storing and analyzing data have emerged that rely less on data schema and data quality. Instead, raw data with extended metadata is aggregated in a data lake and machine learning and artificial intelligence (AI) programs use complex algorithms to look for repeatable patterns.

In most enterprise scenarios the data is too big or it moves too fast or it exceeds current processing capacity. Big data has the potential to help organizations improve operations and make faster, more intelligent decisions.

### **Implication of Big Data on Research: Research Data (RD)**

Data are distinct, isolated, unstructured, unprocessed pieces of information to be formatted in a specified structure to convey some meaning. This processing of data leads to information which is useful, organized and structured. This information transforms to knowledge when contextualized, synthesized through learning

ultimately leading to wisdom when applied through understanding and integration. Universities and research institutions are constantly generating and holding huge quantities of research data – either in the form of large, well-structured datasets or in the form of a long tail of small, distributed datasets which collectively amount to 'Big Data' and offer significant potential for reuse. However, unlike big data, these collections of small data are often less well curated and are usually very difficult to find thereby reducing their potential reuse value. The Big Data phenomenon has far reaching implications on how institutions manage their research. Data management plans are gradually becoming a standard part of grant proposals for most funding agencies.

The University of Oxford Policy on the Management of Research Data and Records uses the following definition for data: “the recorded information (regardless of the form or the media in which they may exist) necessary to support or validate a research project's observations, findings or outputs”. Research data is all the information we make use of in our research. Factual data when collected, recorded, observed, or created, for purposes of analysis to produce original research results can be designated as Research Data (RD). Such data is commonly retained by and accepted in the scientific community as necessary to validate research findings. Unlike raw data, research data is structured digital data from any disciplines or sources and can be created through academic research or as a by product of (academic) research. It may be created by non-academic activities also. Researchers in almost all the disciplines are creating data which is diverse in nature and are in digital format. RD can be generated for different purposes through different processes. It can be structured data as in databases, tables, etc., or unstructured data (in textual sources, images, audio recordings, personal notes, emails, etc. Examples of RD include: complex data used in climate modelling, aerodynamics, molecular modelling, bioinformatics; video and image archives used in archaeology, art history, anthropology and performance works; digital images/investigatory data of primary physical sources in the humanities; quantitative and qualitative data used in the social sciences; or electronic data and indices for fossils or skin tissue samples. Whether qualitative or quantitative, RD of each category may require a different type of data management plan.

### **Classification of Research Data**

Research data can be generated for different purposes and through different processes (Research Information Network classification):

SN	RD Purposes	Processes
1	Observational	Data captured in real time, usually irreplaceable. For example, sensor data, survey data, sample data, etc
2	Experimental	Data from lab equipment, often reproducible, but can be expensive. For example, gene sequences, chromatograms, etc.
3	Simulation	Data generated from test models where model and metadata are more important than output data. For example, climate models, economic models
4	Derived or compiled	data is reproducible but expensive. For example, text and data mining, compiled database, 3D models
5	Reference or canonical	a (static or organic) conglomeration or collection of smaller (peer reviewed) datasets, most probably published and curated. For example, gene sequence databanks, chemical structures, or spatial data portals

**Table 2. Research Data Types**

**Research data Scope and formats**

Research data comes in many varied formats including:

- Documents (text, Word), spreadsheets
- Laboratory notebooks, field notebooks, diaries
- Questionnaires, transcripts, codebooks
- Audiotapes, videotapes
- Photographs, films
- Test responses
- Slides, artefacts, specimens, samples
- Collection of digital objects acquired and generated during the process of research
- Data files
- Database contents (video, audio, text, images)
- Models, algorithms, scripts
- Contents of an application (input, output, logfiles for analysis software, simulation software, schemas)
- Methodologies and workflows
- Standard operating procedures and protocols

The following research records may also be important to manage during and beyond the life of a project:

- Correspondence (electronic mail and paper-based correspondence)
- Project files
- Grant applications
- Ethics applications

- Technical reports
- Research reports
- Master lists
- Signed consent forms

### **Research Data Management (RDM): The Life Cycle Approach**

Research Data Management (RDM) can be defined as the process of managing research data and the services and policies that support these activities. RDM is caring for, facilitating access to, preserving and adding value to research data throughout its lifecycle. It deals with organizing, structuring, storing, sharing and caring for it. It's about ensuring that the information needed is available at fingertips and also ensuring that it remains available and intelligible in the longer term. RDM includes planning data security and safety, data handling on a day-to-day basis over the lifetime of a project and data longevity which addresses the question like, "what happens to data in the longer term (after the project concludes)" RDM concerns the organisation of data, from its entry to the research cycle through to the dissemination and archiving of valuable results. It aims to ensure reliable verification of results, and permits new and innovative research built on existing information. It is part of the research process, and aims to make the research process as efficient as possible, and meet expectations and requirements of the university, research funders, and legislation. RDM encompasses activities like - Create data and plan for its use; Organise, structure, and name data; Keep it – make it secure, provide access, store and back it up; Find information resources, and Share with collaborators and more broadly, publish and get cited.

Data often have a longer lifespan than the research project that creates them. Researchers may continue to work on data after funding has ceased, follow-up projects may analyse or add to the data, and data may be re-used by other researchers. Well organised, well documented, preserved and shared data are invaluable to advance scientific inquiry and to increase opportunities for learning and innovation.



SN	Lifecycle Components	Steps
1.	<b>Creating data</b>	<ul style="list-style-type: none"><li>• design research</li><li>• plan data management (formats, storage etc)</li><li>• plan consent for sharing</li><li>• locate existing data</li><li>• collect data (experiment, observe, measure, simulate)</li><li>• capture and create metadata</li></ul>
2.	<b>Processing data</b>	<ul style="list-style-type: none"><li>• enter data, digitize, transcribe, translate</li><li>• check, validate, clean data</li><li>• anonymize data where necessary</li><li>• describe data</li><li>• manage and store data</li></ul>
3.	<b>Analyzing data</b>	<ul style="list-style-type: none"><li>• interpret data</li><li>• derive data</li><li>• produce research outputs</li><li>• author publications</li><li>• prepare data for preservation</li></ul>
4.	<b>Preserving data</b>	<ul style="list-style-type: none"><li>• migrate data to best format</li><li>• migrate data to suitable medium</li><li>• back-up and store data</li><li>• create metadata and documentation</li><li>• archive data</li></ul>
5.	<b>Giving access to data</b>	<ul style="list-style-type: none"><li>• distribute data</li><li>• share data</li><li>• control access</li><li>• establish copyright</li><li>• promote data</li></ul>
6.	<b>Re-using data</b>	<ul style="list-style-type: none"><li>• follow-up research</li><li>• new research</li><li>• undertake research reviews</li><li>• scrutinize findings</li><li>• teach and learn</li></ul>

**Table 2. Research Data Lifecycle Components**

Good RDM is a critical element of research in all disciplines, particularly in cases where research funders require researchers to manage their data.

## **RDM Need and Significance**

Research Data Management (RDM) is important for institutions as well as researchers. As the volume and complexity of digital research data increases, so does the need to address the challenges of managing, selecting, retaining and storing it.

There has been a decisive shift towards greater oversight of the research process motivated by the driving principle of data as a public good. This shift is seen in the concerns of policy-makers, and in changes in legislation and its implementation. To maintain research integrity, institutions and researchers must ensure research data is preserved so that results can be verified and the data reused in future. The scientific process is enhanced by managing and sharing research data. Good research data management practice allows reliable verification of results and permits new and innovative research built on existing information. This is important if the full value of public investment in research is to be realised. RDM is a key part of responsible research. Good practice in managing research data will ensure benefits ensue for individuals, fellow researchers and the wider public. Research data are an important and expensive output of the scholarly research process, across all disciplines. They are an essential part of the evidence necessary to evaluate research results, and to reconstruct the events and processes leading to them. Their value increases as they are aggregated into collections and as they become more available for re-use to address new and challenging research questions. Without proper organization, this value is greatly diminished. RDM ensures:

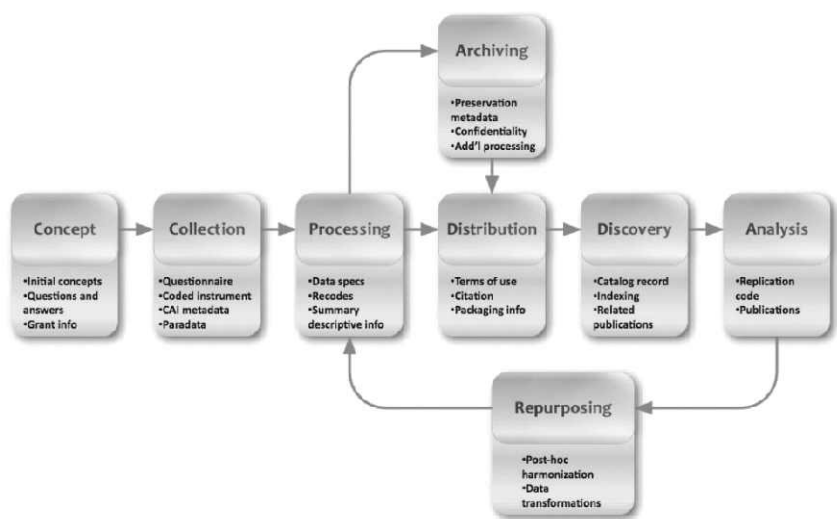
- Funding and regulatory body requirements are met.
- Research data remains accurate, authentic, reliable and complete.
- Duplication of effort is kept to a minimum.
- Research data keeps its integrity and research results may be replicated.
- Data security is enhanced, thus minimising the risk of data loss
- Comply with Funder mandates.
- Comply with practices conducted in industry and commerce
- Enhance data security and minimize the risk of data loss
- Ensure research integrity and replication
- Ensure that research data and records are accurate, complete, authentic and reliable
- Ensure your research is visible and has impact.
- Expedite the scientific process thus saving time and resources in the

long run

- Find and understand it when needed
- Get credit when works/data are cited
- Increase research efficiency
- Meet funding agency requirements
- Prevent duplication of effort by enabling others to use your data
- Protect Government investment in research and development
- Use or re-use the value, the uniqueness, and the importance of data
- Validate your results if required.

**Data Documentation Initiative (DDI)**

The Data Documentation Initiative (DDI) is an international project to create a standard for information describing statistical and social science data (i.e., metadata). Begun in 1995, the effort brings together data professionals from around the world to develop the standard. The DDI metadata specification provides a format for content, exchange, and preservation of information. It now supports the entire research data life cycle and enables data conceptualization, collection, processing, distribution, discovery, analysis, repurposing, and archiving.



**Figure 1. The Data Documentation Initiative framework**

## **RDM Tools**

### **DMPonline**

DMP online is an online RDM developed by Digital Curation Centre (DCC), JISK, UK which helps scholars to develop data management plans that meet research council and funding body mandates. It assists researchers to produce an effective data management plan (DMP) to cater for the whole lifecycle of a project, from bid-preparation stage through to completion. There are a number of templates within the tool that represent the requirements of different funders and institutions. Users are asked three questions in the beginning in order to determine the appropriate template to be displayed to them. It offers guidance to researchers in interpreting and answering the questions put to them. This guidance is based on the guidelines of researcher funders, universities and disciplines.

### **DMPTool**

DMP Tool developed by University of California Curation Center (UC3) of the California Digital Library. It is offered as a free service that helps researchers and institutions to create high-quality data management plans that meet funder requirements. It help researchers undertake data management activities aligned with institutional policies and requirements of the funding agencies. DMP Tool is an online application to aid researchers in creating effective data management plans (DMPs).

## **Conclusion**

Researcher Data Management (RDM) is drawing attention of the institutions and researchers owing to its importance and value. Adopting RDM has several advantages including time saving and improved data quality, better organization of data, easy discovery, avoiding duplications, easier access to both raw and processed data. RDM leads to enhanced employability, access to expertise and infrastructure, increase their profiles through data dissemination and subsequent citation and re-use. It facilitates organizations to identify new collaborators, clarity of ownership of copyright and intellectual property, and terms and condition of re-use, reduce risk of theft, loss or misuse of data, and damage to reputation that may result and are rewarded for sharing and disseminating data.

There is a need to formulate RDM policies in Indian R&D sector including researches being carried out at institutes of higher education like universities in order to avail benefits of RDM. The UGC (University Grants Commission) should also incorporate RDM in their MRPs (Minor and Major Research Projects) in which funding is provided by them.

RDM if implemented systematically has the potential to improve awareness of research practices and opportunities, identify more research outputs, and measure citation/re-use of those outputs. It can stimulate new environments of collaborative networking, increase compliance and reduce risk while improving readiness for audits. It's high time that research institutions in India also take up the issue of RDM more seriously and frame a sustainable policy so as to harness associated benefits out of it.

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# Challenges for the New Age Libraries

## Copyright in Cyberspace

*Indrajit Mitra<sup>1</sup>*

*As Mr. Justice Peterson said in University of London Press Ltd v University  
Tutorial Press Ltd<sup>2</sup>*

*“...what is worth copying is prima facie worth protecting.”*

### **Abstract**

*This paper focuses on the vulnerability of copyrighted works in the cyberspace and the violation of moral rights of the authors due to such violations. Infringement of copyright in cyberspace is considered more severe because here the “pirates” are invisible and can easily hide their identity. Movies, books, songs, images and any other sort of copyrighted work can be copied and reproduced and sold by these pirates online. This paper also refers to famous case studies like The Viacom Litigation and several other cases. There are various methods like Electronic Copyright Management Systems, Digital Millennium Copyright Act 1998 (DMCA), etc. that can be implemented by various nations to stop infringement of copyright in cyberspace. The need for protection is urgent and the recent shutting down of The Pirate Bay shows that the nations have started realising the importance of copyright works and the need for their protection. These activities need to be wiped down totally because the money generated through these activities can be used to fund terrorist organizations worldwide and then it will become more cumbersome for the government to control these activities.*

Keywords: Computer programme, cyberspace, piracy, e-commerce, IT Act, 2000.

### **Introduction**

Information Technology is growing faster than any other communication medium. Invention of digital technology was the most important revolution in the last

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<sup>2</sup> [1916] 2 Ch 601

century. The influence of digital technology on information technology is phenomenal and indispensable. This era has witnessed a new culture of internet. It is changing our lifestyle and way of doing business from traditional commerce to e-commerce. Originally it was confined to military establishments. Today Internet is not only used for educational purposes but also for businesses because of its speed, creativity, flexibility and tremendous potential to disseminate information beyond the geographical boundaries.

According to the Copyright Act, 1957, copyright is a negative and monopoly right which enables the author of the work to prevent others to exercise that right which has been conferred on him. The author is the exclusive owner of his creation. The precise text to determine whether a person is entitled to copyright is to ascertain whether skill, judgment and experience or labor, and capital have been expended in creating the work.

The key business of the Internet is computer. It is the largest and the most efficient distribution mechanism that has existed to date and at the same time it plays host to the largest number of piracy websites, from where one can download software.

### **Why is Copyright so Vulnerable to Infringement on the Internet?**

The relationship between the Internet and Copyright law is complicated. The internet is an international system for the transmission and reproduction of material, much of which is protected by Copyright. It therefore presents unforeseen possibilities for copyright infringement and many challenges for copyright law. While previously access to technology served as a barrier to copying by the general public, with new technologies, the average person was suddenly photocopying articles, taping albums, recording their favorite television shows. And what do you know? Copyright is still alive and thriving, and the entertainment industries are as powerful as ever. The courts have shown very little sympathy for plagiarists, and have frequently showed that copyright law ought to be interpreted in such a manner so as to protect the interest of the copyright owner.<sup>3</sup> Another important danger regarding digital media is the ease of transmission and multiple use. So now that you have a copy of this paper on your hard drive, maybe you want to send it to one of your friends. No problem, you can e-mail it right over to him. Similarly, if you had a book, you could let him borrow it; this is not prohibited by the copyright statute.

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<sup>3</sup> David Bainbridge, *Intellectual Property* (3<sup>rd</sup> Ed.) 1996 p 19.



Once the book is yours, you can do what you want with that copy of it and this is what is known as the "*first sale*" doctrine. You can even resell it without infringing on the copyright. In other words, you still have a copy of it on your hard drive and now so does he. There are two copies where once there was only one.

Cyberspace is a living organism, constantly changing, as more information is uploaded, downloaded and as more people join the pioneers of this brave new world. Our laws have yet to catch up with it. This is not necessarily a bad thing; the law tends to lag behind social changes, but then resolves itself accordingly as the society feels the need for it. Change is the only thing that is constant in this world. Similarly cyberspace is expanding at a huge rate as more people enter into it to explore the depth of knowledge that are fathoms deep.

### **Copyright Infringement**

Copyright in a work is infringed when the work is copied without the consent of the copyright owner. In case of infringement, it must be established that the defendant has copied the plaintiff form of expression and not his ideas. A copyright law deals with the form in which the work is expressed. It doesn't monopolies the idea of information. Thus computer programme, the expression is protected. This includes not only the code lines of the programme but also the structure. Underlying ideas and principles are not protected by copyrights.

### **Case Studies**

#### **Viacom Int'l Inc. V. Youtube, Inc.<sup>4</sup> also Famously Known as the VIACOM Litigation.**

On March, 2010 VIACOM Inc. a major entertainment content company, who holds the major entertainment sectors brought down landmark litigation against GOOGLE, a famous search engine and YOUTUBE which is a subsidiary of GOOGLE. In the year 2007, episodes of *SpongeBob Squarepants*, shown on Nickelodeon (a subsidiary of Viacom Inc.) were displayed on YOUTUBE which is a video sharing site. Though there was a content- sharing agreement between Viacom and Youtube but negotiations broke down in 2007.<sup>5</sup> Viacom's allegations

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<sup>4</sup> 718 F. Supp. 2d 514, 518-19 (S.D.N.Y. 2010).

<sup>5</sup> Viacom v. YouTube, WEBSITE COPYRIGHT, <http://www.benedict.com/Digital/Internet/YouTube/YouTube.aspx> (last visited Aug. 12, 2012).

against Google and YouTube for direct and secondary infringement came as a result of the regular distribution and viewing by YouTube users of copyright-protected materials.<sup>6</sup> In particular, Viacom alleged that tens of thousands of video clips sponsored on the YouTube platform infringed Viacom's copyrights.<sup>7</sup> The Second Circuit Court held Google and YouTube liable for the deliberate act and held them liable.

In **Kelly v Arriba SoftCorp**,<sup>8</sup> Leslie Kelly's copyrighted pictures were displayed by a search engine that not only produced thumbnails but also displayed large size pictures in its search results. This was held by the court to be an unauthorized reproduction of plaintiff's images that directly infringed copyright of the plaintiff. While creating only thumbnails could be justified as fair use, but downloading from search engine the resultant full size image amounted to an infringement.

In **Microsoft Corporation v Yogesh Popat**,<sup>9</sup> the Delhi High Court dealt with a copyright infringement case and awarded compensation to the tune of Rs 23.62 lacs to Microsoft Corporation against M/s Compton Computers Private Ltd and its directors for uploading pirated software of Microsoft in computers that the company sold after assembling parts.

In **Syed Asifuddin and Ors v. The State of Andhra Pradesh & Anr.**,<sup>10</sup> the Tata Indicom employees were accused and arrested for charges of hacking a computer source code under Section 65 of the IT Act, 2000 for altering the electronic 32 bit number encryption (ESN) programmed into cell phones that were to be exclusively used only on Reliance telecommunication service network. The court observed that such tampering of code is a punishable offence under Section 65 of IT Act. The court observed that in view of Section 2(o), (ffc), section 13 and 14 computer programme is a literary work protected by copyright and according to Section 63 any infringement of computer programme is punishable. However, the court observed that this issue will be decided by the trial court after evidence is led before trial court. The author is however of the view that such tampering will not be considered fair use under Section 52 of The Copyright Act 1957 as it was not

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<sup>6</sup> See Larry Neumeister, Viacom Alleges YouTube Copyright Infringement, USA TODAY, (May 27, 2008, 8:16 AM), [http://www.usatoday.com/tech/news/techpolicy/2008-05-27-viacom-youtube-lawsuit\\_N.htm](http://www.usatoday.com/tech/news/techpolicy/2008-05-27-viacom-youtube-lawsuit_N.htm).

<sup>7</sup> Viacom Int'l Inc., 718 F. Supp. 2d at 518.

<sup>8</sup> 280 F 3d 934(9th Cir 2002).

<sup>9</sup> 2005 (118)DLT 580, followed in Adobe Systems inc v K.Khanna 2009 (5)AS (Delhi) 954.

<sup>10</sup> 2005 CRLJ 4314.

reverse engineered for any of the exceptions mentioned in Section 65A of the Copyright Amendment Act, 2012.

### **How to Prevent this Infringement?**

**Electronic Copyright Management Systems-** ECMS, that is, technology that is deployed to enable copyright owners to track, manage or prevent copying of their digital work, such as the digital watermarking system. One type of ECMS is the easy, but widely used practice of digital watermarking. This is a technique whereby encrypted information is incorporated into a digitized work, and if some alteration of the work is effected which cannot be visible to the naked eye, and surfer may be unable to change the alteration. This system allows the copyright owner to track and identify unauthorised copies made of the original work. These unauthorised copies can be detected by sending out 'robots' to probe through content of web pages. If an infringing copy is found, the copyright owner might require the ISP on whose server it is located, to remove that copy.

**Digital Millennium Copyright Act 1998 (DMCA)-**In the US, protection for ECMS was first mooted in the Report of the Working Group on Intellectual Property Rights as part of the National Information Infrastructure Task Force (NII Report). In response to the concerns of users who argued that such protection might inhibit access to materials in the public domain, the NII Committee considered that while technological protection may be applied to copies of works in the public domain, such protection attaches only to those particular copies, and not to the underlying work itself.<sup>11</sup> Therefore protection against circumvention of ECMS was justified because it was not the work per se that was the subject of protection.

**Stronger Legislations-**Currently there is no strict laws that can make the person liable to face harsh punishments or to deter others from committing such offences in future. The existing laws are not in accordance with the developments that have taken place in cyberspace.

### **Conclusion**

From the foregoing discussions it can be concluded that the advent of the Internet is a serious concern in the field of intellectual property rights. The infringement of IP

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<sup>11</sup> [http://web.sfc.keio.ac.jp/~naemura/IPRP/nii\\_ipr.html](http://web.sfc.keio.ac.jp/~naemura/IPRP/nii_ipr.html) (visited 28th March, 2014).

rights over internet is common now a day. The present Indian Legislation on cyber Law does not have sufficient provision to tackle with problems relating to IPR and cyberspace. So there is a need of specific provisions which regulate IP rights in Cyberspace.

Internet has helped people in many ways. It is the best and fastest way to share your works with anyone worldwide. People have been using internet widely to gain publicity in a very short span of time. But it is the duty of the law authorities to see that no one's work gets infringed by other. Because according to the Lockean Labour Theory everyone should be reasonable acknowledged and reimbursed for their work and it is the responsibility of the state to protect these works.

On 9<sup>th</sup> December, 2014 *thepiratebay.se* which is an online entertainment content sharing site was raided by Swedish Police and shutdown<sup>12</sup> permanently because it violated various copyrighted contents by putting them online for public viewing without the permission of the authors. The action taken by Swedish police should be applauded and followed as an example by other nations to stop such online content sharing sites that infringe and violate rights of the authors and owners. Though it is a small step but it shows the dawn of the era of strict action against such “pirates”.

The Electronic Copyright Management System (ECMS) has helped to some extent in protecting these works on the internet. But still stronger legislations are needed to stop these infringements. Only stronger laws can ensure that people don't illegally reproduce or use other's work. Stronger punishments and heavy penalties have to be imposed that no one commits such act in future.

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<sup>12</sup> <http://www.extremetech.com/gaming/195647-the-pirate-bay-raided-shut-down-by-swedish-police-and-it-may-never-return> (Site last visited on 15<sup>th</sup> Dec., 2014 at 8:30 pm IST)

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8. <http://www.karnikaseth.com>

# **Management Policies and Security Issues in Digitalized Environment Related to Library & Information Sciences**

*Shaweta Sharma<sup>1</sup>*

## ***Abstract***

*Policy is generally use as guidelines and some terms and conditions related to product or institution and library services. A good management is key of success but policies are a key of security and safety. Every institution and company are follow some rules and make some policies to represent our companies' and institutions facilities. These are really help to give appropriate direction to employees and library users. Library is not a small organization. This is growing organization. So it has needed some policies to manage library services and his related users. We know that policies are new concept in library and information science field. But when our government follow this concept in libraries. Then libraries are growing and our society is known as value of libraries in our life. Today in our society information is treated as very important source in all field of development. it is related to social, political, economic and cultural etc. So the lack of information is going to major effect on development. In this we discuss the all concept related to policy and some security issues in digitalized environment. How these are effected on library society and helpful concept to fulfill all library values and library laws.*

**Keywords :** Library Management, Digital Right Management

## **Introduction**

Library is dynamic and integrated place of knowledge and information. Today information technology inspired all field and effected in our day to day life. Every one want to update our self and increase our knowledge time to time. But knowledge and information's are not limited in books and other related material. It is not so easy to gain all updates and a complete knowledge related to all fields.

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Information and knowledge is like ocean. It has no any limitations and no any physical boundary. Knowledge and information has also provide in limited form and limited way. In this information world library is play a role of medium to provide information and its related material. But libraries are also facing many problem in this work. They have limited funds limited storage area, limited tools and limited manpower. But library users and its related person are needed more and more information and demanded new digitalized environment in library and information material. If we look back in past then find out our libraries are not completely developed. There were lots of people who don't know what is library and how it can be used and who it can be helpful to update our knowledge. In every sector new technology and new working skills are modify the level of success and work style. When we look in library and information science in past year no one career about this and never see any development in this side. So peoples were not aware about this field and libraries. But when our society and our government has realize the importance of information and its related material. So they need an integrated library system in our society. In this direction father of library science in India has taken first step in this direction and aware our government and our society to take an important step to develop library status in our country. In this paper we will discuss it. Which type of steps are talking by our government in this direction. What is the role of management in libraries and why we need to make library polices and concentrate on library security issues.

### **Role of Management and policies in a Library**

Management is the process of how to work has done and achieve success. This is policy of getting things done through others by directing their efforts by towards achievement of goals. It has conceder action with polices and plans those lay down by the administration. In simple words we have say that management is art of managing work and achieve success **(1)**. Everything depend upon the good management system. Libraries development has also depended upon the good management. Library work has been depended on good team work. In this organization librarian has play a role of captain and other staff members are playing the role of team member. If captain never take right decision or command and direction then work has suffered and we cannot fulfill our duties and never achieve set goal. Management is a valuable key because it has really help to librarian to takes decisions within the framework who set by the administration. Most important function of management is motivating and controlling**(1)**. But it has

require technical activities to handle the employers. So management is most important factor in library and information science and in our libraries(2).

### **What is the policy and security?**

When we all using our libraries then we are facing some complexities, uncertainties and risks unknown to our predecessors(3). So we all require a proper way to access library. In library research scholars are likely to have better opportunities in his research work. So they have required some policies in library. By the help of these policies they can access more and more information's and its related information material in every type like hard copy or soft copy. When we look in past few year then we find without any library policy libraries were not developed and no one care about the situation of library. People were also not aware about library. They were no any idea regarding how to use library and which type of help was provided by librarian. They were not aware about regarding the importance of information and its related reading material. But now our society has aware about value of information and importance of knowledge in our life. So they need latest update related to all areas and subjects at every steps. When our government was aware the value of libraries in our society. They know that policy is set of all laws regulation that encourage, discourage and these are playing an important role in developing work. So they were taken first step in this direction and made various attempts to improve our library services. In fact they were established some national policy regarding our libraries. According to study we find that our government takes many steps to improve library services. In 1948 according to National Library of India Act they was renamed Imperial library to National library(4). In this direction second step was taken by our government and in 1951 they established Delhi public library and Indian national scientific documentation center and organized an advisory committee who suggested library services free to every citizen of India in 1957 (4). So we can say that policy concept has play an important role in our libraries.

### **Security Issues in Our Libraries**

Library is non profitable organization. It has no any own income so it has always depended on our government and any trusty management. This is totally social service organization. So financially it has reserved and depended on other sources. Library is a big organization and his material has also very expensive so it has



always some security issues are facing by librarian and its staff. In public Library security issues are very serious matter. Because in public library open door system has allowed to everyone to enter the library building. So in that case books thefts and physical harm of the reading material has faced by library staff. So they need a proper security to secure library and its material. This is not only public library problem it has typically problem with all types libraries. Today technology has also created some serious security issues. We know that now our libraries are converted in digitalized form. It is good to adopt new technology. But some time technology has created big security issues like if library software has crypt then every useful and value able library record has totally destroy. Then librarian has facing big problem. So they need to time to time maintain our technical tools and software in proper way and always store hard copy of library related every record in proper sequence. Librarian need to take an important steps related to library security. He has require to use digital cameras and security siren system to watch library work and users activity. So security is the first and most important priority for the all type's libraries. Providing Security in digital library has big issue. Because of their dynamic and distributing nature. Security in digital library is arise legal and social and sensitivity issues of information.

### **Digitalized Environment and Policy**

Digitalization has affected our reading material and resources. It has provide different types of tools to provide our readers update information. Now library material and inter change with electronic material like eBooks, e journals and some other types of form of material. This is very helpful and useful change in library. Now users can access library anywhere any time without any physical boundary. When we discuss about digital and virtual library we all pronouns that digitalization is like use CD-ROM, E- Resources like E-Books E-journals and basically use of computer is called digitalization. We agree this type of library is called digitalized but this is not example of virtual library. Because virtualization is not like digitalization. These are two deferent thinks. Some similarities are there but the main difference is that use of internet connection. I mean if we want to develop virtual library then we need to access internet and provide our user internet facility. This is very useful in very area and Internet also works like library. In other words we will say that virtualization is created by internet library. Management, policy and security issues are also standing here. Because virtualization is good thing but it has created some security issues. So librarian has need to take big step in this

direction and try to build new policy and organize some programs to aware our users to virtual library usefulness and how to protect our information material to harmful virus and other negative insects. Web2.0 is good example of virtual library this is prevented good knowledge and aware to library users and library staff. Blogs, J-gate, Google scholar, Wikipedia and there are some other search engines are playing good role of virtual library.

Environment has changes so demands and needs are also changed according to the environment. We need to modify our policy and rules and regulation and always try to connect with new technology skills and adopt new changes in information environment. Librarian has need to implement new trends and technology in own workshops and always encourage our users to invent new research in all fields. When we discuss about the library then always we realized the main motive of the library is full fill all library and information science five laws. Digitalization is playing an important role in it and help to librarian to developed library services. Yes I agree with this concept technology has some advantages and disadvantages. But it does not mean that we neglected his advantages. Because disadvantages have some basic solution likes to make some useful policy and some rules and adopt some security software.

## **Conclusion**

Management and policy are two main factor in library and other companies and institution. Our great philosopher and father of a library science in India were design library and information science field and they all know that success of the library and company has also depended on the good management and policy and laws. Library is social place so there work has also to satisfy our users completely. When we work in social place then our responsibly are also growing. When responsibilities growing and issues and challenges are always waiting our skills and work knowledge. So every librarian has needed to update our knowledge and always teach new work skills and technologies. If we discuss about the librarian status then we find in government sector the post of librarian has consider as teaching post. Librarian is role model to develop our society. In this research paper I will try to discuss every part of the library services and status of the librarian. I hope we will try to take important steps to develop library services and library status in our society.

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# Hybridization of Legal Information Resources: Indian Scenario

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*“The library is the very heart of the [Law] School.”, by Charles Eliot*

## Abstract

*The present Indian judicial system has its roots in the different period of Indian history. Administration of justice is the most vital attribute of the state. Statute of law is needed avoid erosion of society into a state of tooth and claw. We also need the well defined ruling of law for imposing penalties for all encroachment or violation from the code of conduct. The court act as a key judicial agency to deal with the administration of laws. The judicial system established by the Constitution of India is comprised the three type of courts. At the apex, it is Supreme Court, at center the High Courts and at foundation the subordinate Courts. In addition to the Constitution, there are other laws and rules which direct the composition, power and jurisdiction of these courts. Enormous cost, time and labor are introduced in bringing and notifying the references, reports etc. to the courts as well as the stakeholders. India is on the verge of technology revolution that enables law agencies to manage the case proceeding and other references and routine processes in electronic format, leading over paper-centric judicial scenario*

*This Article attempts to summaries the legal Information resources and databases commercially available and are used by the Judges, Lawyers, Law scholars, general public and other stakeholders. The Databases may be available either online or in CD-ROM format. Some important legal database vendors with details of the database, coverage, scope, etc. are being attempted to discuss herein.*

Key words: Supreme Court, Legal Information Resources, JUDIS, Westlaw, Lexis-Nexis, Hein-online, Manupatra, Shepard, SCC-online & Indlaw

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## Introduction

This article discusses about the availability of legal information resources in the India judiciary system. In order to ensure the right decision making in any case effectively through the judicial system, you need to understand the system's basic structure and other reference resources. Courts are responsible for determining what a law means. There are two types of law: law created by a legislature, and law created by judges on a court.

Legal research is the process of identifying and retrieving information necessary to support legal decision making. In its broadest sense, legal research includes each step of a course of action that begins with an analysis of the facts of a problem and concludes with the application and communication of the results of the investigation.

By 1940 the American Bar Association, in its *Factors Bearing on the Approval of Law Schools*, cited the notion as a settled precept: ***“It is a basic principle of legal education that the library is the heart of a law school and is a most important factor in training law students and in providing faculty members with materials for research and study.”***

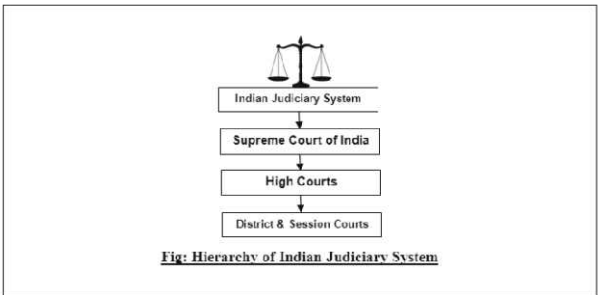
## The Rationale for Legal Information Need

Judges make decisions based on law. There are three sources of law: (1) constitutions; (2) legislation (also called “statutes” or “statutory law”); and (3) case law (previous decisions made by judges). Judges weigh each source of law in the conflicting condition for providing an effective judgment or order.

In deciding a case, the court is making law in two ways. First, the court determines what the law says about the dispute between the parties directly involved in the case. More broadly, this decision will also affect other people because the court's resolution of the issues in the case forms precedent for other similar cases: the case becomes an example, and sets out a rule that other judges will follow in similar cases. When a court is deciding a case, it will look at how other courts decided similar issues in the past, and will follow those examples (those precedents). Courts rely on earlier, similar cases, to determine how a current case should be resolved. ***The greater the similarity between the cases, the stronger the precedent.*** Therefore, it is very important to find out whether issues in your case have already

been decided by your court or other courts. These other cases can help you predict how a judge would rule in your case. You can also see what arguments were successful in other cases, so that you can use those arguments to succeed in your case. If you find arguments that hurt your case, you will need to rebut (argue against) them before the court.

If you find precedent cases that support your arguments, you will try to show the court that your case is sufficiently similar to the previous cases so that the conclusions in those cases should be followed in your case. If the precedent case works against you, you will have to convince the court that your case is different enough that the judge should not follow the precedent. This is called “distinguishing” a case.



S. No.	Courts	Logo	Source of Information
1	Supreme Court of India, (New Delhi)		<a href="https://www.google.co.in/">https://www.google.co.in/</a>
2	High Courts		<a href="https://www.google.co.in/">https://www.google.co.in/</a>
3	District Courts		<a href="https://www.google.co.in/">https://www.google.co.in/</a>

**Fig: Courts as per Indian Scenario and their Logo**

## Legal Library and its Sources of Information

A Law Library is a collection of legal materials such as Case Laws, Constitutions, Legislations, Legal Articles, Reporting Journals, Parliamentary proceedings, Legal Monographs, Treatises, Judicial & Administrative decisions and other legal resources related to national and international means in print as well as in digital form of media, for a specific class of users such as Law Students, Legal Scholars, Researchers, Judges, Advocates, Parliamentarians and other legal specialists, Information resources of a law library in India may be classified as under:

### Sources for Legal Information

Legal information is basic to all, *i.e.* lawyers, law scholars and general public. There are three categories of resources in a law library. The first category is **“primary sources.”** **Primary sources** include the documents that make up the “law”: constitutions, legislation, and case law (court decisions). Primary sources also include law created by “delegated authority,” such as executive orders, regulations, and the rulings of administrative tribunals. The **second category of resources** found in a law library is **“secondary sources.”** These are not themselves law, but books and articles that discuss and comment on the law. Secondary sources include textbooks, treatises, form books, dictionaries, periodical literature such as law journals, and manuals. These sources can be useful in persuading a court to rule a certain way. The **third category of resources** found in a law library is **search books**. Search books are library tools that help you to find primary and secondary sources of authority. They include digests of court decisions, citators (such as Shepard's), and annotated statute books. These search tools can help you find cases to make strong arguments. The **fourth category of resources** found in a law library is online databases (including CD-Rom Databases etc.).

Parliament does not enact laws for the exclusive use of lawyers. The law is supposed to be understood and followed by each and every citizen. The Government and the law in particular, expect every citizen to be knowledgeable in all matters pertaining to the law. That is certainly the reason why ignorance of the law is considered no defense in courts of law. A number of reasons can be advanced in support of legal information being available for the general public. It enables people to perform their work effectively and within legal boundaries. Police officers, for instance, require an understanding of the law to enable them to

maintain law and order. Police prosecutors need to understand the penal code, criminal procedure code and Evidence Act to be able to prosecute cases in court. Similarly, prison officers need legal information to enable them to manage prisoners and assist them to **reform** so that they can be better citizens tomorrow. Civil servants need to understand the law to enable them to carry out their duties effectively in areas such as customs, immigration, health, environment, labour, etc. We now live in a society where information is a key factor in any endeavor made and is known as Information Society. To become literate, information is a must. The law library being the information household of our legal resources can play a major role in creating awareness of legal research need. Once a law library has a good collection, library user needs to be educated about the different types of resources available and how to attain it.

### Primary Resources

<b>1</b>	<b>Constitutions of the Different Nations</b>	<ol style="list-style-type: none"> <li>1. Legislation of India (like Code of India, Acts and Bills of Parliaments, Local Laws of States, Gazettes of India.)</li> <li>2. Various Foreign Legislations (like United Kingdom Statutes and U.S. Code etc.)</li> </ol>
<b>2</b>	<b>Case Law-Indian Reports</b>	<ol style="list-style-type: none"> <li>3. Supreme Court Cases (SCC), 1969 onwards</li> <li>4. All India Reporters (AIR), 1914 onwards</li> <li>5. Supreme Courts Reports (SCR), 1950 onwards</li> <li>6. Judgment Today (JT), 1980 onwards</li> <li>7. SCALE, 1970 onwards</li> <li>8. All High Courts Reports, since their inception etc.</li> </ol>
<b>3</b>	<b>Case Law-Foreign Reports</b>	<ol style="list-style-type: none"> <li>1. Supreme Court Reports Canada</li> <li>2. Australian Law Reports</li> <li>3. Reports of Patent and Trade Mark Cases</li> <li>4. All England Law Reporters</li> <li>5. Federal Law Reporter</li> <li>6. Weekly Law Reports etc.</li> </ol>

### Secondary Resources

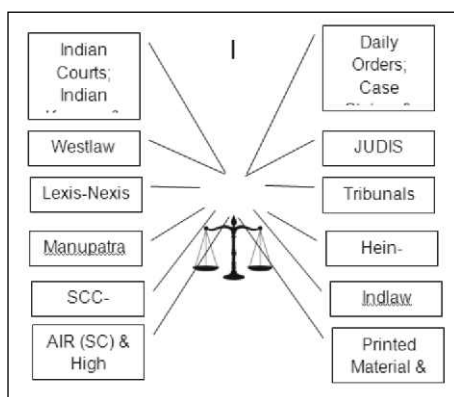
<b>1</b>	<b>Legal Encyclopedias</b>	(Like Halsbury's Law of India, Halsbury's Law of England and Word & Phrases and American Jurisprudence etc.
<b>2</b>	<b>Legal Glossary</b>	Like Wharton's Law Lexicon, Black's Legal Dictionary and Stroud's Legal Dictionary etc
<b>3</b>	<b>Digests</b>	Like AIR yearly Digest, High courts Cases Digest, Supreme Court's Yearly Digest and Index Indian Legal Periodicals etc.

### Legal Research Databases

The Advancement in the Information Communication Technology (ICT) has changed the way of handling and Accessing of legal Information. Access to the



Internet is now almost universal in public, academic, special and law libraries, and much primary legal authority is available through government and other Web sites. A vast amount of legal information is available for free online. In addition to government Web sites, there are commercially published online resources and databases such as SCC online, AIR Infotech, Manupatra, Indlaw, Westlaw, lexis-nexis, Heinonline has reduced the need for some types of printed volumes like reporters and statutory compilations. The commercial databases are updated frequently and offer the researcher the assurance that he or she is relying on a law that has not been recently amended. A number of law libraries have therefore reduced or under the process to reduce the availability of printed works that can easily be found on the Internet and have increased their own Internet availability. Hence, this study has been further expended in context to estimate the accessibility and usability of legal databases. As per the coverage area the Legal Research Databases can be categorized into two broad categories i.e. International and National.



**Fig: Overview of Hybrid Legal Resources Available in Indian Scenario**

**Some International Legal Databases can be classified as:**

- **Shepard's Citations** (<http://www.lexisnexis.com/en-us/products/shepards.page>):- Shepard's Citations is the most common information source among the law professionals. These must be used to ascertain whether the validity of a case or statute has been affected in some way. They are also used to enables a researcher to find all of the subsequent cases that have cited to a particular case. Shepard's is used primarily to trace the history of a case, to determine whether a case is still valid and to find other relevant authority to

support one's arguments. Researchers should always “Shepardize” a case before relying on it in court or in a court document. Researchers should be cautioned that since judicial opinions are issued daily, the Shepard's print copies are out of date from the date that they are published. Additionally, they are extremely cumbersome to use, especially when compared with online versions. Hence, because many law libraries subscribe to Shepard's online through LexisNexis, users should contact their local law library. Westlaw has developed a similar online service, called *KeyCite*, which links the researcher to other cases.

➤ **Westlaw India (<http://login.westlawindia.com/>)** :- Westlaw India is an online comprehensive legal database/portal of Westlaw by Thomson Reuters, combining both the Indian as well as International Law. It combines case laws from India, U.K, European Union, U.S and other commonwealth jurisdictions. The Coverage of Westlaw India is:

- Complete Archives of full text decisions of Supreme Court of India since 1950 to till date
- Complete Archives of over 3, 30,000 full text decisions from **twenty four** different High Courts of India (excluding Sikkim High Court).
- Complete Archives of over 70,000 Tribunals decisions from 18 Indian Tribunals, like Central Administrative Tribunal (CAT), Appellate Tribunal for Electricity (ATE), Central Information Commission (CIC), Debt. Recovery Tribunals (DRT) etc. from India.
- Includes different Bare Acts of India since 1850 to today.
- Provides Coverage of over 40.000 Notifications and Circulars covering a wide range of Ministries and Regulatory Bodies of India.
- Provides coverage of over 24,000 Legislations of different Statutes of India
- Provides coverage of 3,00,000 full text case reports of UK since 1865.
- Provides coverage of UK Legislation since 1267 for Acts and Statutory Instruments from 1948.
- Provides Access to European Cases, Legislation, Treatise, Preparatory Acts and Parliamentary Questions and Information and Notices.
- Provides Access to complete Archives of the Us contents as well as Jurisdiction including of Australia, Canada, Hong Kong, Singapore, South Africa etc.

- **Lexis-Nexis (<http://www.lexisnexis.com/>):** Lexis-Nexis Academic Online research tool archive dates back over 35 years is meant to research the Law, News, Business & Financial Information, Country Reports, Company & Industry Records and many more. It contains more than 45,000 sources from all over the world, that uncovers in-depth information from varied premium sources. Lexis Nexis research database covers:
- More than 900 law reviews and journals and more than 300 legal newspapers
  - Quick access to over 45,000 credible sources from around the world
  - Case law from International Court of Justice
  - U.S. Supreme Court decisions from 1790 forward
  - Patents from 1790 forward
  - Retrieve prior & subsequent case history through renowned Shepard's Citations®
  - European Union law
  - Full-text of more than 1200 newspapers from the U.S. and around the world
  - More than 300 legal newspapers, magazines and journals and over 600 newsletters
  - Non-English language news sources
  - 26,000+ news and social media sources, including full-text blogs from more than 4,000 premier blogs and Twitter® feeds with a three-year archive
  - More than 6,500 international news sources, 6,000+ magazines and program transcripts from thousands of shows from hundreds of major global news networks
  - A comprehensive collection of patent data from more than 100 patent authorities—31 in full text
  - 200+ executive and biographical sources
  - Vital regulatory and legal information, including 135 million federal and state court dockets and 8 million court documents, including 1.2 million briefs, pleadings and motions.
  - 600+ company & industry sources
- **Hein online (<http://home.heinonline.org/>):** Hein Online is a subscription based premier online research product launched in 2000 by William S. Hein & Co and provides access to a large number of law libraries with more than 70

million pages of legal history available in an online, fully-searchable, image-based format. Hein Online bridges the gap in legal history by providing comprehensive coverage from inception of more than 1,500 law and law-related periodicals. In addition to its vast collection of law journals, Hein Online also contains the Congressional Record Bound volumes in entirety, complete coverage of the U.S. Reports back to 1754, famous world trials dating back to the early 1700's, legal classics from the 16th to the 20th centuries, the United Nations and League of Nations Treaty Series, all United States Treaties, the Federal Register from inception in 1936, the CFR from inception in 1938, and much more. Hein online is the World's Largest Image-based Legal Research Database. Hein Online, the most complete resource for U.S. Congressional Documents research. It includes products from fifty six libraries. Some of them are as follows:

- Law Journal Library.
- Foreign & International Law Resources Database
- International & Non-U.S. Law Journals
- American Indian Law Collection
- Index to Foreign Legal Periodicals
- Intellectual Property Law Collection
- Federal Register Library
- Foreign Relations of the United States (FRUS)
- Treaties and Agreements Library
- American Bar Association Journals
- Core U.S./Most Cited Law Journals
- Criminal Justice Journals
- United Nations Law Collection
- United States Code
- U.S. Attorney General Opinions
- American Indian Law Collection
- Bar Journals
- Code of Federal Regulations
- English Reports
- New York Legal Research Library
- U.S. Presidential Library
- U.S. Statutes at Large
- U.S. Supreme Court Library

### Some Indian/National Legal Databases can be classified as:

- **SCC Online (<http://www.sconline.com/>):** The Supreme Court Cases (SCC) Online Database of Indian law, statute law with a user-friendly interface. It is available in two editions *i.e. web edition and CD-Rom edition*. This Database Contains the cases of various Indian High Courts cases and other tribunal and commission cases from date back 1779 to till date (*i.e. Calcutta High Court (Bengal Law Reports (1779-1875 with TruePrint, etc.) and the Supreme Court Cases from 1969 - till date with True Print*). In the Supreme Court Cases Online (SCC Online commercial software. A case may be searched by General Search, Topical Search (subject based), Case Index (Nominal Search) and Find by Citation. This is basically CD-ROM based database, which are updating every year but the latest judgments may be downloaded through internet with the help of SCC Online Search Engine. The database of the SCC covers the full head notes of the judgments.
- **Manupatra (<http://www.manupatra.com/>):** Manupatra has created the comprehensive online resource of Indian materials on Legal and Business policy databases. Manupatra gives access to in-depth legislative, regulatory and procedural information critical for decision making, without having to go to multiple sources. Manupatra provide the access to a complete archive and current updates of the full text of decisions delivered by the Supreme Court (1950 to till date) and all **twenty four** High Courts of India across all subjects of law from 1842 ( and Privy Council, since 1814) or year of inception of the court, whichever is later. Orders of the **twenty seven** Tribunals and Commissions are also covered by the Manupatra.

Manupatra provides access in all three segments of print, CD Rom publishing and online publishing. All the related materials in the database have been hyperlinked for searching the referred or related documents. The database tracks amendments across Bare Acts and Notifications, thus making available the current position of each document. Some of the salient features of the Database are as under :

- That it provide the search of a case law on a particular subject as well as by the name of a Judge out of any court of the judicature.
- That the Reports of various Commissions and Committee's are also available.
- That the Subordinate Legislation also available along with Central Legislation.

- **Indlaw (<http://www.indlaw.com/>):** INDLAW is a business-to-business Internet provider of research modules relating to Indian legal, tax, business and regulatory issues. Indlaw caters to the needs of every professional, whether he is a lawyer, chartered accountant, company secretary, management consultant, director or an entrepreneur. Indlaw is part of the Indian law online project which was launched in April 1997 (*Indlaw has now moved to Westlaw India by Thomson Reuters, a faster and globally acclaimed platform*) as a collaborative exercise between professionals and academicians based in U.K. and in India to build an electronic legal library to enable solicitors, advocates, students and clients to have access to information on various primary and secondary legal documents like the constitutional texts, parliamentary debates, case law, Parliamentary and State enactments and delegated legislation in both India and the U.K. Indlaw's legal databases include Case Laws, Legislation, Rules, Notification, Circulars, rade Notices, Practice Directions, Forms, Reports and Proceedings, FAQs, Articles, News and Press Notes.
- **AIR (SC) and High Courts:** All India Reporter, Supreme Court and High Courts Database is suited to meet all the legal information requirements. Key Feature of Folio is Lightning Search Speed in Huge amount of Data. Software is being used by Scholars, Jurists, Academics, and Researchers besides Bench & Bars. The products are categorized as per different search modules and information needs. The categories are as:
  - **AIR (SC)** Database contains data covering a period from 1950 till 2013. It provides the Full text from both the AIR Supreme Court as well as from AIR Supreme Court Weekly (SCW). This adds up to more than 37135 judgments (*in more than 2,98,092 Pages*) which cover more than 700 designated Topics and 4300 Subjects/Statutes of Central and State Legislation.
  - **AIR (High Courts)** Database is the store-house of decisions on various Topics and Subjects including Central and State Legislations from across the country. The AIR High Court software contains data of *twenty four* High Court's and their benches from 1950 till 2013. This data contains more than 86,613 judgments in over 3,42,000 pages, delivered by over 3800 Hon'ble High Courts Judges on 5042 Statutes/Acts covering over 550 Sub-edited topics.

- **Criminal law Journal** Database contains the data in respect of Judgments passed by the *twenty four* High Court's and their benches and Hon'ble Apex Court of India (from 1950 till 2013) along some land mark judgments on Criminal law. This data containing approximately more than 45,449 judgments of which more than 45,449 Decisions on Three Major Acts covering 1622 Statutes/Acts of Central and State legislation having Cognizable and Non-Cognizable offences. It contains some foreign court decisions which are extremely useful. A comparative table of old and new statutes for ready reference amplifies the content. This Data is extremely useful for Prosecutors and the Bench & Bar especially at the lowest strata of the judicial system. Some land mark decisions on Criminal Law are available in this data base. There is a Comparative Table of Old and New Statutes for ready reference. Moreover, Criminal Law Journal is the oldest running journal in the sub-continent on any specialized field.
- **AIR Privy Council** Database contains the rulings presided by the Lords & Sirs in the pre independence India are the foundation of our current judicial systems and are still revered in over 6200 Decisions of the High Courts and Supreme Court of India. These Judgments are precise and part of an intellectual literature which is very appreciate-able by legal faculty members.

### **Some Important Links to Free Legal Resources/Databases**

#### ➤ **JUDIS - (<http://judis.nic.in>)**

JUDIS stands for the Judgments Information system, which consists the Judgments of the Hon'ble Supreme Court of India and different High courts situated across the country. JUDIS provides access to all the judgments published in the SCR (Supreme Courts Reports) since its inception from the year 1950 till date. One can access the Judgments up to 1993 along with the head-notes and the judgments reported in SCR in 1994 and later have only text of judgments without head-notes. At present the daily cause-lists, orders and judgments of the Supreme Court of India and respective High Courts are freely available online through JUDIS.

#### ➤ **Supreme Court of India-(<http://sci.nic.in>)**

The Supreme Court of India functions both as a constitutional court as well as highest appellate court in the country and also as the forum of last resort for litigation involving the private rights of the citizens. The Supreme Court is the highest appellate court in the federal judicial system and is the final court of appeal for all federal cases. Supreme Court of India came into existence on 26th January, 1950 and is located on Tilak Marg, New Delhi. The Supreme Court of India functioned from the Parliament House till it moved to the present building. On the 28th of January, 1950, two days after India became a Sovereign Democratic Republic, the Supreme Court came into being. The Court moved into the present building in 1958. The building is shaped to project the image of scales of justice. The Supreme Court judges' library has developed some very useful in-house legal databases, namely "*SUPLIS (Database of Case Laws)*" "*SUPLIB (Database of Legal Articles)*" and "*LEGISLATION (Database of Acts, Rules & all Statutory Materials)*".

At the web site of Supreme Court of India one access the Judgments published or pronounced so far. The judgments pronounced by the different High courts so far can also be accessed through this database. Through some important links at this site one can access or find the status of a case, the final order pronounced in a particular case and the cause list in respect of a particular day of hearing. This site also has links to "*Indian Courts*", "*JUDIS*", "*Daily Orders*", "*Case Status*", "*Cause List*", "*Courts Websites*", and *India Code*. All the contents of this web site are published and managed by the Registry of Supreme Court of India.

➤ **Indiancourts – ([www.indiancourts.nic.in](http://www.indiancourts.nic.in))**

This Database of 'indiancourts' provides the single point access to the web site of Hon'ble Supreme Court of India and the web sites of all the *twenty four* High Courts and their benches situated across the India. This database provides the information like Judgments, Cause lists, Case-status and Static Information such as History, Jurisdiction, Rules, and Information in respect of the past and present Judges etc.

➤ **Indiacode – ([www.indiacode.nic.in](http://www.indiacode.nic.in))**

This Database of 'indiacode' provides the single access to all the Central Acts of Parliament right from 1836 onwards. Each Act includes: Short Title, Enactment Date, Sections, Schedule and also Foot notes. Access to some Important referential



has also been linked therein. The contents on *Indiacode* is published and managed by Ministry of Law and Justice, Legislative Department.

➤ **Indian Kanoon – (<http://www.indiankanoon.org>)**

This database has been developed with the aim to provide the knowledge of law to the general public. This helps in to search for Indian laws and their interpretations. This database provides the access to requisite information by breaking law documents into smallest possible clause and by integrating law/statutes with court judgments. A tight integration of court judgments with laws and with themselves allows automatic determination of the most relevant clauses and court judgments.

### **Summary**

Access to a significant law library was always recognized as essential for a functional judicial system. Information provides human beings with the ordered intelligence that is necessary for comprehension and consequent informed social activity to occur. Without information, there can be no knowledge; without knowledge, there can be no informed action. *Law* may be loosely defined as a collection of binding rules of conduct set by a human society to maintain order throughout the range of its endeavors. The function of law in this context is to coerce those behaviors—either actions or non-actions—that the promulgating authority has determined are in the best interests of the society. In order for this function to be realized, members of the society need to be aware of what these rules of conduct are so that they may choose whether to model their behaviors accordingly.

Human beings are transient, physical surroundings change, but the institution of the law library remains, lives on, and transcends. Whether it is accessed online from a nearby coffeehouse/ cyber-cafe or visited in the library building itself, the law library is the physical and virtual manifestation of the very essence of the judicial system.

The judiciary system is fundamentally dependent on access to law, embodied as legal information, in order to perform its functions. Before it can be accessed for conversion to knowledge and action, legal information must be collected, organized, preserved, and disseminated. Hence, in order to provide an efficient and

fruitful effect all the libraries of the courts all through the India has been facilitated with a number of on-line law databases including CD-Rom databases etc alongwith print resources. The Supreme Court judges' library has developed some very useful in-house legal databases, namely "SUPLIS (Database of Case Laws)" "SUPLIB (Database of Legal Articles)" and "LEGISLATION (Database of Acts, Rules & all Statutory Materials)". . This site also has links to "Indian Courts", "JUDIS", "Daily Orders", "Case Status", "Cause List", "Courts Websites", and India Code.

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# **Electronic Information Resource Management - A Challenge to Meeting Information Needs of Users of New Age Libraries in India with Special Reference to Delhi-Based Academic Libraries and Information Centres Under the Prevailing IPRS Environment- A Study**

*Dr Payal Singh<sup>1</sup> , Dr S. D. Vyas<sup>2</sup> and Dr Mohinder Singh<sup>3</sup>*

## **Abstract**

*The relevant, efficient, timely and free flow of information plays a vital role in the progressive advancement of academic and R&D activities in academic and R&D institutions leading to new ideas, new innovations, new applications, new processes, new products, new systems, new services and generation of new information or knowledge. The paper describes the growth of information sources, particularly of Delhi-based academic libraries and information centres, and reveals the growing trend of the emergence of e-information sources. The study identifies certain constraints of intellectual property rights (IPRs) laws regarding free flow of information for its effective use by the academics/scientists in developing countries, particularly India, for their better productivity in their academic and R&D fields.*

**Keyword :** Electronic Resource Management

## **Introduction**

The advances in information and communication technologies (ICT) during the last two decades have brought radical changes in the way information is gathered, stored, accessed, retrieved, delivered and used. It has brought dramatic changes in the structure and functioning of libraries and information centres at global level.

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The application of ICT for automation, digitisation and networking of libraries and information centres has enormously increased the capabilities of library professionals and users for better library services, better housekeeping operations and far greater access and use of e-information resources and services through databases and networks.

Though, over the years, information resources of libraries and information centres have grown adequately in India, but the problem of effective use of information resources among users is still a matter of great concern in the country. In view of wide spread use of e-information resources by users, particularly journals and databases, there is growing demand for IT-based information services by library users for meeting their information needs, mostly on 'individual basis'.

Users of libraries desires quality information services in terms of its up-to-dateness, timeliness and relevancy in its contents for meeting their satisfaction. The rising demand for new and better digital/web-based services is found quite common in many libraries, including Delhi-based academic libraries and information centres. The print information resources have grown many-fold over the years, but its access and use among users is not effective for its lack of digitisation and networking.

Information sources of a library or information centre are the key elements to support the information needs of its users. To meet their information needs adequately, users need the availability and accessibility to large volume of information sources (including e-information sources), a variety of information services (including e-services), IT- infrastructure and learning environment. Any constraints on supply of these resources may affect adversely to the fulfilment of their information needs, which leads to reduced productivity in their academic and R&D activities. Therefore, all these resources make a library or an information centre a dynamic, productive and useful facility for the users engaged in their academic and R&D activities. To keep these resources productive and useful to its users, the scenario or status of their condition must be analysed in the country through some survey from time to time for their needed improvements for its effective use among users.

### **Sample Study**

As a sample study, a survey has been conducted regarding key resources of some

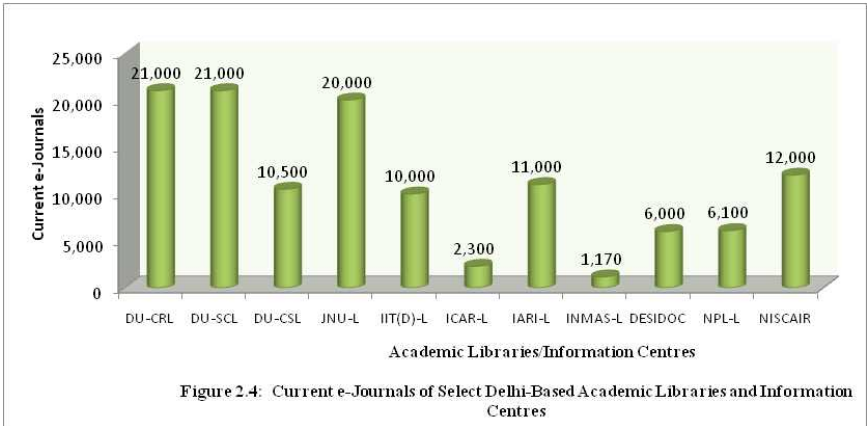
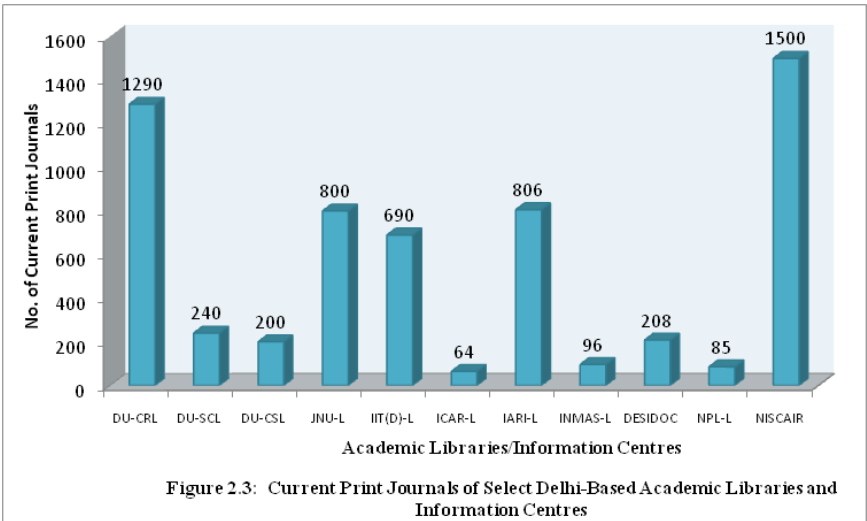
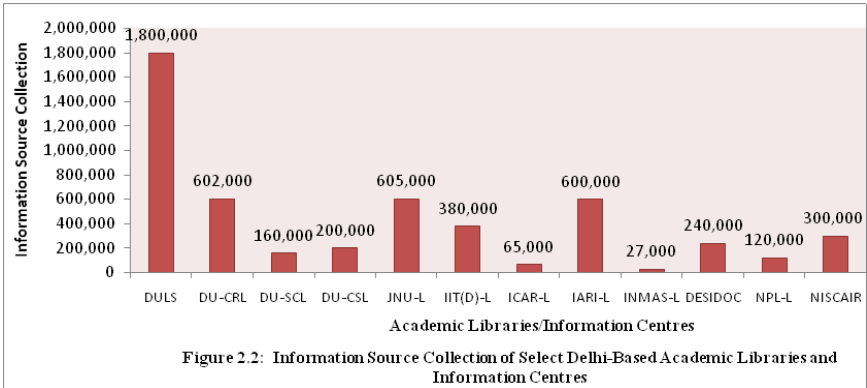
Delhi-based academic libraries and information centres functioning under academic and R&D institutions. For this purpose, a representative sample of 12 Delhi-based academic libraries and R&D information centres. (Six from each category) was selected for their analysis of data mainly focussing on information sources held by these academic libraries and information centres. These include Delhi University Library System (a group of 34 departmental libraries

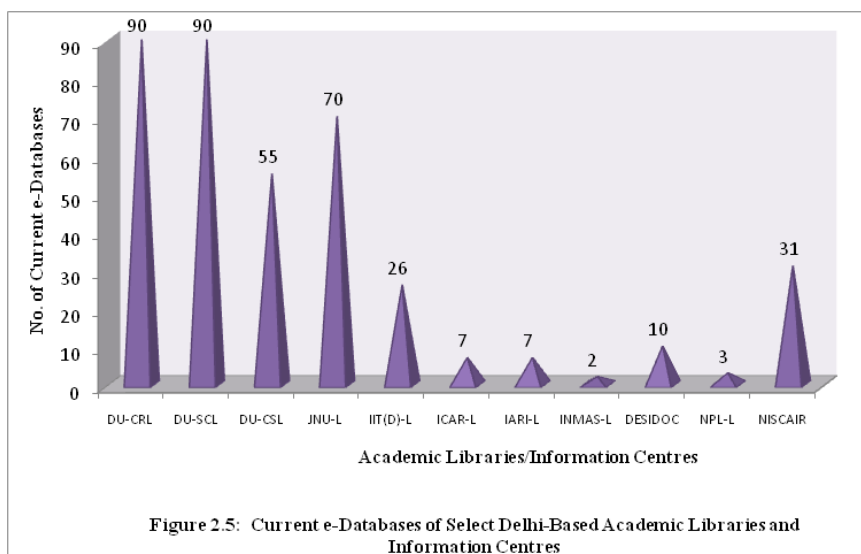
(DULS)<sup>1</sup>, with its three main branch libraries, Delhi University- Central Reference Library (DU-CRL)<sup>2</sup>, Delhi University- South Campus Library (DU-SCL)<sup>3</sup>, Delhi University- Central Science Library (DU-CSL)<sup>4</sup>, Jawaharlal Nehru University Library (JNU-L)<sup>5</sup>, Indian Institute of Technology, Delhi- Library (IIT-L)<sup>6</sup>, Indian Council of Agricultural Research-Library (ICAR-L)<sup>7</sup>, Indian Agricultural Research Institute-Library (IARI-L)<sup>8</sup>, Institute of Nuclear Medicine and Allied Sciences-Library (INMAS-L)<sup>9</sup>, Defence Scientific Information and Documentation Centre (DESIDOC)<sup>10</sup>, National Physical Laboratory-Library (NPL-L)<sup>11</sup>, and National Institute of Science Communication and Information Resources (NISCAIR)<sup>12</sup>. The data gathered on various categories of information sources through a questionnaire was further ascertained from published information sources, like bulletins, brochures, websites, etc. of concerned libraries and information centres. The analysis of data is presented below, both in tabular and graphical forms:

**Table 2.1**  
**Information Sources of Select Delhi-Based Academic**  
**Libraries/Information Centres**

Sl. No.	Library/Information	*Total Collection	*Books	*Bound Journals	*Other Documents	*e-Journals	*Print Journal	*Data-bases
1.	Centre DULS	18,00,000	14,50,000	3,66,000	23,000	-	s -	-
2.	DU-CRL	6,02,000	4,50,000	1,20,000	32,000	21,000	1290	90
3.	DU-SCL	1,60,000	1,30,000	36,000	5,500	21,000	240	90
4.	DU-CSL	2,00,000	1,10,000	90,000	5,000	10,500	200	55
5.	JNU-L	6,05,000	4,51,000	1,21,000	35,000	20,000	800	70
6.	IIT(D)-L	3,80,000	2,15,000	1,05,000	52,000	10,000	690	26
7.	ICAR-L	65,000	43,500	14,500	7,000	2,300	64	7
8.	IARI-L	6,00,000	1,11,000	3,50,000	1,40,000	11,000	806	7
9.	INMAS-L	27,000	11,000	12,500	3,500	1,170	96	2
10.	DESIDOC	2,40,000	75,000	65,000	1,00,000	6,000	208	10
11.	NPL-L	1,20,000	45,000	72,000	6000	6,100	85	3
12.	NISCAIR	3,00,000	1,80,000	92,000	30000	12,000	1500	31

\*Rounded Figure





As shown in Table 2.1 and Figures 2.2, 2.3, 2.4 and 2.5, there is a large information source collection of Delhi-based academic libraries and information centres, both in terms of print documents (books, bound journals and other documents) and e-documents (e-journals and e-databases). There is a similar situation of other academic libraries and information centres in the country as well. However, the new trend is that largely used documents, like journals and databases (mostly of foreign origin) are appearing more in electronic form than in print form with the growing emergence of e-information sources on global basis. The academics/scientists, particularly of developing countries, like India, are facing problem of free access and use of information under the prevailing constraints of IPRs laws of various countries.

### **Intellectual Property Rights and its Implications**

The term Intellectuals Property Rights (IPRs) refer to the rights of a class property emanating primarily from the creations/activities of human mind and labour. These rights of creators include such properties as- copyrights, industrial designs, patents, trademarks, geographical indications, layout design of integrated circuits and protection of undisclosed information covered under GATT (General Agreement on Tariffs and Trade), 1994 of WTO (World Trade Organisation) . WIPO (The World Intellectual Property Organisation) is a specialised UN agency to deal with IPRs and TRIPS (Trade Related Intellectual Property Rights) Agreement is its

agency to enforce minimum framework for IPRs on global level for the interests of creators/inventors/owners on one hand and the interests of its users on the other hand. Though the basic objective of TRIPS is to reduce distortions and impediments to international trade, by taking into account the protection of IPRs and to ensure that the measures and procedures to enforce IPRs do not themselves become barrier to the legitimate trade, but in practice the IPRs, with special reference to the concept of copyright laws has created several implications for libraries for free flow of information and its use by the users for research, development, and other activities, particularly for developing countries, like India. The Indian Copyright Act, 1957, amended in 1994 in conformity with TRIPS Agreement protects 'literary works' (including tables, compilations, computer databases and programs). As per the copyright law, the following acts are considered infringement of copyright if performed by persons other than owner of the copyright:

- i. To reproduce the work including storing of it in any medium by electronic means
- ii. To perform work in public or communicate it to the public
- iii. To make translation of the work

With the above provisions, the present copyright law which was developed after the invention of printing has, by and large, forced on the existing electronic environment. There is a need to modify the IPR law, which confers exclusive right to the author of the product of labour, skill and capital involved in generating information, but without giving undue benefit to him/her so that he/she is not allowed to make excessive profit and become a barrier in the free flow of information due to monopoly. Therefore, a well thought out licensing strategy is required to serve interest of authors, publishers and libraries.

The objective of copyright is to encourage authors for their creativity; it is not meant to create barrier by means of monopoly, giving undue benefit to them at the cost of free flow of information. Following are some implications of copyright laws:

- I. Under the present copyright law, the photocopy of the copyright material cannot be done without taking permission from the owners. This authorisation is provided by paying fees for making photocopies. It is generating lot of funds for the publishers in the form of journal titles. In addition, the publishers have



increased cost of journals many-fold to make their profit. Due to this, many libraries are not able to buy. This is causing serious concern to libraries and persons engaged in academic and R&D activities. Also, as observed, academic libraries and R&D information centres in Delhi and other parts of the country are having large collection of documents. The copyright restriction of its conversion in digital form and making its access and delivery to users at national and global levels is acting as a great hurdle for libraries for its long-time preservation and use on shared basis. Distributed digital information services provide easy, up-to-date, quick, specific, integrated and optimum access to desired information, anywhere, anytime to its users, thus fulfilling its centuries old objective 'maximise the use of libraries for its users.'

- II. The other problem being faced by the developing countries these days is their inability to use information produced within their own countries due to the present copyright law. The problem relates to the findings of their own academics/scientists published in foreign journals. If the financial resources of the countries are not good to purchase the journals or to procure the photocopies by taking permission from the copyright owners, these countries are denied the right of using the information generated by their own academics/ scientists. Though this situation is improved to some extent by launching 'institutional repositories' by some academic and R&D centres, but still it has a long way to go.
- III. The various deterrents or regulatory steps like security across multiple platforms, cryptographic techniques, authentication of users and limits to their access, multi-level protection (i.e. at network, system, application and user workstation levels ), metering of access time, password regulation, etc. may no doubt protect the IPRs but also work, sometimes, against their fair use. The IPRs laws were conceived to enhance, and not to prevent, the information access and usage.

Thus, the attempts for ensuring and enforcing copyright may be seen by the end-users as non-user-friendly. The mechanisms developed for right protection may restrict the access and use of digital information only to the privileged few who can afford to pay, thus defeating the main purpose of copyright law. Further, it is difficult to draw a boundary line between what is permissible to what extent, and what is infringement. Small scale violations

which may not conflict with the owners' rights may have to be accepted as part of fair use.

- IV. Even browsing is a violation of fair use (the existing fair use is applicable only to print works) and amounts to infringement. It is quite difficult to ascertain the usefulness of a digital document without browsing and without accessing one cannot browse. This forces the user to pay some sort of fee which is not justifiable. This is one of the most important issues which concerns both, users as well as libraries.

In virtual library environment, the librarians should have the same kind of fair dealing arrangement as in the case of printed documents. They should be able to read or browse electronic information without having to pay for it; preserve in digital format copyright material held in their collections; and fulfil inter-library document requests of users by electronic means.

- V. The present copyright laws act as a big constraint for the public and the libraries. The preservation of digital publications involves various technical, legal, economic and organisational issues. The libraries face a totally different landscape in dealing with digital media than w.r.t the print media. Most notable is the governing of the acquisition of digital assets not by copyright but by contracts/licensing. This hinders the ability of libraries to lend copies, to make copies, to keep copies, and most important to preserve copies of digital works. The traditional objective of libraries is to educate patrons and promote scholarship and research. Naturally, they view copyright issues with the public need for uninhibited information flow in mind. Copyright holders, on the other hand, place primary importance on the value of exclusive right for information creators.

Thus, the conflict between library's free public access and the copyright holder's monopoly is a fundamental conflict in copyright law. The librarians want more access for everyone while content owners want to control access to extract the legally allowed rents. Ironically, the library as an historic balancer of copyright law, does not enjoy it explicit information right, though in the interest of public, libraries right to preserve and supply of information to users to meet their information needs like water and air be protected.

## Conclusion

As observed through this study, Delhi-based academic libraries and information centres have done considerable work in the area of library automation, digitisation and networking, but still more development efforts are needed in this direction. The trend is towards development of digital libraries that brings library closer to users, makes browsing and searching of information easy, and information can be shared, updated and interacted for effective use anywhere, anytime. It has reduced the size of libraries from biggest to the smallest and has overcome the problem of information explosion and language barrier.

As part of information management policy, every library and information centre of academic and R&D institutions should work towards meeting their future challenges. Today cooperative collection, resource sharing, sustaining interest of users in library information services, constant support from authorities in allocating recurring grants to procure, update and maintain e-information resources and ICT infrastructure are not the new challenges of libraries and information centres. The new challenges are issues relating to preservation and availability of e-information resources on long term basis, updating library professionals and users skills for use of ICT tools effectively, developing programmes for digitisation of existing print information resources of libraries and harmonising IPRs laws to facilitate libraries for free flow and friendly access of e-information resources for its effective use by academics and scientists for their better intellectual productivity.

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# **Impact of Information Explosion on Library Professionals in Digital Technology Scenario**

*Vijay Kumar<sup>1</sup> and Dr. Anand P. Singh<sup>2</sup>*

## **Abstract**

*Generation of information is greatly changing throughout the world. Present rapid development in digital technology is witnessed as information explosion and changing the role of library professionals. New technologies have facilitated transformation of knowledge into digital format. This paper defines region of information explosion and analyses the challenges and changing role of the library professionals in digital technology scenario and need of new skills for library professionals.*

**Keyword :** Information Technologies, Information Explosion

## **Introduction**

Digital technology is the best method for reducing paper usage which plays havoc with worlds; forests and environment. Environmentalists are putting all efforts to make the common man aware of the benefits extended by digital technology for preservation of our nature. In 1980s, Lancaster stated that 25 percent of the reference books will be in electronic form and he also predicted that 50 percent of the existing secondary sources like abstracting and indexing services will be available in electronic form by the end of this century. Now it has become true. After this Information explosion, it is a Library, which has all the information in electronic form with electronic devices to access the digitized information. In digital Libraries, it will become necessary to limit access to some portions, charge for access and delivery of information, and manage content which may be even gigabytes or even terabyte. Scalability for future growth also will become necessary. All these activities are performed by the Library staff. Hence, there is a need for developing skills within the staff responsible for information services.

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## **Objectives**

This study examines the problem of library professionals to serve in current digital technology environment. It will aware to the professionals with new technologies in order to serve their services efficiently and timely.

## **Information Explosion**

According to IDC study, the world generated 161 billion gigabytes digital data in 2006. IDC added, that it represents three times of information in all the books ever written, or 12 stacks of books that reach from the Earth to the Sun. The report took into account photos, videos, e mail. Web pages, instant messages, phone calls, and other digital content used today. It is said that Newton was the last scholar who had all the Information of physics of his time. After that, it became simply too much, no man could read all. An increased information supply does result in an increased information load for library users. It may produce an overload effect in users, with resultant confusion, tuning out of some information, decreased quantity and quality of output.

## **Digital Library**

This large amount of information is to be stored in library for information retrieval and dissemination but the individual institute's libraries are unable to acquire each and every relevant information in order to meet the needs and requirements of their own faculty, researchers and students. Therefore, the institute's libraries personnel have started relaying on digital technology including digital media and resources, in order to supplement the conventional library materials. This type of library is called Digital Library. Digital Library should have comprehensive collection of resources important for learning and gaining Information and should be readily and easily accessible by all types of users. The Digital Library should be maintained and managed by information professionals who would be adding values to information services to evolve as Information dissemination.

According to R. Larson "Digital library is a global virtual library-the library of thousands of networked electronic libraries". A digital library is a library in which collection are stored in digital format likes microforms, CD-ROM, audio-visual cassettes, DVD, online on web and accessible by computer. The cost of information in various formats varies, though the content is the same. The digital media is

comparatively economical provided the individuals or the institutions possess the needed infrastructure. Digital sources are preferred in many instances because they occupy virtually no space and are quite economical too.

### **Challenges of Digital Library Professionals**

Digital libraries require digital library professionals (DLPs) to select, acquire, organize, make accessible, and preserve digital collections. Digital services must be planned, implemented, and supported. Computers are certainly essential as the primary tools with which digital libraries are built, but librarians are required to put the systems and the services together and make it work.

Organizing a digital collection is quite different from organizing a print collection in terms of day-to-day work and individual tasks that must be accomplished. Present day DLPs are facing following serious issues:

- Rapidly changing environment
- Continuous cost reduction
- Technical infrastructure
- Level of commitment
- Promotion of knowledge innovation
- Focus on acquiring digital resources
- Prohibition on duplication of materials
- Enhanced information retrieval
- Maintain multiple access system

### **Solutions and Suggestions for Challenges**

Today, the technology is advancing at such a rapid pace that what is learned today will soon be obsolete. Therefore, it is more important a number of steps to be taken for the enhancement of library and information services to meet the users' expectations:-

#### **1. Efficient Professionals**

Library professional should be well trained to work in the digital environment. Unfortunately, there is scarcity of library professionals who can use latest devices

with ease and maneuver application software tools to provide library and information services in the digital age. They can only face the challenges of the digital age if they have to learn constantly (but selectively) and experiment endlessly. They need to love learning, be able to absorb technology, and be inclined to innovate.

## **2. Improve Knowledge and Skills**

There is a massive need for re-skilling the existing knowledge of library professionals as far as:

- Library faculty should continuously develop and restructure curricula to encourage learning.
- Library schools should plan ahead of times and develop education programs that respond to market needs, fill the skill gaps and prepare manpower for easy transition to digital information handling.
- Coordinated and well planned research effort in LIS research is desired to helps the professionals to better serve the society but also make them more indispensable for employment.
- LIS programs must accommodate technological developments leveraging applications for better performance in services.

## **3. Maintain Utility of Library**

It is assumed by the users that Internet is the solution of every problem. Any information can be obtained through Google. So, there is no need to go to library and users expect that their required information may be delivered at their desktop. It is, therefore, a serious challenge for Library professionals to attract the users to libraries and maintain the utility of Library.

## **4. Balance in Developing Library Collection**

The history of technological innovation shows that all users don't have the same preferences. Some people like printed books, whereas some like information in digital format. So it is important for library professionals to keep balance in the digital and print collections of library.

## **5. Preservation of Digital Materials**



Digital material life is unpredictable due to problem of format obsolescence of software and hardware. Software of different firms sometimes do not support formats used by other software and hardware become obsolete with the passage of time and digital material preserved on old storage devices may not be accessible with new hardware. Data stored on such storage devices become useless until converted to latest devices well in time.

## **6. Awareness with Open Source Systems**

Open Source Solutions are the emerging trend today and started dominating the information industry. In particular, the libraries are the great beneficiaries of these open source technology. Fortunately for Digital Library Applications, there are lot of open source systems available namely DSpace, Green Stone Digital Library (GSDL), e-prints, fedora, Linux, etc. They are not only cost effective but also capable of handling DL challenges like content & metadata management, information dissemination etc.

## **7. Accessibility of Digital Materials**

DLPs should continue to refine library instructional methods to enhance user skills. As we know that now a days most of the library users are computer literate, but even they are not able to access library resources properly. It is, therefore, a challenge for library professionals to impart training to library users about the use of digital resources available through library website or within the library.

## **8. Open Access Information**

There are many types of open access information available like online, free of charge, and free from most of copyright and licensing restrictions. It is the responsibilities of library professional towards the user to provide information accessible with right manner.

## **9. Digital Rights Management**

DLPs should be aware with the Digital rights management (DRM). DRM is the name given to a set of technologies used by publishers of digital content (like music, video, or electronic texts) to control the ways in which content consumers

are able to use information. DRM technology creates intentional and artificial information usage barriers. In doing so, it compromises libraries' mission of providing free access to information – “free” in the sense that users can make their own determination about how to use that information appropriately and ethically.

## 10. User Support Services

We are already seeing a transformation in the world of libraries & library professionals. Libraries are becoming less important for the materials they collect or house, and more are important for the kind of materials they obtain in response to user requests. These trends imply less in person mediation by library professionals, as patron access information directly, but more of behind the scenes mediator role in selection and creating annotated guides to external resources. This means a greater role for library professionals as instructors, troubleshooters and guides. Digital library user services include the following important services:

- **Digital Conversion Service:** which digitizes original materials including books, photographs, journals, rare documents etc.
- **Course Reserve Service:** The Digital library supports curriculum needs with its course reserves service, which offers books, coursepacks, CDs, and other physical items available to students. These items are available to students at the libraries for short periods of time to maximize access to high use and high demand materials.
- **Book Machine Service:** Book Machine service is an integrated, automated book-making machine that prints, binds, and trims, on demand, paperback books. The Book Machine can print, bind, and trim a 300 page book from a digital file in about 7 minutes, like Dware Dware Gyan Sampada by CDAC.
- **Research Data Services:** Research Data Services is a growing network of services throughout the library to assist user during all phases of the research data lifecycle. From preparing data management plans for grant proposals to sharing and preserving data, it provides resources to help user with their data.
- **Digital Serials Services:** Digital Serials Services is a collection of information from back issues of serials, journals, newspapers and miscellaneous research material in various formats.

Hence, we can say that libraries are shifting their focus from 'acquisition to access needs' to realize its implication. This often requires a significant investment in equipment and training. It requires the development of an infrastructure to support

document delivery. The process of selection can become even more time-consuming for a library that is pointing users to remote materials than for a library that is buying its own material.

## Conclusion

Finally, we can say that library professionals in India are facing challenges regarding library services in the digital age. However, at the same time, there are a lot of opportunities available to overcome these challenges. Digital Technology has made access to information easier, in the sense that all digital information, such as databases, full-text journal articles etc., can be accessed through computers on the network, any time - anywhere. It is the time to gradually switch to Digital Library. E-Collections building is one of the initial tasks. Libraries should also have proper methodology for taking regular back up of their digital collection and also their tested recovery, in case of any disaster. Appropriate user interface for searching across collections is essential and the option to do search on these E-Collections will make the information services to patrons easy.

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# **Information Communication Technology Implementation: From Technology Challenge to Effective Information Delivery in Lucknow University Library: A Survey**

*Nazia Salauddin<sup>1</sup> and Md Sohail<sup>2</sup>*

## **Abstract**

*The purpose of this paper is to examine the present ICT implementation in Lucknow University Central Library, (Tagore Library) and the challenges they pose to effective information delivery. The research method employs both qualitative and quantitative methods. The questionnaire is the major instrument used for data collection, with observation as complimentary instrument. The respondents constitute 40 professional staffers drawn from Tagore Library. The results from the paper reveal that the libraries lack written policy on automation, digitization, inadequate ICT infrastructures and manpower, fund, and inadequate government support. Users are not given user education/digital literacy to enable them adequately utilizing the available digitized resources and services, thus posing challenges to effective information delivery. The paper will make for a more conscious effort in ICT application and its implementation institutionalizing digital library services, formulation and implementation of digitization policies, introduction of user education conscious staff training programme on ICTs for university library.*

**Keyword :** Information Technology

## **Introduction**

Information and communication technologies (ICTs) are defined as the integration of computers with telecommunications with the view to processing and disseminating information. Adoption and use of ICTs has become the yardstick of modernity. This is evidenced by their application in almost all aspects of human life such as business, music, education, etc. The lure of ICTs has not spared information

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seekers either such that there is a reported preference of electronic information resources over the once favored traditional print resources. E-resources have suddenly become popular among users partly because of their ease of access, and their ability to be accessed even from afar, and around the clock. Consequently, a number of libraries have considerably grown their electronic collection to satisfy the information needs of the emerging group of users.

### **Concept of Information Communication Technology**

ICT is any technology that enables communication and the electronic capturing, processing and transmission of information. These technologies include products and services such as desktop computers, laptops, handheld devices, wired or wireless intranet, business productivity software such as text editor and spread sheet, enterprise software, data storage and security, network security. ICT facilitates communication and assists in capturing, processing and the transmission of information electronically. ICT as a myriad of stand-alone media, that includes telephone and mobile telephony, radio, television, video, voice information systems and fax, as well as computer-mediated networks that link a personal computer (PC) to the internet. ICT is an integrated system that incorporates the technology and infrastructure required to store, manipulate, deliver and transmit information. Simply describe ICT as working with computers.

### **Tagore Library, Lucknow University**

Tagore Library is the Central Research library of the University of Lucknow. It is here that the academic fraternity- both the preceptor and his pupils could find intellectual food. It is respected as one of the oldest, well organised and richest libraries of India. With the advent of Information Technology, this library is also changing its traditional format. It's come into existence late in the year 1920. The Tagore Library houses not only books, but also has a good collection of rare manuscripts, paintings, art objects, ancient coins, theses and research journals. The collection is approximately 5,50,000 Books, 60,000 Periodicals, 2000 Manuscripts, 10,000 Thesis, and near about 4000 Electronic Journals. The working hours of the library are from 10:00 a.m. to 5:00 p.m.

### **Need for ICT in Library**

Emerging ICTs in India have changed traditional libraries into knowledge centers

and librarians function more like consulting information engineers or knowledge managers. However, the situation in university library in India is different and many are not in a position to fulfill their objectives reasons for which include:

- Lack of a good library policy;
- High rate of unplanned growth;
- Irrelevant collections;
- Poor organization of materials;
- High cost of collection and storage;
- Unqualified staff;
- Inefficient retrieval systems;
- Diversion or unscientific use of funds; and
- Lack of support from management side.

In many cases university libraries lack the ability to give teachers and students the information support they require. Despite widespread awareness about the importance of libraries, they often remain the most disregarded division in colleges. The application of ICT in Lucknow University library System is not up to the mark. Use of ICT tools in libraries is an important constituent that determines the quality of academic activities going on there. This paper aims to assess the extent of the use of ICT, the status of automation in library. It also makes an attempt to provide guidelines and strategies for improving ICT facilities and library automation.

## **Literature Review**

The adoption and use of ICTs has greatly transformed the information landscape. Many studies have been conducted regarding the use of ICT in libraries. Several scholarly writings have focused on the issue of inevitability of ICT literacy among the university librarians and other personnel within the framework of the university libraries in the emerging ICT era.

Adepoju (2009), focused on the computer skill of librarians in academic libraries in Ondo and Ekiti states of Nigeria. Few librarians there use computers to carry out library functions, and only one third of respondents had received formal computer training.

Ani et al. (2010) has postulated that ICTs are now “a commonly used tool for information gathering, processing, storage and retrieval, and dissemination in the emerging knowledge economy particularly in the advanced information societies”. This change has seen a remarkable shift in the information resources that are offered in many libraries and information resource centres. Whereas the traditional information sources have been print, many libraries today are now offering electronic information sources in addition to print resources.

Chiware and Dick (2008) in Namibia examined the current state of the use of ICTs in the small and medium-sized enterprises (SME) sector to access business information services. The findings revealed that there is a very low level of ICT utilization among SMEs while among business support organizations it is relatively high.

Bansode and Periera (2008) reported on a study of 23 college libraries in Goa, India. Four of these were fully automated, five were partially automated and 14 were in the early stages of library automation. A majority of the libraries lack the staff required for automation. Traditional barriers such as insufficient funds, lack of trained staff, and lack of space are faced by a majority of the libraries.

Haneefa (2007) reported that though the libraries in Kerala in southern India had hardware, software, and communication facilities to some extent, ICT-based resources and services were not reaching the users. A good number of the library users were not satisfied with the application of ICT in their libraries and indicated inadequate ICT infrastructure as the major reason for their dissatisfaction. They proposed a variety of measures of formal orientation and training on ICT to become more effective users.

### **Aim and Objectives of the Study**

The problem for the present study is entitled “Information Communication Technology Implementation: From Technology challenge to effective information delivery in Lucknow University Library: A Survey” The problem deals with the use ICT Application as a source of information in, Tagore Library, Lucknow University. The aim of this paper is to highlight the importance of digitization and the need to integrate it in the Lucknow university library system. The paper will ascertain the availability of a policy on library digitization, which could hinder its implementation, the ICT infrastructure in place to enhance digitization of these

libraries, the extent of funding to enhance digitization, the level of training of library staff in ICTs and user education/digital literacy programmes available to facilitate users' access to resources and services and effective information delivery. This study will carried out to assess the views of users about the impact of ICT tools on the utilization of Lucknow University, central library resources and services. The study will inventory the available information technologies being used for library operations; identify the advantages and disadvantages arising from the adoption of ICT policies for university library services, and to determine constraints preventing the adoption of ICT policies.

**Methodology of the Research**

The paper is a survey research with the target audience as the entire professional staff of university library. The 40 professional staff of university library was drawn upon using the purposive sampling technique which was based on those working with or using digitized systems in the library. These were used to carry out the investigation and get objective results. The questionnaire was the major research instrument used with observation to compliment the questionnaire. The frequency table and simple percentages were used to analyze the data obtained from respondents.

**Data Presentation and Discussion of Findings**

**Gender Descriptions**

The study covers the entire population of library professional those using the ICT application in Tagore library, Lucknow University. There were 26 (65 per cent) male and 14 (35 per cent) female respondents whose ages ranged from 25 to 51 years and above. They have knowledge of computer application and are well abreast with ICT application in library. This is corroborated by the study found that “almost half of the respondents (48.4 per cent) studied had a moderate IT knowledge, whereas 28 per cent and 24 per cent possessed higher and low IT knowledge, respectively.

**Table 1:**

Gender	Quantity	Percentage
Male	26	65
female	14	35



### Professional Experience

The respondents' experience in the university library, range from 1 to 5 years (22, 55 per cent), 6-10 years (14, 35 per cent) and over 11 years (4, 10 per cent). This implies that the respondents are knowledgeable enough or have experienced what has been going on in the library and information profession and as such, can make judgments on the true position of events in the library operations. It was noted that most of the respondents had been in the university for about ten years.

**Table 2:**

Experience	Quantity	Percentage
1-5 Years	22	55
6-10 Years	14	35
11 Years Onwards	4	10
Total	40	100

### Availability of ICT Infrastructures

From Table 3, ICT infrastructures available in the library are mainly computers. 16 respondents (40 per cent), stated this while 11 (27.5 per cent) noted that the computers have Internet connectivity with email facilities and 3 (7.5 per cent) indicated the availability of telephones. The result reveals that computers, servers, telephones and internet facilities are available, but there is no alternative electric power supply in case of power outage. From observation the researchers saw a well-equipped computer centre with Internet connectivity in research division area and virtually all offices entered had computers.

**Table 3:**

Infrastructures	Frequency	Percentage
Computers	16	40
Internet and E Mail	11	27.5
Telephone	3	7.5
Fax	--	--
Alternative electricity power supply	--	--
All of the above	6	15
Others	4	10
Total	40	100

### Are there Enough Infrastructures for Library Automation?

Table show that the Lucknow University library suffer from lack of spare parts, poor maintenance culture, constant computer breakdowns and low level of electricity supply, which hampers digitization of library services. It was a general

opinion university lacks a written policy on library digitization and automation. This will no doubt affect library automation in Lucknow University. Furthermore, many respondents (33 people – 82.5 per cent) asserted that there are not enough infrastructures to facilitate library automation and digitization as shown in Table 4.

**Table 4:**

Response	Frequency	Percentage
Yes	3	12.5
No	33	82.5
Undecided	2	5
Total	40	100

**Grants and Funds for ICT Implementations**

The results further revealed that there seemed to be little adequate funding and budget dedicated to ICT implementation projects. While 23 (57.5 per cent) respondents stated that there was no special fund/budget dedicated to the digitization project, 16 (40 per cent) respondents said there was. From these disparate responses and subsequent interaction with personnel, it is clear that there is no special fund dedicated to ICT implementation projects. No doubt, implementation of ICT in university library has been adversely affected by this singular act, which has implications for effective information delivery.

**Table 5:**

Responses	Frequency	Percentage
No special fund/budget	23	57.5
Adequate budget	16	40
Undecided	1	2.5
Total	40	100

**Support to Enhance Digitization Project**

The below table explore that, government/university management does not support the library adequately. Eleven respondents (27.5 per cent) posited that the government/university management team should support the library by enacting and implementing effective policies on digitization and provision of adequate fund for digitization project, respectively. Five respondents (12.5 per cent) were of the opinion that the government and/or university management should provide infrastructures for digitization project, while 13 (32.5 per cent) asserted that there was no support from the bodies.

**Table 6:**

Options	Frequency	Percentage
Enactment and implementation of effective policies on digitization	11	27.5
Provision of adequate fund for digitization project	11	27.5
Provision of infrastructures for digitization project	5	12.5
Others	13	32.5
Total	40	100

### ICT Training For Library Professionals

The result shows that respondents have training in computer operations, networking, database management and internet applications in addition to their professional training in librarianship or Information Studies. This training spans through a duration of 3 months, (8 respondents, 20 percent), 6 months (10, 25 per cent) and 1 year (3, 7.5 percent) periods. However, 19 (47.5 per cent) respondents had no training at all. From the responses, it is obvious that the staffers are not adequately trained in ICT application to make for effective and efficient information delivery through ICT based digitized library operations. The library staffs are not skilled adequately in ICTs applications. That is to say that library staff are intellectually handicapped when it comes to full integration of information and communication technologies and digitization of library operations.

**Table 7:**

Training Periods	Quantity	Percentage
0-3 Months	8	20
0-6 Months	10	25
12 Months	3	7.5
No Training	19	47.5
Total	40	100

It is confirmed that above table, the training of library professionals for digital operations and services in Lucknow University Library system is inadequate and needs radical restructuring to produce library professionals suited to deliver service in digital library in a knowledge-based society. Although some of the staff attended seminars and workshops and are ICT literate, they still cannot work effectively for ICT implementations in library system. A huge number of respondents also attended seminar/workshop for training in library automation and digitization.

## Conclusion

ICT implementations are crucial for preserving and disseminating information and knowledge more effectively and efficiently. Lack of maintenance culture on the part of library staff, inadequate space to accommodate ICT facilities, constitute problems, etc.. As such, the problems militating against the effectiveness of ICT application, as attested to by respondents are: lack of policy and funding, epileptic power supply, unskilled staff on ICT application, high cost of purchasing equipments, network fluctuations, lack of maintenance culture, space inadequacy, environmental disaster and lack of internet connectivity.

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# **New Ways to Work and Learn in Healthcare Knowledge Management System in Health Sciences Institute**

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## **Abstract**

*This article narrates the importance of healthcare Knowledge and its management in the organisational level. How the Library and Information scientist participate in the Knowledge management through organisational learning. Narrates the tools and tactic can be use in this system. And briefly describe how to develop the Knowledge sharing culture and its technique. It enlist the Importance of Leadership and its implications in inter and intra institutional level.*

Keyword : Knowledge Management System

## **Preamble**

Health is a 'state of complete physical, mental and social well-being and not merely the absence of disease or Infirmary' WHO's 1946 definition. Healthcare is the prevention, treatment and management of illness and the preservation of mental and physical well being through the services offered by medical, nursing and allied health professions'. In the dynamic world the focus is on spontaneity and fast reactive and continuously living systems. This is the world were new innovations are taking place, typically represent by R & D. 'Healthcare Knowledge' the topic is much too diverse furthermore, the nature of medical knowledge itself changes greatly over time. One of the main themes is that of the balance between the general and the particular, the focus on an abstract universal or a general disease type as against the focus on the specific and unique case being treated.. The balance between the one hand, theory and philosophy expounded in the 'canon' of approved medical texts, the other empirical evidence provided by examination of a patient, has not always taken the form it does today. And it is also the case that some forms of knowledge simply 'leave' the domain: who now has any insight into medical

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astrology, a major tool of the physician in medieval times and afterwards? We see the issue of what counts' as healthcare knowledge arising today in the contested status of some alternative forms of therapy. We should therefore be careful to acknowledge that the nature of healthcare knowledge – even in those aspects of it which are generally accepted today- has changed from the past, and may change again in the future. Most obviously, the knowledge needed by the practitioner or provider of healthcare will differ from that needed by recipients, patients and carers. However health information for lay people has been provided for hundreds of years, and this trends has been reinforced by late 20<sup>th</sup> century developments in consumer health information and the concept of the 'expert patient' so that this distinctions not so black and white as might be thought.

The idea of the practice knowledge of the healthcare professional has received much attention since 1990 (see Higgs, Richardson and Dahlgren, 2004 for an overview). This has led to several typologies or categorizations of healthcare knowledge, in general terms. It has also led to a recognition that practitioners will often need to use, integrate and criticize different forms of only on data from rigorous clinical research or, at the other extreme, a sole reliance on personal professional experience.

The ability to combine forms of knowledge appropriately has been termed 'practice wisdom' (Richardson, Higgs and Dahlgren, 2004): assisting practitioners to do this should be one of the aims of healthcare information specialists. A common view in Western philosophy is that there are two main ways of 'knowing': propositional knowledge (knowing how). Propositional knowledge comes from rational enquiry and research, especially in the sciences. It has traditionally been given a higher status than tacit knowledge, which is gained by professional or life experience. In healthcare, as in other areas which have a scientific basis and also a practice 'craft' element, there is a tension between the views of what the knowledge base of such disciplines should be like (Higgs and Titchen, 2000). Some contend that it should, as far as possible, be objective and generalizable propositional knowledge, obtained from research and theory. Such a view underlies evidence-based medicine, with its reliance on published scientific and clinical research. An alternative view argues for the inclusion, or even the primacy, of subjective, interpretive and context-specific knowledge, largely derived from reflection on and interpretation of personal and professional experience.

A simple typology of healthcare knowledge, now generally accepted divides non-propositional knowledge into two types: *professional craft knowledge*, derived from experience in practice, and *personal knowledge*, derived from personal life experience. This gives a threefold breakdown of healthcare knowledge (Higgs and Tetchen, 2000):

### **Propositional Knowledge**

Publicly available, communicable, objective knowledge, of the kind typically generated by research, theory, observation and experiment. It is 'scientific' and technical' knowledge, using these terms in a general way. Most of the knowledge base of medicine and other science-based healthcare discipline, and of the underlying sciences, is of this forms.

### **Practical Craft Knowledge**

The kind of tacit knowledge gained by professional experience, which is difficult to communicate in a abstract general way. It is associated with the ideas of 'professional judgement' clinical intuition' etc. It is not incompatible with the use of formal propositional knowledge, and an expert practitioner is able to integrate the two.

### **Personal Knowledge**

Subjective knowledge, which individuals gain by reflecting on their experiences, not necessarily just in a professional context, and which is associated with attitudes and values and hence influences professional judgment. In a healthcare context, this is the kind of knowledge which allows a practitioner 'to appreciate the concerns, needs and frames of reference of their patients or clients, to learn to cope with pain, frailty and human endeavor, and to learn to deal with ethical dilemmas within the clinical situation (Higgs and Titchen, 2000). It may also include cultural knowledge, important in the provision of healthcare in a multicultural setting.

Traditionally, propositional 'scientific' knowledge has always been given priority in healthcare generally, and in medicine specifically. Greater attention is now being given to the value of practical and personal knowledge as an essential complement for effective healthcare practice Objective, scientifically based knowledge still



dominates the practice of disciplines such as medicine and physiotherapy—albeit that such knowledge is not static, but potentially rapidly changing, requiring changes in practice while more subjective and context-specific tacit practice knowledge is currently more accepted in disciplines such as nursing and occupational therapy. For effective practice, the three forms of knowledge should be used together. It gives a specific and detailed example of this, based on the work on the nurse caring for a particular patient, and combining technical knowledge, practical know-how and personal knowledge. Healthcare knowledge viewed in this way is complicated and without very clear boundaries, and requires integration of sources beyond those of 'traditional' science and medicine. A broader notion of health professional knowledge is required that is derived from diverse sources of reflective, tacit and interpretive knowledge as much as it is from propositional knowledge.

There's general hierarchy of intelligence, i.e., *Data*-Simple indisputable facts. *Information*- Mix two or more facts and cook up the new fact; you are creating information. *Knowledge* – Aggregated information does not morph into knowledge. Knowledge bubbles up from hands-on or brains-on work performed by people in the field. Never forget, however, that knowledge is also a theory of how things can and will work that can change with time and place. *Wisdom* - Practices that work in many times and places constitute wisdom. Wisdom takes the form of accurately accessing knowledge and designing a plan of action. Basically Knowledge is the fuel that provides the energy for corporate or organisation's innovation, wealth creation, and workforce productivity. Generally the professional applies the capability and focus content, computing, and community to foster and embed the spirit of Knowledge management in order to know;

Individually what everyone knows, collectively and apply it;  
Collectively what everyone knows, individually and make it usable (or) reusable;  
and What everyone does not know and learn it.

### **Managing the Knowledge**

The idea of knowledge management came to famous in the 1990s with much-promoted business concept, stimulated in particular by Nonaka and Takeuchi's influential 1995 book *The knowledge-creating company* and a great deal of effort was devoted to it. Understanding Knowledge is the first step to managing it

effectively. Here are a dozen characteristics of knowledge and some tools and approaches for making the most of the knowledge assets for the organisations.

### **Twelve Guiding Principles by Verma Allee.**

A navigation technique is to look at the stars to tell you where you are. Similarly, we must use a powerful new "knowledge lens" in order to navigate or manage our filed. But we can't manage knowledge in a traditional way. Always changing, knowledge is more organic than mechanical. Nevertheless, here are 12 fairly steady principles about knowledge.

1. **Knowledge is messy.** Because knowledge is connected to everything else, you can't isolate the knowledge aspect of anything neatly. In the knowledge universe, you can't pay attention to just one factor.
2. **Knowledge is self-organizing.** The self that knowledge organizes around is organizational or group identity and purpose.
3. **Knowledge seeks community.** Knowledge wants to happen, just as life wants to happen. Both want to happen as community. Nothing illustrates this principle more than the Internet.
4. **Knowledge travels via language.** Without a language to describe our experience, we can't communicate what we know. Expanding organizational knowledge means that we must develop the languages we use to describe our work experience.
5. **The more you try to pin knowledge down, the more it slips away.** It's tempting to try to tie up knowledge as codified knowledge-documents, patents, libraries, databases, and so forth. But too much rigidity and formality regarding knowledge lead to the stultification of creativity.
6. **Looser is probably better.** Highly adaptable systems look sloppy. The survival rate of diverse, decentralized systems is higher. That means we can waste resources and energy trying to control knowledge too tightly.
7. **There is no one solution.** Knowledge is always changing. For the moment, the best approach to managing it is one that keeps things moving along while keeping options open.
8. **Knowledge doesn't grow forever.** Eventually, some knowledge is lost or dies, just as things in nature. Unlearning and letting go of old ways of thinking, even retiring whole blocks of knowledge, contribute to the vitality and evolution of knowledge.
9. **No one is in charge.** Knowledge is a social process. That means no one person can take responsibility for collective knowledge.

10. **You can't impose rules and systems.** If knowledge is truly self-organizing, the most important way to advance it is to remove the barriers to self-organization. In a supportive environment, knowledge will take care of itself.
11. **There is no silver bullet.** There is no single leverage point or best practice to advance knowledge. It must be supported at multiple levels and in a variety of ways.
12. **How you define knowledge determines how you manage it.** The "knowledge question" can present itself many ways. For example, concern about the ownership of knowledge leads to acquiring codified knowledge that is protected by copyrights and patents.

### **What is Knowledge Management?**

Knowledge management is the name of a relatively new concept in which an organisational consciously and comprehensively gathers, organises, shares, and analyses its knowledge to further its aims. In 1988 Peter Drucker, the founder of modern management science, wrote:

The typical business [of the future] will be knowledge-based, an organisation composed largely of specialists who direct and discipline their own performance through feedback from colleagues, customers and headquarters. For this reason it will be what I call an information-based organisation.

In such a business, the management of knowledge and information becomes an important skill.

In the British Government's 1998 White paper on the competitiveness of the nation, it said: "Our success depends on how well we exploit our most valuable assets: our knowledge. Skills and creativity ..... they are at the heart of a modern knowledge-driven economy." There are several things that can be done to improve a organisation's knowledge management. In an *Information week*, Jeff Angus and Jetu Patel describe a four – process view of Knowledge Management that I have put into a table from with organisational activities:

**Table 1: Knowledge Management Process**

Major Process..	Special Library level activities....	Organisational level activities
Gathering	Data entry OCR and scanning Voice input Pulling information from various sources Searching for information to include	<b>Capturing Information:</b> All employees should be made aware of the ways in which knowledge can be used to the organisation. The organisation should ensure that it is not suddenly bereft of vital information when an important individual moves to another employer
Organizing	Cataloging Indexing Filtering Linking	<b>Generating ideas.</b> All employees should be made aware that not all good ideas are rocket science that only come out on R&D dept.,Everybody should encouraged to come up with new ideas.
Refining	Contextualizing Collaborating Compacting Projecting Mining	<b>Storing Information :</b> Data warehouse s should be structured so that the information in them can be accessed by everybody in organisation and recycled in ways that are valuable to the organisation.
Disseminating	Flow Sharing Alert Push	<b>Distributing information:</b> Organisation must pursue people to give information to others when it is for the benefit of the business as a whole. For too long information in organisations has been primarily as power

## Organisational Learning

One perspective takes KM to be a kind of umbrella concept, including everything to do with the management of information. This idea is expressed nicely for healthcare by Wyatt (2001), for clinical knowledge management which he regards as the collection, processing, visualization, storage preservation, and retrieval of health related data and information, whether be on an individual or collection of subjects. Argyris (1977) defines organisational learning as the process of "detection and correction of errors." In his view organizations learn through individuals acting as agents for them: "The individuals' learning activities, in turn, are facilitated or inhibited by an ecological system of factors that may be called an organisational learning system" Huber (1991) considers four constructs as integrally linked to organisational learning: knowledge acquisition, information distribution, information interpretation, and organisational memory. Although, Huber (1991) explicitly specifies the role of Information Scientist in the Learning Organization as primarily serving Organisational Memory, in my view, Information Scientist can serve the other three processes (Knowledge Acquisition, Information Distribution, and Information Interpretation) as well. One instance of use of Information Scientist in Knowledge Acquisition is that of acquiring and collection development through effective way like electronic subscription and document delivery.

At the level of planning, scenario planning tools can be used for generating the possible futures. Similarly, use of GroupWare tools, Intranets, E-mail, and Bulletin Boards can facilitate the processes of Information Distribution and Information Interpretation. The archives of these communications can provide the elements of the Organisational Memory. Organisational Memory needs to be continuously updated and refreshed. Organisations have organisational knowledge. It is both explicit, such as the Knowledge contained in Technical reports, manuals of procedures, and computer memories, and tacit, including judgment, “feel”, and deep understanding. Tacit knowledge is an essential part of “Knowing how” and “knowing why” and is essential to making knowledge useful.

### **Need for Organisational Learning**

While definitions of KM and OL are still debated, they have become common terms that span varied initiatives, new processes, and in some cases new management functions. Regardless of their definitions, KM and OL will have a greater impact on organisations in the near future.

OL is the process that enables an organisation to adapt to change and move forward by acquiring new knowledge, skills, or behaviors and thereby transform itself. In successful learning organisation:

- ❖ Individual learning is continuous;
- ❖ Knowledge is shared;
- ❖ The company culture supports learning;
- ❖ Employees are encouraged to think critically and to take risk with new ideas; and
- ❖ All individuals are valued for their contributions to the organisation.

KM and OL touches on Organisation's strategy, culture, values, structure, process and customer relationship. It's a widespread, spanning multiple sectors and services. But Multinational companies report that when they better utilize knowledge, they can:

- Make decisions faster and closer to the point of action;
- Overcome internal and external barriers;
- Provide more opportunities to innovate;
- Reduce product development time; and
- Enhance customer relationships.

## **Symbiosis of Knowledge Management and Organisational Learning**

The difference between KM and OL approaches are converging around common tools and practices. The KM and OL are often two sides of the same coin. The major obstacles to successful Knowledge Management are internal barriers that are as follows. The need to manage knowledge is not clearly articulated. An organisation must have a working definition of knowledge and learning before it attempts to manage it.

A culture of hoarding knowledge is the second biggest barriers. This barriers is overcoming by top leadership support i.e. Knowledge Leadership.

Functional Silos are the third most frequently cited obstacle to sharing knowledge. This can be broken through use KM tools and Techniques to break down the walls and ceiling that often limit communication and Knowledge flows.

These barriers and obstacles are described in this article

## **Implementing Km and OI**

Traditionally, the classroom has been a dominant method of transferring Knowledge. Today, with global operations, widely dispersed workforces, and the continuing need for instant access to updated knowledge, the classroom has to be supplemented, perhaps supplanted, by a much more diverse range of knowledge transfer methodologies. Though the classroom and other formed instructional programs can be efficient ways to share knowledge most learning and knowledge sharing occurs in the workplace, as people tackle real business issues. Our challenge is to create work environments that enable and encourage learning and Knowledge sharing to take place whenever and wherever it is needed for productivity and competitive performance.

Learning and Knowledge sharing must be inextricably intertwined if we are to develop agile organisations that can respond to ever-changing demands of competing in a global knowledge driven economy. The common paraphrase of action learning approach is:

*Learn Before Doing* – What are we planning to do? Are there models, theoretical frames works, proven experience on which we can base our action?

*Learn While Doing* - Continually recording Progress E.g. In a learning diary, what worked and did not work – and Why?

*Learn after doing* – take time to reflect on the lessons learned, perhaps using independent observers and facilitators.

**Table No 2: Traditional KM and OL Characteristics:**

Function	Knowledge Management	Organisational Learning
Purpose and Benefits	Knowledge Creation and Re-use increase Productivity Innovation Customer connection Speed	Manage complexity and change Increase Robust decision-making Deal with complexity Adaptation Capability Embed learning: in teams, organisation,
Tools	GroupWare /Connections Repositories of best-practice Personal Knowledge sharing	Systems Thinking Mental models Aspiration
Processes	Create,Clarify strategy Diagnose critical knowledge Knowledge gap analysis Creat,store,connect knowledge	Link reflection and action Test assumptions Dialogue, inquiry Re-frame issues, conflicts Causal loop analysis
Typical Applications	Wired, Online	Face-to-face dialogue

**Table No. 3: Making transition through KM and OL**

FROM	TO
Closed organisational culture More of the same does not work Positional Leadership Fragmented Learning Classroom teaching Consultants create change National human resources Staff has no change roll	Open, fluid culture New working methods Inspiring Leadership Structural Learning Sharing experiences+Knowledge+Experiments Employees create change International Human resources Staff role is change catalyst

### Approaches and Tools for Km and OI

Knowledge Management and Organisational learning have different definitions and approaches at the stratgtic level, but they are increasingly similar in terms of tactics and tools they employ. According to Dr.David J.Skyrome analysis of implications for an Information professionals in the KM and OL , are that you should:

1. Articulate the value added that good information management can bring to your organisation and its contribution to the bottom line.
2. Develop closer partnerships with the knowledge champions in your organisation. They need your skills and you might benefit from their

current popularity among senior management!

3. Help the users help themselves. Provide more "how to" guides so that they can make more effective use of the only information resources at their disposal, including the Internet/Intranet as an information resource.
4. Be an active Internet/Intranet user yourself. Use email as a primary means of communication. Work in discussion lists and have your own GroupWare areas, one for peer knowledge sharing of best practice, and one for your client base.
5. Seek out best practice, wherever it is. When did you last benchmark your activities against a comparable activity externally?

The more general common tactics and common tools are as follows:

### **Common Tactics**

### **Communities of Practice**

Community of practice is group of people who share a particular practice, interest, or discipline and who share information and tacit knowledge. As people find a reason to work together, they share stories and lessons learned. In short, they teach each other the practice. Communities of practice have proven to be one of the most valuable forms of knowledge sharing, yet they:

- a) Lack a formal structure, although they can fit within an existing organisational structure or may be converted to a formal structure at some point;
- b) Are Not standardised, although they can choose to set and follow standards for themselves;
- c) Are hard to locate and define, but Organisational ethnography and anthropology can help find them;
- d) Have an exclusive membership defined by the community; and
- e) Are early warning systems and divers of changes in the organisational "ecosystem" if properly cultivated, not managed.

Other ways of aiding communities of practice include:

- a) Recognising, acknowledging, and training the key support roles, such as facilitators, knowledge brokers.
- b) Helping identifying communities of practice that do or could exist in the organisation and supporting their attempts to cultivate an effective group with visible commitment and extra resources.



- c) Building the cultivation and nurturing of these communities into strategies
- d) Leading and cultivation and nurturing of external communities, including customers, suppliers, and the core management community
- e) Tapping the knowledge and potential for key projects. and
- f) Leveraging the power of communities for driving organisational change efforts.

### **After Action Reviews**

It is a professional discussion of an event, focused on performance standards, that enables participants to discover what happened, Why it happened, and hoe to sustain strengths and improve an weaknesses. AARs Integrate learning and action to collectively analyse decisions made at all levels. They combine use of information with careful facilitation to create a non-hierarchical environment for inquiry and team learning.

### **Learning Histories**

A learning history is a retrospective history of significant events in a organisation's recent past, described in the voices of people who took part in them. Researched through reflective interviews and quote checked scrupulously, the learning history uses story telling to help a organisation to evaluate and accelerate its progress in learning. The value of the learning history comes not so much from the document itself, but from the consultation process that it built around it- the conversations in which people create shared meaning, deepen their understandings, and talk through possibilities for more effective action.

### **Knowledge Fairs**

These are forums where various organisation units congregate to demonstrate their knowledge-sharing efforts and learn from each other. This can be done face-to-face or online through knowledge web pages.

### **Talking rooms and Working villages**

Many MNC firms are using physical workspaces specifically designed to foster reflection, interaction, and collaboration. They generally provide open space for

people run to each other. Whiteboards and other tools for sharing and recording ideas are available.

### **Collaborative Conversations**

These facilitated conversations revolve around questions that matter to the organisation. This involves making conversations a core business process. One type of Collaborative Conversation is Strategic conversations that serve as the platform for developing a future-oriented mindset and direction of the organisation.

### **Futurising**

Futurising, or future search conferences, is an approach to large scale involvement that starts with a focus on the past (who we are and how we got here). Individuals analyse their history, identifying and interpreting patterns and themes in their organisation. Next, the group braistroms an ideal community of the future in which they would like to live and work. Then they are facilitated in a large group to produce a mindmap of the present system and vote on the trends they think are most important. Finally they prepare a consensus list of elements they think ought to be in the future vision.

### **Action Learning**

The value of most action learning invites is the common language and common sense of purpose that results from such methods. Coaching and mentoring are key tools for facilitating action learning.

### **Organisational Ethnography and Archaeology**

Included in this approach are tools and techniques for gathering knowledge about an organisation by observing its knowledge behaviours and by studying the knowledge artefacts utilised and produced.

### **Research Outposts**

The purpose is to gather knowledge of either how emergent ideas or technologies or of customers living and working in the area where the knowledge resides or being created.

### **Suggestion Programs**

Suggestion programs have always been at the essence of Knowledge sharing. The Notation that every employee can contribute their unique ideas, experiences, and abilities to improve how work gets done and innovate has been counted by the current KM movement.

### **Common Tools**

#### **Electronic Mail and Messaging, Group Calendaring, and Scheduling**

It includes messaging Infrastructure and combining e-mail utilities with products for calendar, meeting, and resource coordination. The tools for rapid exchange of knowledge based on common document formats and directories have removed many of the technical barriers to sharing knowledge and have increased the likelihood that a significant exchange of ideas can take place.

#### **Skill Inventories, Yellow Pages, and Subject Experts**

These online databases contain information on “Who's who” and “Who knows what” – a vehicle to find expertise from people throughout the firm who might otherwise never learn what each other knows. As with best practiced databases, expert databases or corporate yellow pages can be extremely useful if designed and managed correctly

#### **Electronic Meeting Systems**

The groups use the software to brainstorm on issues, categorize responses, and create instant surveys and Vote. Input can be offered anonymously and facilitator generally assists these sessions. Real-time data sharing connected with common intranet and telephony are becoming affordable as a part of common desktop and shared network.

### **Virtual Communities**

An important aspect of connecting to virtual community is the providing of knowledge to the community regarding their products and services and how to

effectively use them, and the gathering of knowledge from the community about their needs and behavior.

### **Document Management and Creation/Workflow**

Documents are the most common repository of explicit knowledge. There is wide range of software that aids in the capturing, storing, retrieving, and filtering of knowledge stored in documents. Increasingly, these tools are being used as shared repositories of organisation information or for special workgroup.

Workflow tools include process diagramming and analysis tools, workflow enactment engines, and electronic forms routing products. Coupled with document management technologies, they are becoming the engines for corporate wide content management, where more and more encyclopedic information becoming available.

### **Data Visualization and Knowledge Mapping**

Data visualization is used to display a graphic view of concepts related to user query. By delivering information graphically, the software allows users to view query result in context and find relevant data quickly and easily. When a collection of information changes, the software dynamically reflects the change in its concept map.

### **Planning and Coordination**

Apart from the common tactics and tools, better planning coordination is needed to get it used the right way of knowledge management. That planning and coordination's comes from the corporate culture. Such as;

- Knowledge sharing culture
- Watch your language
- Measuring the impact on Results

### **Knowledge Sharing Culture**

According to every major study on KM or OL, culture is key barrier to success. Culture is generally detained as the beliefs. Values, norms and behaviors that are

unique to an organisation. In other words “The unwritten rules and how work gets done around here.

The knowledge sharing culture is based on the beliefs, attitudes, and customs that exist within an organisation. Organisation must constantly review, refinish, expand and create more knowledge.

That requires a radical overhaul of the old knowledge equation Knowledge = power so, hoard it. The new knowledge equation is knowledge = power, so share it and it will multiply. So the development of knowledge sharing culture relies on:

- Shared vision
- Value based leadership at all levels
- Open and continues communications and
- Rewards and recognition

Shifting towards a knowledge sharing organisation, the following list of concepts and phrases in what shift in cultural and artifacts are some organisation trying to make to support a knowledge sharing organisation

Table No. 4: Shifting towards a knowledge sharing organisation

FROM	TO
Knowledge hoarding is power Many management levels Sporadic training Position power Inflated titles Uneven responsibility Culture of blame Rules-based Functional silos Risk adverse Inward-top management focus Only managers know financials Information on need-to-Know Focus on talent, experts and key employees "What's in it for me?" "It's not my job." Climate of cynicism Task forces selected by management	Knowledge sharing is valued Few management levels Continuous learning Network power Few or no titles Shared responsibility Culture of accountability Value-based Cross-functional teams Entrepreneurial Outward-customer focus Open book Open door Focus on entire workforce-learn from each other "What 's in it for out customer?" "How can we help?" Steel ideas shamelessly" Communities of practice

Watch Your Language?

Language has a special role in transforming organisation changing the language used in an organisation can draggle the way work gets alone. Being transit nature of organisation, the use of new language is not merely cosmetic. Roles,

responsibilities and relationships are changing. The redefinition of knowledge management roles has been accompanied by a change in language.

### **Feedback and Measurement**

There must be ways to assess whether you are on course, measurements help gauge on manage knowledge assets, and support continuous improvement. Mounting evidence shows that traditional accounting methods do not capture the full value of an organisation. Despite the challenges of measuring knowledge, companies are recognizing that it is their core asset. Many companies they have their own terminology like knowledge score card. Three types of capital like intellectual, human and customers.

Of course no measurement is neutral. What we measure communicates our values and what we think is important. If we want to expand our knowledge, we have to understand how our values shape it, both personally and organisationally.

### **Knowledge Leadership**

Leaders are people who are able to use their technical, human relations or conceptual skill to influence others tasks or behaviors. Leadership is the process which a person or a groups theirs to influence the tasks or behavior of others towards a final and required outcome.

Particularly knowledge leadership means creating the conditions that enable people to produce valid knowledge and to do so in ways that encourage personal responsibility. Fred Sahoeps from IBM says Knowledge management is about shifting time to higher value activities, and having the right dialogue just in time with right experts to systematically leverage expertise. Talking full advantage of collaboration, teaming, and moving away from the self centered suggested individual.

### **Relating and Sharing Values**

While there will always be hierarchy and some form of command and control, Shared values are becoming the anchor for generating commitment and cooperation. When values are created together and truly shared, order is achieved and decisions are made without position power and excessive rules. When the

vision is articulated as a shared set of values, people have the level of trust needed to share and receive knowledge.

Leadership is changing from personal and interpersonal to relational, from dominance to meaning making. And leader to exercise power to increasing the capacity of the community to work smarter through collaboration. Relational leadership is the key issue at organisation. (Research Institute)

### **Human Resources and Knowledge**

Since Peter Drunker coined the term Knowledge worker is 1963, the proportion of jobs that require brain power has increased steadily. "Knowledge results when the intellect (the capacity to think) does purposeful work using data and information. Says Drunker. It generates new products, powers, new processes and spawns new materials. It affects all levels and functions in organisation. Every individual is now a knowledge worker.

Performance management and measurement system, center explicitly requires teaming objectives to be part of individual performance objectives. Team objectives include sharing, collaborating, transferring knowledge and improving cross organisation communication.

### **IT and Knowledge Leadership**

Many of the foundation tools sets for knowledge management come from Information management. This software (or) tools are designed around the people work. Understanding how work is done requires an understanding of how knowledge flows, how ideas are generated how creativity is encouraged, and how customers are served.

### **Future of Learning and KM**

Knowledge Management is a rapidly changing discipline in itself and even as current initiatives and spreading new opportunities are opening up. Two of the most important are User's Knowledge and Integration with electronic library, commerce and Web enabled KM.

## **User's Knowledge**

Libraries and Librarians are changing their focus from working for users to working with users. Users Knowledge is growing in Knowledge Management discipline, but to date, very few KM efforts are being used to access and spread Users Knowledge Or using KM to learn from the Uses Feedback. However, KM can play a very important role in converting users Knowledge to innovative products and services.

## **E-Commerce and Web-Enabled Knowledge Management**

Intranet and Internet are the most important technological KM tools, It is no coincidence that the rise of KM parallels the rise of the web – they complement each other perfectly.

## **Conclusion**

The healthcare environment, in all its varied manifestations, has generally been found to be a particularly information-rich environment, with a wide variety of users, sources, systems and services. The following are a few examples for healthcare professionals:

The multidisciplinary nature of much patient care makes for such an information-rich environment. (Reddy and Spence, 2008).

The pharmaceutical industry has been recognized as the original information intensive industry. (Bawden and Robinson, 2010).

Medical and health academics read the journal literature more intensively than their colleagues in other subject areas (Tenopir, King, Spencer and Wu, 2009: Tenopir, King and Bush, 2004).

Doctors are also enthusiastic readers of the journal literature (Tenopir, King Clarke, Na and Zhou, 2007).

Pharmaceutical research scientists were found to be particularly information conscious with one interviewee commenting: We are all knowledge workers now; (Bawden, Devon and Sinclair, 2000.)

Though Healthcare Knowledge management is the border term in recognise connected nature of people (tactic knowledge), process and organisational activity. Information Management is play a vital role in healthcare knowledge management,



It must be learn and understand in the border context. It seems clear that HKM will remain a very significant part of Information management practices in the healthcare information domain, given the importance of informal tacit 'practice knowledge' and also the potential of KM to assist OL. There are three Skills associated with every KM, HR (the Human dimension must always be understood), IS (Enabling technology is in place) and Information Sciences – That the information is acquired, organised, and retrieved in number, remembering that much of the information is in text. The hetrogenic form of information can be processed through four conversion processes that they are as follows:

Tacit-to-tacit (socialisation) - where individuals acquire new knowledge directly from others;

Tacit-to-explicit (externalisation) - the articulation of knowledge into tangible form through dialogue;

Explicit-to-explicit (combination) - combining different forms of explicit knowledge, such as that in documents or on databases;

Explicit-to-tacit (internalisation) - such as learning by doing, where individuals internalise knowledge from documents into their own body of experience.

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# Digital Library Development: Entering A New Civilisation

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## Abstract

*Digital library is carrying out the function of traditional library is a new way, Encompassing new type of information resources, new approaches to classification and cataloguing, acquisitions, new methods of storage and preservation. Digital library may allow the user either online or offline access to information. In this paper, apart from importance of the digital libraries concept, an effort has been also made some of the problems and issue difficult in creating and maintaining a digital library. The justification for selecting external contents has also been mentioned. A detailed checklist for evaluating contents is presented from various angles, like authenticity of content, user interface, search and display capabilities.*

Keywords: Digital library, Technological change, Storage, Components

## Introduction

Digital library is library that contains material in a digitalized form.( as opposed to print, microform, or other media) and accessible by computers. The concept of digital library is growing fast. The digital content may be stored locally or accessed remotely via computer networks. Today digital library is considering World Wide Web. The digital libraries are maintaining an acceptable level of operational service. A digital libraries service is completely automated and all resources are in digital forms. A digital library is expected to provide access to the digital information collections. The digital library provides more choices, enhances flexibility and will often provide the learner with instant feedback.

## What is a Digital Library?

Digital library is to be an electronic collection of real virtual resources, which may also be available elsewhere. The digital library has materials stored in a computer

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system in a form that allows it to be manipulated and delivered in ways that the conventional version of the material cannot be. Libraries are playing vital role in the development of society and nation. Library and information center are supporting to academic organization to achieve its aim and objectives. Due to variety of information needs, shrinking budget and information technology has changed the scenario of the library and information centre in academic organizations. Libraries are modernizing their services and structure to fulfill the need of the users of academic libraries. To cope up with these problems libraries have been converting as Digital Libraries. The Digital libraries are maintaining an acceptable level of operational services. Digital Libraries allows faster addition to the data collection with better quality control, improved search functionality and faster access to information.

### **Definition**

There are many definitions of a “Digital library” Terms such as “electronic library” and “Virtual library” are often used synonymously.

Some of the definitions on Digital Library are as follows:-

1. Dr. A.P.J. Abdul Kalam, the President of India defines Digital Library as “Digital Library is where the past meets the present and creates the future.”
2. William Saffady, “Digital library is a library that maintains all, or a substantial part, of its collection in computer processible form as an alternative, supplement, or complements to the conventional printed and microfilm materials that currently dominate library collections.”
3. Dan Atkins, "Digital Library is a generic name for federated structures that provide humans both intellectual and physical access to the huge and growing World Wide networks of information encoded in multimedia formats."
4. Smith, Abbey, " Digital library is an organized and focused collection of digital objects, including text, images video and audio, with the methods of access and retrieval and for the selection, creation, organization, maintenance and sharing of collection."

Thus, Digital libraries are organized collection of digital content made available to the public. The content is material that has either been digitized (copies of books & other documents) or that was initially produced in digital format.

**Need of Digital Library**

- To cope with the increasing demand for the information services
- To improve efficiency in searching and indexing.
- To save the time of users and staff in the creation and utilization of information services.
- To provide better management of Digitized resources.
- To solving space and storage problems.

**Characteristic of Digital Library**

The important characters of digital library are:-

- Storage of information in digital form
- Uses of communication network to access and obtain information
- Coping either by downloading or online/offline printing from master file.
- Digital library supports both formal and informal learning procedures.
- Digital libraries will require both the skill of librarians and well as those of computer scientists to be viable.

Digital library will need both the skills of librarians and as well as computer scientist to be practical.

**Types of contents in a Digital Library:-**

There can be two types of contents in a digital library:

***Developed In-house by the library***

A major portion of this comes from the parent institution in the form of research/progress reports. The library professionals can also assist the experts in the institution to repackage information published in several sources. A large extent of the collection, predominantly in print form, procured by libraries are not amenable to electronic access partly due to technical problems (how much of such content can a library key- in and how far they scan) and partly copyright restrictions. As such, the copyright rules enforce only use and no modification of content, and contents in electronic form are easily modifiable forcing content providers to ensure tough measures against infringement. Thus only a limited area

of the local collection can be digitized in the absence of any lobbying on part of libraries, institutions and users against the sellers.

### ***External - contents procured from outside***

It includes Bibliographic Databases, E-journals, E-books, Full Text databases, Reference sources of Encyclopedias, Dictionaries, Directories, Atlases etc., published in both optical media and made accessible through Web. Comparable advances are taking place consistently in optical storage technologies and the provision of formal information resources on web.

### ***Why external contents are selected?***

Selecting externally procured contents has been crucial in the emerging information servicing scene predominantly due to:

- *Flood of such contents:* The so called information explosion has now become a cliché, but there is absolutely no end to this phenomenon as a result of improvement in human resource index the world over, thus leading to vigorous education, research, and publishing activity.
- *Costly:* We are moving away from the concept of *knowledge is power to information is power*. As such knowledge can't be stolen, but absolutely that's not the case with information and ownership of information may be regarded as a prestige by the advanced countries. Most of the sources are also exhibiting an unavoidable rise in prices in subsequent editions.
- *Limited library budget:* Libraries are continuing to function as mere spending institutions partly due to conventional work style, and partly due to lack of serious policy measures against functioning. Librarians and libraries have devised certain action plans like interlibrary loan, resource sharing, networking, and now consortia to arrest at least a part of the information erosion that has come up as a result of 'more sources to be bought with equal or less money'.

The selection of external contents could be achieved in a more realistic fashion by evolving concrete measures to assess their quality and suitability to users.

### **Criteria for Assessing External Contents**

Some of the parameters to evaluate electronic information products could be applied to judge and arrive at an objective selection of potential products.

### **Authenticity of Contents**

Authenticity of contents refers to the genuineness of the object. An authentic object is what it purports to be in origin and content; and has integrity. Concerns about authenticity of sources are not new and arise in many ways and forms. There were several studies that touched up on the crucial problem of evaluating information products.

- Content
- Context
- Fixity:
- Visibility
- Audience
- Authority
- Scope
- Comprehensive indexing
- Time lag

### **User Level**

- Software friendliness
- Level of Interface
- Quality of help
- Error handling
- Menu-Driven System
- Hypertext, Hyper multimedia applications.

### **Search Capabilities**

- Boolean Search: Supports combination of search terms using the Boolean operators of And, Or, and Not.
- Proximity searches: Term relations could be better expressed and controlled by using proximity search measures.
- Range searches: Restricting searches by any peculiar characteristic of the field concerned.

- Interactive query building: Does the system promises the search process to be interactive enough to modify terms during the search process, including terms from retrieved records, etc.
- Response Time: How fast is the system to output search results.
- Information exhaustiveness in records: Mechanism and transparency by which the bibliographic to full text linking is guaranteed.
- Searchable text fields: Exhaustive indexing conducted to make searches amenable to different fields.
- Graphic support etc.

### **Display Capabilities**

- Managing search results
- Display formats
- Sorting
- Avoiding errors
- Appearance

### **Media Dependent Features**

CD-ROM and other optical media for distributing information contents in a store and distribute manner is quite different from hosting such contents in a hypertext format on one http server or on mirror sites. But in some areas like user interfaces, one can see a whole similarity emerging in recent times, as more and more CD databases support access through web browsers in the Intranet.

### **CD-ROM Resources**

- Availability: Presence of a desired resource in CD form
- Price: Pricing must be compelling to other media like print, web, etc.
- Hardware/software: Does it support the existing library computer systems and peripherals in terms of operating system, network software? Any other extra software are to be procured to make the product work.
- Credibility: How best the producer and/or distributor is regarded in terms of customer orientation, usage rights and licensing agreements? Whether user can keep archival discs for lapsed subscription? Warranty periods and other special offers bundled with the purchase.



## Web Resources

- Visually appealing: The web sites should be designed in a manner so that they are aesthetically attractive to users.
- Value: The contents must add value in the web media rather than a mere transcending to web. The hypertext linking should be so organized that the utility of the source could be optimum.
- Currency: The information provided on the web must reflect the current state of affairs on the topic. Emphasis must be made to refresh the contents as frequent as possible.
- Navigable: The hypertext linking should be so organized that the utility of the source could be optimum.
- Easy to find and use: Must be well indexed with the search engines so that they must be easily noticeable to people.
- Interacting with and responsive to users: Provision must be made to interact with users through forms and options to accept preferences so that only what is essential and required to one user will be flashed on the system when s/he is using it.
- Site maps: Should contain site maps to authentically state what is kept and what is not.
- Archives: Maintaining an archive of old information for those who wish to browse such data, may be to satisfy historical interest or to gather information which had been published only then.
- Security and licensing policy: In case the content is provided for a fee on the web, what are the policy options framed in terms of licensing of use, and to secure the content from unauthorized access and hacking.
- Formats used: The files must be maintained in what formats- pdf, html, ps, and what are the inherent merits or limitations of doing so.
- Speed of access: How easy it is to download and print?
- Internet infrastructure required: Not only at the institutional level, but at the national platter too. Institutions should arrange with ISPs for enhancing their Internet infrastructure at the local level through leased lines, V-SATs, etc.

### **Constraints of Digital Libraries in India**

The digital libraries are having some limitations in the functioning environment. The following limitations are available at present:

- Lack of expertise
- Lack of adequate infrastructure
- Lack of ICT strategies and policies
- Lack of Technical skills
- Rigidity in the publishers policies and data formats
- Copyright/IPR Issues
- Technological obsolescence
- There is the problem of health hazards associated with the use of computers e.g. eye and back problems as well as the exposure of radiation from the monitors.

### **Conclusion**

Due to extensive globalization and pin pointed as well as immediate needs of the end users, libraries are undergoing digitization process all over the world. Terminology has a positive influence on perceived ease of using digital library. Technological innovations are making headway and have achieved an unprecedented breakthrough in Information and Communication Technology (ICT). These technological changes have forced publishing, editing, translating, database creation, computing, teaching and learning to come closer to enhance the quality, speed and coverage in the respective fields. The need of the hour makes us, the library and information science professional to take a step forward and bring the dreams into reality by beginning from our own levels, whether at schools, institutions, organizations or other places. A combined effort towards digitization may help in Information Highway as the sea of information is knocking at its doors. A very few of our libraries were able to use online information facility, a few more were able to procure and service CD-ROM sources in a stand-alone or network mode. Whereas when it comes to web, a large number of our libraries have been able to assimilate this technology either by using web information sources or by hosting them. Availability of qualitative contents in substantial quantity is the key to involve in full- fledged digital library development, where many of our institutions still lag. The widespread availability of suitable products in the market

may enable our libraries to taste the virtues of digital information. How such contents would be selected and procured by carefully examining the products with the criteria listed in terms of content, cost, and usability of external contents and hosting them on the library/institution intranet or local network is the crucial question.

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# Digital Preservation Technologies for Libraries

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## *Abstract*

*Digital Preservation provides the digitized resources of library and information centers, more and easily accessible to the remote users in any of the environment of hardware and software. Along with this it also take care of rare, fragile and such other formats of digitized contents for future use. Preservation of digitized documents in desired format also reduces the storage volume and cost effectiveness and overall process of maintenance of the library materials. Preservation also benefited the library and information professionals in terms of their position, functioning and services. Fulfillment of Research and development (RD) area and their actives constraints and problem related to the manpower, to overcome like such problems emerges the concepts of digital library and preservation technology.*

Keyword : Digital Preservation

**Digital preservation** is a formal endeavor to ensure that digital information of continuing value remains accessible and usable. It involves planning, resource allocation, and application of preservation methods and technologies, and it combines policies, strategies and actions to ensure access to reformatted and "born-digital" content, regardless of the challenges of media failure and technological change. The goal of digital preservation is the accurate rendering of authenticated content over time. **According to the Harrod's Librarian Glossary**, digital preservation is the method of keeping digital material alive so that they remain usable as technological advances render original hardware and software specification obsolete (Nabeela)

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**Long Definition**

Digital preservation combines policies, strategies and actions to ensure the accurate rendering of authenticated content over time, regardless of the challenges of media failure and technological change. Digital preservation applies to both born digital and reformatted content.

Digital preservation policies document an organization's commitment to preserve digital content for future use; specify file formats to be preserved and the level of preservation to be provided; and ensure compliance with standards and best practices for responsible stewardship of digital information.

Digital preservation strategies and actions address content creation, integrity and maintenance.

**Content Creation Includes:**

- Clear and complete technical specifications
- Production of reliable master files
- Sufficient descriptive, administrative and structural metadata to ensure future access
- Detailed quality control of processes

**Content Integrity Includes:**

- Documentation of all policies, strategies and procedures
- Use of persistent identifiers
- Recorded provenance and change history for all objects
- Verification mechanisms
- Attention to security requirements
- Routine audits

**Content Maintenance Includes:**

- A robust computing and networking infrastructure
- Storage and synchronization of files at multiple sites
- Continuous monitoring and management of files
- Programs for refreshing, migration and emulation
- Creation and testing of disaster prevention and recovery plans
- Periodic review and updating of policies and procedures

## **Digital Preservation: The Need Preservation Strategies for the Digital Formats:**

### **Appraisal**

Archival appraisal (or, alternatively, selection) refers to the process of identifying records and other materials to be preserved by determining their permanent value. Several factors are usually considered when making this decision. It is a difficult and critical process because the remaining selected records will shape researchers' understanding of that body of records, or fonds. Appraisal is identified as A4.2 within the Chain of Preservation (COP) model created by the InterPARES 2 project. Archival appraisal is not the same as monetary appraisal, which determines fair market value.

Archival appraisal may be performed once or at the various stages of acquisition and . Macro appraisal, a functional analysis of records at a high level, may be performed even before the records have been acquired to determine which records to acquire. More detailed, iterative appraisal may be performed while the records are being processed.

Appraisal is performed on all archival materials, not just digital. It has been proposed that, in the digital context, it might be desirable to retain more records than have traditionally been retained after appraisal of analog records, primarily due to a combination of the declining cost of storage and the availability of sophisticated discovery tools which will allow researchers to find value in records of low information density. In the analog context, these records may have been discarded or only a representative sample kept. However, the selection, appraisal, and prioritization of materials must be carefully considered in relation to the ability of an organization to responsibly manage the totality of these materials.

Often libraries, and to a lesser extent, archives, are offered the same materials in several different digital or analog formats. They prefer to select the format that they feel has the greatest potential for long-term preservation of the content. The Library of Congress has created a set of recommended formats for long-term preservation. They would be used, for example, if the Library was offered items for copyright deposit directly from a publisher.

## **Identification (Identifiers and Descriptive Metadata)**

In digital preservation and collection management, discovery and identification of objects is aided by the use of assigned identifiers and accurate descriptive metadata. An Identifier is a unique label that is used to reference an object or record, usually manifested as a number or string of numbers and letters. As a crucial element of metadata to be included in a database record or inventory, it is used in tandem with other descriptive metadata to differentiate objects and their various instantiations.

Descriptive metadata refers to information about an object's content such as title, creator, subject, date etc...Determination of the elements used to describe an object is facilitated by the use of a metadata schema.

Another common type of file identification is the filename. Implementing a file naming protocol is essential to maintaining consistency and efficient discovery and retrieval of objects in a collection, and is especially applicable during digitization of analog media. Using a file naming convention, such as the will ensure compatibility with other systems and facilitate migration of data, and deciding between descriptive (containing descriptive words and numbers) and non-descriptive (often randomly generated numbers) file names is generally determined by the size and scope of a given collection. However, filenames are not good for semantic identification, because they are non-permanent labels for a specific location on a system and can be modified without affecting the bit-level profile of a digital file.

## **Integrity**

Data integrity provides the cornerstone of digital preservation, representing the intent to “ensure data is recorded exactly as intended and upon later retrieval, ensure the data is the same as it was when it was originally recorded.” Unintentional changes to data are to be avoided, and responsible strategies put in place to detect unintentional changes and react as appropriately determined.

However, digital preservation efforts may necessitate modifications to content or metadata through responsibly-developed procedures and by well-documented policies. Organizations or individuals may choose to retain original, integrity-checked versions of content and/or modified versions with appropriate

preservation metadata. Data integrity practices also apply to modified versions, as their state of capture must be maintained and resistant to unintentional modifications.

### ***Fixity***

File fixity is the property of a digital file being fixed, or unchanged. File fixity checking is the process of validating that a file has not changed or been altered from a previous state. This effort is often enabled by the creation, validation, and management of check sums.

While checksums are the primary mechanism for monitoring fixity at the individual file level, an important additional consideration for monitoring fixity is file attendance. Whereas checksums identify if a file has changed, file attendance identifies if a file in a designated collection is newly created, deleted, or moved. Tracking and reporting on file attendance is a fundamental component of digital collection management and fixity.

### **Characterization**

Characterization of digital materials is the identification and description of what a file is and of its defining technical characteristics often captured by technical metadata, which records its technical attributes like creation or production environment.

### **Sustainability**

Digital sustainability encompasses a range of issues and concerns that contribute to the longevity of digital information. Unlike traditional, temporary strategies, and more permanent solutions, digital sustainability implies a more active and continuous process. Digital sustainability concentrates less on the solution and technology and more on building an infrastructure and approach that is flexible with an emphasis on interoperability, continued maintenance and continuous development. Digital sustainability incorporates activities in the present that will facilitate access and availability in the future.



***Render ability***

Render ability refers to the continued ability to use and access a digital object while maintaining its inherent significant properties.

***Physical Media Obsolescence***

Physical media obsolescence can occur when access to digital content requires external dependencies that are no longer manufactured, maintained, or supported. External dependencies can refer to hardware, software, or physical carriers.

***Format Obsolescence***

File format obsolescence can occur when adoption of new encoding formats supersedes use of existing formats, or when associated presentation tools are no longer readily available.

Factors that should enter consideration when selecting sustainable file formats include disclosure, adoption, transparency, self-documentation, external dependencies, impact of patents, and technical protection mechanisms.

***Significant Properties***

Significant properties refer to the "essential attributes of a digital object which affect its appearance, behavior, quality and usability" and which "must be preserved over time for the digital object to remain accessible and meaningful."

"Proper understanding of the significant properties of digital objects is critical to establish best practice approaches to digital preservation. It assists appraisal and selection, processes in which choices are made about which significant properties of digital objects are worth preserving; it helps the development of preservation metadata, the assessment of different preservation strategies and informs future work on developing common standards across the preservation community."

***Authenticity***

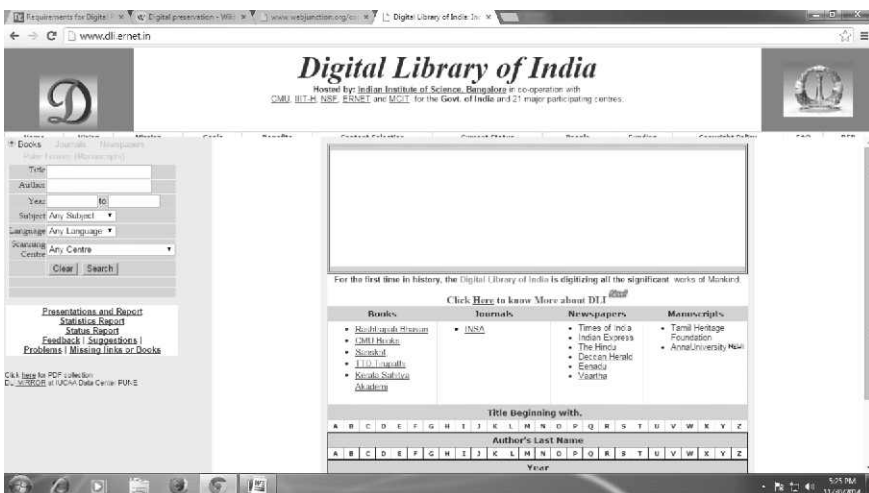
Whether analog or digital, archives strive to maintain records as trustworthy representations of what was originally received. Authenticity has been defined as

“The trustworthiness of a record as a record; i.e., the quality of a record that is what it purports to be and that is free from tampering or corruption”. Authenticity should not be confused with accuracy; an inaccurate record may be acquired by an archives and have its authenticity preserved. The content and meaning of that inaccurate record will remain unchanged.

A combination of policies, security procedures, and documentation can be used to ensure and provide evidence that the meaning of the records has not been altered while in the archives' custody.

## Access

Digital preservation efforts are largely to enable decision-making in the future. Should an archive or library choose a particular strategy to enact, the content and associated metadata must persist to allow for actions to be taken or not taken at the discretion of the controlling party.



## Preservation Metadata

Preservation metadata is a key component of digital preservation, and includes information that documents the preservation process. It supports collection management practices and allows organizations or individuals to understand the chain of custody. Preservation Metadata: Implementation Strategies (PREMIS), an international working group, sought to “define implementable, core preservation



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# Public Library Acts in India in Digital Age: A Critical Appraisal

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and Dr. Anil Jain<sup>4</sup>*

## Abstract

*As many as 19 states and 2 union territories of India have passed public library acts (PLA) viz Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, West Bengal, Manipur, Kerala, Haryana, Mizoram, Goa, Odisha, Gujarat, Uttarakhand (Uttaranchal), Uttar Pradesh, Rajasthan, Bihar, Chhattisgarh, Arunachal Pradesh. In Telangana Andhra Pradesh Public Library Act is still applicable. Still 10 states are without a public library act. Paper provides percentages of population under the umbrella of public library acts and area of these states. Paper also studies of basic features of these acts with special reference to definitions of documents/books, inclusion of digital media, cess/tax and also amendments in Press and Registration of Books Act. Paper studies effects of digital environment on their sections. Paper studies stresses need to establish separate national digital library and regional / state digital libraries. Paper suggested for amendments in these acts and in future public library acts.*

Keyword : Public Library Legislation

## Introduction

After the bifurcation of Madhya Pradesh (M.P.) in 2002, Rajasthan is now the largest state of India. Madhya Pradesh is now second largest state followed by U.P., Maharashtra and U.P. (Table 1). By population Uttar Pradesh is largest state followed by Maharashtra, Bihar & West Bengal.(Table 2). **Table 1 also reveals that 19 states and 2 Union Territories have enacted Public Library Acts since first public**

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**Table-1 Area and Population of India  
(Rank order by population)**

	State/UT	Year	Population (in Carore)	Rank	% Population of in India	Area (Km)	Rank
1	Uttar Pradesh	2006	19.96	1	16.49	240,928	4
2	Maharashtra	1967	11.24	2	9.28	307,713	3
3	Bihar	2008	10.4	3	8.58	94,163	13
4	West Bengal	1979	9.14	4	7.55	88,752	14
5	Madhya Pradesh	Ab	7.26	5	6	308,245	2
6	Tamil Nadu	1948	7.21	6	5.96	130,058	11
7	Rajasthan	2006	6.86	7	5.67	342,239	1
8	Karnataka	1965	6.11	8	5.05	191,791	7
9	Gujarat	2001	6.03	9	5	196,024	6
10	Andhra Pradesh	1960	4.94	10	4.08	160,205	8
11	Odisha	2001	4.2	11	3.47	155,707	9
12	Telangana	*	3.53	12	2.97	114,840	12
13	Kerala	1989	3.34	13	2.76	38,863	22
14	Jharkhand	Ab	3.3	14	2.72	79,714	16
15	Assam	Ab	3.12	15	2.58	78,438	17
16	Punjab	Ab	2.77	16	2.3	50,362	20
17	Chhattisgarh	2008	2.55	17	2.11	135,191	10
18	Haryana	1989	2.54	18	2.09	44,212	21
19	Jammu and Kashmir	Ab	1.25	20	1.04	222,236	5
20	Uttarakhand	2005	1.01	21	0.84	53,483	19
21	Himachal Pradesh	Ab	0.69	22	0.57	55,673	18
22	Tripura	1988	0.37	23	0.3	10,486	27
23	Meghalaya	Ab	0.3	24	0.24	22,429	23
24	Manipur	1988	0.27	25	0.22	22,327	24
25	Nagaland	Ab	0.2	26	0.16	16,579	26
26	Goa	1993	0.15	27	0.12	3,702	29
27	Arunachal Pradesh	2009	0.14	28	0.11	83,743	15
28	Mizoram	1993	0.11	29	0.09	21,081	25
29	Sikkim	Ab	0.061	30	0.05	7,096	28
	UNION TERRITORIES						
30	Delhi	Ab	1.68	UT..	1.38	1,484	30
31	Puducherry	2003 ?	0.12	UT1	0.1	479	UT3
32	Chandigarh	Ab	0.11	UT2	0.09	114	UT4
33	Andaman and Nicobar	Ab	0.032	UT3	0.03	8,249	UT1
34	Dadra and Nagar Haveli	Ab	0.034	UT4	0.03	491	UT2
35	Daman and Diu	Ab	0.024	UT5	0.02	112	UT5
36	Lakshadweep	2014?	0.0064	UT6	0.01	32	UT6
	Total		121.0574	Total	100	3,287,240	

?= Not available \*bifurcated from Andhra Pradesh and Andhra Pradesh Public Librar Act is applicable unless repelled by new government

**library act** was passed soon after independence in 1948. The Hyderabad Public Library Act was passed in 1955 but it has been repelled with Andhra Pradesh Public Library Act, 1960. Now Telangana has been bifurcated in 2014 from Andhra Pradesh and Andhra Pradesh Public Library Act is applicable.

The table 2 also reveals that out of 121 crore population (2011) of India now 82.49 % population have been covered under the umbrella of Public Library Act's. Only 17.51% population is yet to be covered. The most important state where PLA is still awaited is Madhya Pradesh with 7.26 crore (6.00%) population. It is II<sup>nd</sup> largest state of India in area and V<sup>th</sup> largest in population. Besides Punjab also is without a PLA although it is considered to be very advanced state. The phrase "Darkness

**Table-2 Chronological List of States with Public Library Acts in India**

S. No.	States/UT	Year	Population (in Carore)	Rank	% of Population in India	Area (Km)	Rank
1	Tamil Nadu	1948	7.21	6	5.96	130,058	11
2	Andhra Pradesh	1960	4.94	10	4.08	160,205	8
3	Karnataka	1965	6.11	8	5.05	191,791	7
4	Maharashtra	1967	11.24	2	9.28	307,713	3
5	West Bengal	1979	9.14	4	7.55	88,752	14
6	Manipur	1988	0.27	25	0.22	22,327	24
7	Kerala	1989	3.34	13	2.76	38,863	22
8	Haryana	1989	2.54	18	2.09	44,212	21
9	Mizoram	1993	0.11	29	0.09	21,081	25
10	Goa	1993	0.15	27	0.12	3,702	29
11	Odisha	2001	4.2	11	3.47	155,707	9
12	Gujarat	2001	6.03	9	5.55	196,024	6
13	Uttarakhand (Uttaranchal)	2005	1.01	21	0.84	53,483	18
14	Uttar Pradesh	2006	19.96	1	19.49	240,928	4
15	Rajasthan	2006	6.86	7	5.67	342,239	1
16	Bihar	2008	10.4	3	8.58	94,163	13
17	Chhattisgarh	2008	2.55	17	2.11	135,191	10
18	Arunachal Pradesh	2009	0.14	28	0.11	83,743	25
19	Telangana *	*	3.53	12	2.97	114,840	12
20	Puducherry (UT)	2003?	0.12	UT1	0.1	479	UT3
21	Lakshadweep (UT)	2014?	0.0064	UT6	0.01	32	UT6
	<b>Total</b>		99.8564				
			82.49%				

? years in Approximate. Public Library Acts not available during search.

below the lightened earthen pot” is true because nation's capital state Delhi is still without a PLA although it has headquarter of ILA and has seen many political changes but no government could make it to pass Public Library Act or made no promise for it in their election manifestos.

Table 2 also reveals that area wise 73.74 % area of the country now have been covered under a Public Library Acts and only 26.21 % area is yet to be covered . The states of Assam, Himachal Pradesh , Jharkhand, Jammu and Kashmir, Madhya Pradesh, Meghalaya, Nagaland, Punjab, Sikkim and Tripura and 5 Union Territories are still without a public library act to cover 100% population & 100% area under the ambit of Public Library Acts. Union Territories Andaman and Nikobar, Chandigarh, Daman and Diu , Dadar Nagar & Haveli, Delhi should also legislate such an act.

**Table 3 :States and Union Territories Without Public Library Acts**

S.N.	States/ UT	Status of PLA	Population (in Carore)	Rank	% of Population in India	Area (Km)	Rank
1	Madhya Pradesh	Ab	7.26	5	6	308,245	2
2	Jharkhand	Ab	3.3	14	2.72	79,714	16
3	Punjab	Ab	2.77	16	2.3	50,362	20
4	Jammu and Kashmir	Ab	1.25	20	1.04	222,236	5
5	Himachal Pradesh	Ab	0.69	22	0.57	55,673	27
6	Tripura	Ab	0.37	23	0.3	10,486	27
7	Meghalaya	Ab	0.3	24	0.24	22,429	24
8	Nagaland	Ab	0.2	26	0.16	16,579	26
9	Sikkim	Ab	0.061	30	0.05	7,096	28
10	Delhi	Ab	1.68	UT1	1.38	1,484	UT1?
11	Chandigarh	Ab	0.11	UT2	0.09	114	UT4
12	Andaman and Nicobar	Ab	0.032	UT3	0.03	8,249	UT1
13	Dadra and Nagar Haveli	Ab	0.034	UT4	0.03	491	UT2
14	Daman and Diu	Ab	0.024	UT5	0.02	112	UT5
	<b>Total</b>		<b>21.201</b>			<b>861708</b>	
			<b>17.51%</b>			<b>26.21%</b>	
	<b>Grand Total</b>		<b>121.0574</b>	<b>Total</b>	<b>100</b>	<b>3,287,240</b>	

\* Separated from Andhra Pradesh in 2014 . Andhra Pradesh Public Library Act is applicable unless repalled by new government.

## 2. Basic Features of Library Acts:

In this section we have studied public library acts in very brief mainly on definition of book inclusion of Library & Information Professional in State Library Authority, Cess/Tax imposed and copies required under Press and Registration of Book Act, 1867.



**a. Tamil Nadu Public Library Act (1948):** It does not define book. It has a State Library Committee. It does not elaborate its constitution. Local Library Authority includes City Library Authority and District Library Authority. It has provision of cess on property tax or house tax @3% raised to 4% and 6% later 5 copies of the books are required under the PRB Act.

**b. Andhra Pradesh Public Library Act (1960):** It does not define the word book/document. It has provision of Andhra Pradesh Granthalaya Prarishad with chairman appointed by state government and with at least 2 LIS professionals in it. The act provides for the constitution of Zila Granthalaya Smastha. Cess @4% on Property tax is levied. It does not mention any change in PRB Act.

**c. Karnataka Public Library Act (1965):** Defines book and include every volume and pamphlet and sheet of music, maps, charts, plans, newspapers and periodicals. It provides constitution of State Library Authority (SLA) with Minister in Charge of Libraries. It provides for City Library Authorities or District Library Authorities. It has provision of 2 LIS professionals. Cess @3% on tax on land and buildings, entry of goods, vehicles, trade and employment. Under PRB Act 3 copies are required.

**d. Maharashtra Public Library Act (1967):** Defines Books & to extends it to include paintings, films, slides, discs and tapes used for audio-visual information. The act provides officio President, provision of State Library Council with Ministry of Education as ex-officio President. For each district a library committee is constituted. It has no provision of cess and no amendment made in PRB Act.

**e. West Bengal Public Library Act (1979):** The act has omitted to define the words Books etc. It provides provision for State Library Council (SLC) with Minister in charge libraries as Chairman. It has scope of 7 or more Library Professionals in it. It has provision of local library authorities for each district. There is no provision of cess. Under PRB Act 03 copies are required.

**f. Manipur Public Library Act (1988):** The Act also omitted to define books. It has provision for constitution of State Library Committee with Minister of Education as Chairman and has scope for one nomination of LIS professional and a state librarian in it. District Library Councils are also constituted under this Act. In this authority there is no provision for Library Science specialist. No amendment in PRB Act is made. There is no provision cess.

**g. Kerala Public Library Act (1989):** Defines books to include “every volume, part of division or volume and pamphlet in any language”. The Kerala State Library Council has not clearly mentioned any LIS professional in it. Taluk Library Union constituted under this act. It has provision of cess @5% on building tax or property tax and 1% grant of state education budget. PRB Act is not amended in this act.

**h. Haryana Public Library Act (1989):** Define books and include microform and video-audio cassettes beside other documents like news papers and periodicals. A state Library Authority with Minister in- charge of libraries is Chairman. The 4 nominated members include LIS specialist. The act also has provision for Standing Library Advisory and State Library Directorate, District Library Authorities and District Library Committees, City and Town Block, Panchayat Library Committees. Surcharge on property house tax can be levied but rate is not fixed. It has not amended PRB Act.

**i. Mizoram Public Library Act (1993):** The act do not define books. The State Library Council with Minister in-charge of Education and Human Resource as Chairman. It has 2 LIS professionals in it. There is no provision of cess and no amendment in PRB Act has been made.

**j. Goa Public Library Act (1993):** The act defines Book which includes audio-visual documents, floppy, CD microfilms, newspapers and periodicals, etc. The act has provision for the establishment of a State Library Council with Minister in charge of Libraries as Chairman and 2 LIS professionals as members. Taluka & Village Committees have been repealed in amendments. It has provision of cess @50 paisa per proof liter IMFL (wines) and bear. There is no amendment in PRB Act.

**k. Odisha Public Library Act (2001):** It defines book and include manuscripts, microfilms, discs or tapes, etc. used for electronic information. It has provision of a separate Odisha Public Library Council with Minister in-charge of Tourism and Culture as Chairman. Book sellers and 3 LIS professional in it are also represented in this body. It has no provision of cess and has not amended PRB Act.

**l. Gujarat Public Library Act (2001):** It defines the term of book which includes MSS, Computer output in any form and computer programme , AV material, CDs etc. There is provision of State Library Development Council with Minister in charge of

Libraries and Chairman. It has 21 members committee with 2 LIS professionals. There is no provision of cess or tax. No amendment in PBR Act has been made.

**m. Uttranchal Public Library Act (2005):** It does not define term book/document. It functions through a State Library Committee with Minister of Education as Chairmen and 15 other members with 2 members have special knowledge of matters related to the libraries. It also includes 1 senior reader from state level library. The fund will be raised from fee for the development of the libraries besides grant in aids from PRLF & Central govt. & special grant by state government. There is no provision of cess or tax. No amendment in PRB Act has been made. .

**n. Uttar Pradesh( 2006):** Definition of book includes computer floppy, CDs .Besides other documents. It has State Library Council with Minister of the Secondary Education as Chairmen with 11 members with 3 LIS professionals. The finance will be given by State govt. from 5 years Plan & non plan budget can also find ways and means to raised funds. There is no provision of cess or Tax. No amendment have made in PRB Act. Section 9 & 10 reads. To procure useful material published in state. It is not clear as to how? Whether it is by purchase or free supply of copies?

**o. Rajasthan Public Library Act (2006):** The term book includes computer output and computer programs, CDs and AVs besides other materials. It has a State Library Council Minister with I/C as Chairman and 18 members including 5 LIS professionals A budget will to prepared by Director, Public Library. It has no provisions of cess or tax. It has not amended PRB Act.

**p. Bihar Public Library Act (2008):** It does not define book. It provides provision of State Library and Information Centre Authority with a Chairman nominated by state government from a panel prepared by HRD Department. There is no provision of cess or tax. PRB act 2 copies all books. Does not allotment the term.

**q. Chhattisgarh Public Library Act (2008):** It define book which included AV material, including floppy, CDs and computers. It has a State Library Council with Minister of Education as Chairperson. It has two professional on 12 members of the council. There is no provision of cess or tax in it but Govt. may find ways and means to raise additional resources. No amendment in PBR Act.

r. **Arunachal Pradesh Public Library Act (2009)**: It does not define book/document. It has a state Library Planning Committee with Minister of the Department as Chairman with 4 LIS professionals. There is provision of District Library Planning Committees. Compulsory enrolment of every student from 8th as members of public libraries is remarkable clause in it It has no provisions of cess or tax. It has not amended PRB Act.

s. Telangana is newly constituted state bifurcate from Andhra Pradesh on 2, June 2014. Andhra Pradesh Public Library Act 1960 applicable unless repelled or amended by new state.

**The Union Territories** Pondicherry and Lakshadweep have enacted Public Library Acts. Since they are governed by central government they are not studied in this study.

**Table 4 Salient features of Public Library Acts (Summary)**

S. No.	States	Definition of Book	Computer, etc.	Cess Levied	Copies PRB
1	Andhra Pradesh	No	-	4.1% PT	-
2	Arunachal Pradesh	No	-	-	-
3	Bihar	No	-	-	-
4	Chhattisgarh	Yes	-	-	-
5	Goa	Yes	-	50 paise IMF	-
6	Gujarat	Yes	Yes	-	-
7	Haryana	Yes	-	Yes	-
8	Karnataka	Yes	-	3%	3
9	Kerala	Yes	-	5%	1
10	Maharashtra	Yes	-	-	-
11	Manipur	No	-	-	3
12	Mizoram	No	-	-	-
13	Odisha	Yes	-	-	-
14	Rajasthan	Yes	Yes	-	-
15	Tamil Nadu	No	-	3.6%	5
16	Telangana	No	-	As per A.P. Act	-
17	Uttarakhand (Uttaranchal)	No	-	-	-
18	Uttar Pradesh	Yes	Yes	-	-
19	West Bengal	No	-	-	3
	Total	10	9	7	5

## **Appraisal of Public Libraries Acts:-**

In this section definition of book and provisions have been critically analyzed in various public libraries acts

### **a. Definition of Book:-**

Under various public library acts we have many definitions of the term: Books (Document). Tamilnadu (1948), Andhra Pradesh (1960), West Bengal (1979), Manipur (1988), Mizoram (1993), Uttarakhand (Uttaranchal) (2005), Bihar (2008) and Arunachal Pradesh (2009) Public Library Acts do not define term Book/Document. Public Library Acts of Karnataka (1965) under section u/s 2(3) defines Book to include every volume, pamphlet, sheet of music, map, chart or plan, newspaper, periodicals and other such materials in any languages. Maharashtra Public Library Act (1967) u/s 2(1) in addition to definition used Karnataka's includes paintings, films slides, disc or tapes used for audio visual information. Haryana Public Library Act (1989) u/s 2(b) also includes manuscripts, microfilms, video/audio cassette or a photograph, besides sheet of music, chart, newspaper and periodicals. Goa Public Library Act (1993) u/s 2(c) has used more appropriate term "Documents instead of books and the scope has been widened much. It includes floppy, discs, non book materials. Odisha Public Library Act (2001) u/s 2(b) though used term book but has included everything as given in Goa Public Library Act. It has even included palm leaf manuscript and all electronic information. Emphasis has been laid down on microfilm, discs or tapes used in audio visual information but it is not clear whether commercial films etc. come in its sphere or not. Arunachal Pradesh (2009), Bihar (2008), Uttarakhand (Uttaranchal) (2005), Chhattisgarh (2008) Public Library Acts include audio-video and CDs. Gujarat Public Library Acts (2001) includes computer output in any form and audio-video & CDs. Rajasthan (2006) and Uttar Pradesh (2006) Public Library Acts have similar **provisions**.

We also see that definition of the books/ documents are not inclusive of new technological terms in all Public Library Acts. The definitions must be very elaborate to include electronic version and need amendments..

### **b. Library Cess /Tax:-**

Any cess or taxes are not levied in 11 states viz Maharashtra, West Bengal,

Mizoram, Odisha, Gujrat, Uttarakhand (Uttaranchal), U.P, Rajasthan, Bihar and Arunachal Pradesh in their public library acts. Only 8 states viz Tamil Nadu, Andhra Pradesh Telangana, Karnataka, Kerala, Haryana, Goa and Chattisgarh have different provisions of cess and taxes in their public library acts.

### **c. Legal Deposits:-**

Copies of Publications are to be deposited to specified agencies compulsorily under legal obligation. In India this is done under three different acts: Delivery of Books Act (DBA) 1954, 1956, Indian Copy Right Act (ICRA), 1957 and Press and Registration of Books Act (PRB Act) 1867. The provision are as follows:-

- a. Under DBA deposit of 04 copies is compulsory- one copy to National Library, Kolkata and 03 other copies to designate other public libraries. This act is enforced by Union Government through National Library.
- b. The Indian Copy Right Act (1957). ISBN is provided by National Educational Resource Centre to publications and protects the rights of author's musicians and artists.
- c. DBA and ICRA do not provide any provision for free supply of publications to states. Press and Registration of Books Act (1867) authorizes states to receive at least one copy of each “book” which can be amended by states under public library acts to receive more copies.
- d. The PRBA provides compulsory deposit of one copy to state governments. Under this act state governments can get 03-5 copies of each publication. This act is enforced by state governments. The number of copies can be increased by state governments in public library acts. Thus a printer/publisher has to deposit many copies compulsorily at different places at their own expenses.

Under the Press and Registration of Books Act (PRBA) the scope of the term “Book” is also very vague. It is applicable to the works printed & published in India. It does not include book marketed in India, no matter where they are printed or published. It also does not include documents published on or about India or Indian person or by on Indian author, wherever they are published but marketed in India.

The amendment in PRB has been made only in Tamil Nadu, Karanataka, West Bengal, Manipur and Bihar to increase number of copies for submission. Other PLA Acts have not amended in it and require only 1 copy as per PRB Act, 1867.

#### **4. Amendments Required in Acts:-**

On a close look at the state public library acts we can find that non print material and electronic versions of the reading materials are not within their ambit. Also publications available on Internet and not available in print media are not included in these acts for compulsory deposit. Virtual publishers, publish many documents on internet, and sell them with a password. Payments are made through International Credit Cards & ATM Cards etc. Such documents should be submitted in digital form in a national data base or national/ state digital libraries.

With the above study it is very much evident that public library acts and PRB Act need amendments in digital environment. With the advent of modern technology in publishing, books and other reading material are being printed using digital data. Type setting of data is out dated now. It is suggested that few amendments in these acts at suitable places should be made.

##### **a. Definition of book in PLA's :-**

New definition can be read as follows: -

- (i) Every volume, part or division of a volume, and pamphlet, in any language,
- (ii) Every sheet of music, chart or plan separately printed or lithographed,
- (iii) News papers, periodicals, publishers paintings, films, slides, paper, manuscripts palm-leaf manuscripts, micro-films and discs or tapes used for electronic information for the purpose of providing services to the public,
- (iv) Every form of audio-video/digital documents including music, audio video films and alike used for research, information and entertainment.
- (v) Any digital document published online or offline with ISSN/ISBN number.
- (vi) Any other form of documents which may be published in future due to technological advancement
- (vii) Any other document which may be notified.

##### **b. Press & Registration of Books Act, 1867:**

##### **It may be amended:-**

1. To include delivery of two CD/DVD/Digital versions of books printed/published in hardcopy,

2. To include CD's/DVD or any other digital versions,
3. To include every online publication,
4. To include documents marketed in India,
5. To include delivery of such documents to designated regional library /district library /special library,
6. To include penalty to be imposed by state/regional/district authorities and realizable as per revenue due to the government, and
7. To inform state/ regional/district library within 15 days in advance prior to publication and supply copies within 1 month of final publication.

**c. Delivery of Books & News papers (Public Libraries) Act, 1954:**

**It may be amende :-**

1. To include term documents in place of books,
2. To include documents printed or marketed in India,
3. To include digital version of every document,
4. To include delivery of 4 copies of digital versions of every document published in printed form,
5. To include delivery of every document published in soft copy only,
6. To include delivery of documents to some National Digital Library/ State Digital Libraries of various subjects,
7. To include every form of publications be it music or video film Disc, digital documents for research and entertainment,
8. To include on line publication whether priced or open source,
9. To include other form of documents arising at due to use of newer technology in near future.

**Conclusion and Suggestions:**

In new digital environment with unlimited electronic publication activities, PLAs do not include compulsory deposit of many types of documents in printed/electronic form or both. Now a days many documents are published online only. They may or may not have ISBN, ISSN numbers. They may be priced or free/ open source. These are to be suitably included in public library acts.

Similarly every document published now-a-days in print form is available in digital form also because printing is using digital technology. Earlier methods of printing



are out of date & not in use. It has made it easy to deposit digital version of every document in any digital repository of the India or states acting as national digital depository / libraries and state digital depositories/libraries. These may be established in different parts of the country.

Similarly what we feel that state public library acts should include a copy of every document (including digital document) which have been written on India, or any Indian person whether residing outside India or have published outside India. This will make our collection more comprehensive & exhaustive. Open source publications too are to be included under the ambit of public library acts.

In the end few suggestions are made:-

- (a) Define book elaborately to include all form of publications,
- (b) Impose penalty for infringement in legal deposit of books,
- (c) If a publisher has headquarters in different states, a copy should be submitted in each state,
- (d) Authors domicile working in a state, and publishing books from publishers of other states should deposit books in the state of domicile workplace,
- (e) Authors publishing books from international publishers should submit a copy in their states.
- (f) Assure submission of copies of e-publications, and
- (g) Establishment of national /state digital libraries and compulsory submission of e versions of every document in addition to print version.

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# RFID Security System in Libraries: Application of Library Management System

*Arjun<sup>1</sup>, Harjinder Kaur Dhaliwal<sup>2</sup> and Gurjant Singh<sup>3</sup>*

## Abstract

*Radio Frequency Identification (RFID) is one of the most exciting technologies that revolutionized the working practices by increasing efficiencies, and improving profitability. Deployment of radio frequency identification (RFID) systems is rapidly growing and has the potential to affect many different industries and applications. The article provides details about RFID, its components, how it works, and its usage in library.*

Keyword : Library Security

## Introduction

Radio frequency identification (RFID) is a rapidly growing technology that has the potential to make great economic impacts on many industries. While RFID is a relatively old technology, more recent advancements in chip manufacturing technology are making RFID practical for new applications and settings, particularly consumer item level tagging. These advancements have the potential to revolutionize supply-chain management, inventory control, and logistics. At its most basic, RFID systems consist of small transponders, or tags, attached to physical objects. RFID tags may soon become the most pervasive microchip in history. When wirelessly interrogated by RFID transceivers, or readers, tags respond with some identifying information that may be associated with arbitrary data records. Thus, RFID systems are one type of automatic identification system, similar to optical bar codes. There are many kinds of RFID systems used in different applications and settings. These systems have different power sources, operating frequencies, and functionalities. The properties and regulatory

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restrictions of a particular RFID system will determine its manufacturing costs, physical specifications, and performance. Some of the most familiar RFID applications are item-level tagging with electronic product codes, proximity cards for physical access control, and contact-less payment systems. Many more applications will become economical in the coming years. While RFID adoption yields many efficiency benefits, it still faces several hurdles. Besides the typical implementation challenges faced in any information technology system and economic barriers, there are major concerns over security and privacy in RFID systems. Without proper protection, RFID systems could create new threats to both corporate security and personal privacy.

## **History**

It's generally said that the roots of Radio Frequency Identification technology can be traced back to World War II. The Germans, Japanese, Americans and British were all using radar—which had been discovered in 1935 to warn of approaching planes while they were still miles away. The problem was there was no way to identify which planes belonged to the enemy and which were a country's own pilots returning from a mission. The Germans discovered that if pilots rolled their planes as they returned to base, it would change the radio signal reflected back. This crude method alerted the radar crew on the ground that these were German planes and not Allied aircraft (this is, essentially, the first passive RFID system). Since the 1980's, RFID has established itself in a wide range of markets including livestock, retail sales, wireless transactions, courier and logistics, publishing, automated vehicle identification systems, etc.

## **Objectives of the Study**

- To study the security systems in libraries.
- To study the different types of electronic security systems in libraries.
- To know the advantages of RFID technology in libraries.
- To study the application of RFID technology in library management system.

## **Scope**

This document is intended to provide general information and references regarding the current status of, and potential for, RFID technology in libraries. The information contained will be of value to Library Directors and Managers, and

other library team members who are involved in the process of developing library strategic plans and related budgets.

## Why RFID

The task of receiving, transporting, sorting and shelving materials has exploded in recent years. Library staff size remains constant at best while circulation and materials management continues to grow. Librarians are now in the business of moving books around rather than practicing librarianship, reference and patron service. RFID provides a solution to automate much of this handling and return staff to the business of customer service.

The use of RFID reduces the amount of time required to perform circulation operations. The most significant time savings are attributable to the facts that information can be read from RFID tags much faster than from bar codes and that several items in a stack can be read at the same time.

## Application in RFID in Library Management System

**The Patron Self Check-Out Station:** It is basically a computer with a touch screen and a built-in RFID reader, plus special software for personal identification, book and other media handling and circulation. After identifying the patron with a library ID card, a barcode card, or his personal ID number (PIN), the patron is asked to choose the next action (check-out of one or several books). After choosing check-out, the patron puts the book(s) in front of the screen on the RFID reader and the display will show the book title and its ID number (other optional information can be shown if desired) which have been checked out.



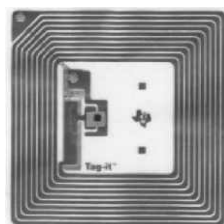
**Book Drops:** The Book Drops can be located anywhere, within or outside the library. Possible remote locations outside the library include hostels, shopping centers, schools, etc. This offers unprecedented flexibility and convenience of returning library items at anytime of the day, even when the library is closed.



**RFID Tags:** RFID tags have been specifically designed to be affixed into library media, including books, CDs, DVDs and tapes. While there are a range of tag types they generally fall into two categories: -

### Standard Tags

Standard tags are used on books, magazines, affixed directly to the face of the video (in most cases covering one of the windows) and can be affixed to cases for those CDs and DVDs that have metallic content.



RFID tags are not designed to be placed directly on audiocassettes (not an attractive option from an economy standpoint). Standard RFID tags should be placed on audiocassette cases and audio book albums.

### CD/DVD Tags

These form factors are circular tags, which are used on CDs or DVDs. They are also called dough-nut. These tags are used because the metallic content of CDs and DVD's may affect the signal of a standard tag. They can be directly affixed to the inner circles of CDs and DVDs that have no metallic content in their inner circles (ie, where no data is stored).



**RFID Transponder or Tagging:** It is the most important link in any RFID system. It has the ability to store information relating to the specific item to which they are attached, rewrite again without any requirement for contact or line of sight. Data within a tag may provide identification for an item, proof of ownership, original storage location, loan status and history.

**Work Station:** it is a staff assisted station on services such as loan, return, tagging, sorting and etc.

It is loaded with arming/disarming module, tagging module and sorting module. Arming/Disarming module allows EAS (Electronic Article Surveillance)



bit inside the tag of the library material to be set/reset so as to trigger/not trigger the alarm of the EAS gate.

- a) **Shelf Management:** This solution makes locating and identifying items on the shelves an easy task for librarians. It comprises basically of a portable scanner and a base station.

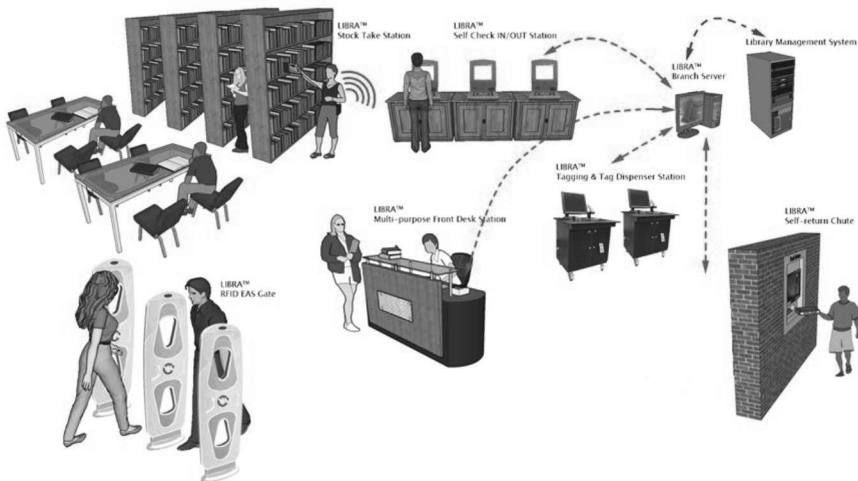
The solution is designed to cover three main requirements:

- Search for individual books requested
- Inventory check of the whole library stock
- Search for books which are miss-helved



## How RFID Works

Each RFID tag has a non-powered radio antenna which can be communicated to by a powered antenna belonging to a tag reader on a scanner or security gate. Although it is not necessary that the two antennas “see” each other as is needed with a traditional bar code, it is necessary that they be relatively close to one another since the wattage used by the powered antenna is very low for health and safety reasons.



The RFID reader sends out electromagnetic waves and the tag antenna is enabled to receive these waves. “When the tag antenna enters the RF (radio frequency) field, the tag's microchip circuits are powered by signals from this RF field created by the reader. The chip then modulates the waves and the tag sends them back to the reader. The reader converts the signals received from the tag into digital data and sends it to a computer.”

#### **RFID Benefits for Libraries:**

- **Stock management:** Operations such as managing material on the shelves, identifying missing & mishelved items are streamlined and taking stocks regularly will be feasible
- **Improved patron services:** Spending minimal time on circulation operations allows library staff to assist patrons Routine patron services are not disturbed even when libraries are facing staff shortages & budget cuts
- **Flexibility and modularity:** Ability to add newer products and features as finances and customer needs dictate
- **Security:** Library item identification & security bit is combined into a single tag, thereby eliminating the need to attach an additional security strip

#### **RFID Benefits for Staff:**

- **Less time needed for circulation operations:** Implementing RFID will considerably reduce the amount of time required to issue, receive, transport, sort & shelve library materials
- **Efficient Inventory management:** Inventory management can be done using a handheld reader without closing the library and is at least 20 times faster compared to existing barcode based system
- **Reducing Repetitive Stress Injuries (RSI):** RFID based system reduces repetitive scanning of individual items at the circulation desk during check in, check out and hence avoids RSI such as carpal tunnel syndrome Taking inventory in a RFID based system doesn't require physical de-shelving & shelving of library materials

#### **RFID Benefits for Patrons:**

- Patrons will spend less time waiting in check-out lines by using Self Check in - Check out systems
- Patrons find what they are looking for quickly & easily
- Reminders for due dates allows patrons to submit borrowed materials in

time

- Use of book drops & return chutes for returning library material, allows for flexible timings
- RFID enabled patron cards allows for easy patron identification

### **RFID for Campus:**

- Common ID-card
- Attendance and Access control for students, staff & visitors can be automated using RFID enabled smart readers
- Instant access to student information such as progress details, medical history, discipline records etc
- Vehicle tracking, Parking & Locker management and transportation facilities can be automated
- ID-cards can be used as E-purse to pay for Library dues, Canteen bills, Photo Copy & other facilities
- Facilitate Event Management activities on Campus
- Information Kiosks for visitors
- Asset Management & Inventory tracking on campus
- Data management & reports to streamline workflow

### **RFID vs. Bar Codes**

S.No	Feature RFID	Tags	Barcodes
1	Read more than one item at a time		×
2	Read while item is moving		×
3	Programmable		×
4	Line of site read not required		×
5	Lifetime guarantee		×
6	Able to resist water damage		×
7	Built-in security		×
8	Inventory tool without handling items		×
9	Able to locate specific items on shelves		×
10	Use with borrower self checks units		
11	Use with automatic returns units		×
12	Use with automated sorting and handling systems		×



### **Patron Self Checkout/Check-In**

Patrons can have the benefit of easy self checkout using RFID checkout systems. They can checkout a number of items at once, making the self checkout process faster than with bar code self-check systems. RFID systems also do not require careful placement of the items for checkout (as is required for bar code checkout systems). This means that the checkout process is faster and easier for borrowers to use.

Libraries can also offer automated holds pickup and check-in systems. Automated holds pickup systems deliver the holds waiting for a patron when they insert their borrower card at the pickup point. This can mean holds are available for pickup 24-hours a day. Automated check-in systems can be used to check-in items via internal or external book drops. Borrowers can receive a check-in receipt, detailing check-in date and time when using an RFID self-check-in system. Staff receives a holds slip and a transit slip when items are checked-in using RFID. Check-in systems can also have a range of sorting equipment to facilitate not only the check-in of items, but also the pre-reshelving sorting process.

These range from:

- basic implementation - items fall into two bins (one for reshelving on library's shelves and the other for further action such as transit or holds shelf)
- advanced sorting systems – sorting into multiple bins for multiple sites, shelving areas and holds pickup

### **High reliability**

- The readers are highly reliable. RFID library systems claim an almost 100 percent detection rate using RFID tags.
- There is no false alarm than with older technologies once an RFID system is properly tuned.
- RFID systems encode the circulation status on the RFID tag. This is done by designating a bit as the "theft" (EAS) bit and turning it off at time of check-out and on at time of check-in. If the material that has not been properly check-out is taken past the exit sensors, an immediate alarm is triggered.

## **Security**

Security can be improved with RFID based security systems. A single tag can be used for identifying items and securing them, removing the need to purchase and install additional tags or strips for security.

RFID provides an added layer of security through the use of a theft detection bit on the tag which can be turned on or off in the CKI/CKO process. When coupled with an automated materials handling system, RFID vastly improves the effectiveness of automated check-in, check-out and theft deterrent systems.

Security is managed differently according to the tag supplier, however an RFID system may manage security using a 'theft' bit on the tag that can be turned on or off, or it may interface with the library management system and query to determine the security status.

## **Return on Investment**

The following are factors to be considered in assessing ROI:

1. Time, labour, and materials costs for processing new materials
2. Time and labour associated with checking-in, sorting, and shelving materials
3. Percentage of staff time spent on the above circulation tasks
4. Percentage of staff time spent training and managing part-time workers/volunteers performing the tasks listed above
5. Number and value of lost items for a specified time period
6. Time spent searching for lost items
7. Time spent doing inventory and the amount of inventory completed
8. Time and labour spent in shelf reading and maintenance
9. Percentage of circulation currently being done by self-check
10. Average wait at circulation desk during a busy period
11. Number of staff at the circulation desk during a busy period
12. Number of requests caused by mis-shelved materials
13. Ongoing equipment maintenance costs
14. Workers compensation costs from repetitive strain injuries

## Conclusion

RFID technology is taking off in libraries at an increasingly rapid pace. Though there are few libraries employing this technology today, but due to its customizable feature and continuing improvement the library communities are beginning to get involved in its development. RFID Systems plays a significant role in bringing patron satisfaction, convenience and efficiency in Library resource management through automation of workflow processes. RFID technology promises to change our world. It has the capability of making our personal lives and our work lives in the library more convenient. However, every new technology comes at a cost. In order to remediate those costs, efforts must be undertaken to guide its development and implementation. RFID is a technology that is sparking interest in the library community because of its applications that promise to increase efficiency, productivity and enhance user satisfaction.

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# Leadership Quality and Staff Development for the New Age Librarian

*Dr. Digambar Khobragade<sup>1</sup>*

## Abstract

*The library of Higher Education Institution plays a central role in enhancing the quality of academic environment. So the quality management is concerned with integration of all efforts in the organization towards represents a customer oriented services. Library manages to develop leadership skill to obtain effective results. Good leaders are made not born. If you have desire and willpower, you can become an effective leader. Good leader develop through a never ending process of self study, education, training and experience. To inspire library staff into higher levels of teamwork, there are certain things librarians must be, know and do. These do not come naturally, but are acquired through continual work and study. Librarian is a friend, philosopher and guide to both the teaching and learning community. Librarian is a part of the 'Great and Noble' Service of Education to humanity, therefore "Librarian is a noble social servant".*

**Keywords:** Leadership quality, Librarian, New age Library, great & noble social servant.

## Introduction

In general growth and development of libraries can be stated in three stages.viz. ancient libraries, modern libraries, new age libraries. ancient libraries the collection was not enough, modern libraries were quite improved as compare as ancient libraries and new age libraries are the outcome of library development in all respect. ICT has occupied central role in library operations. Hence librarians are required to adopt many skills and leadership quality to meet the new challenges. Good leaders are made not born. If you have desire and willpower, you can become an effective leader. Good leader develop through a never ending process of self study, education, training and experience. To inspire library staff into higher levels

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of teamwork, there are certain things librarians must be, know and do. These do not come naturally, but are acquired through continual work and study. Good leaders are continually working and studying to improve their leadership skills; they are not resting on their success. Leadership is a process by which a person influences others to accomplish an objective and directs the organization in a way that makes it more cohesive and coherent. Leaders carry out this process by applying their leadership attributes, such as beliefs, values, ethics, character, knowledge and skills. Although academic librarian's position as a manager, supervisor, administrator, lead, etc.

It is through education that the modern youth in India may acquire the self confidence and maturity necessary to find the solution to problems arising out of the complexities of life. It is only way to develop the patriotism necessary for future leaders that of loyalty, co-operation, community spirit, fearlessness and noble ideals.

The global changes particularly the information and communication technologies (ICT) have impact on functioning of academic libraries. The developments in libraries have changed the user expectation from the academic libraries in different ways. The ways to build collection and services to the user vary from the recent past practices. To meet the users' demands effectively, the academic libraries need to identify and adopt good practices. Thus library and information services of Higher Education Institution play a Central role in enhancing the quality of academic and Research Environment.

### **Quality**

Quality means 'to meet or exceed the needs and expectations of the user in the most cost effective way'. It has four basic elements. 1. The User; 2. Cost; 3. Technology; 4. Viability. Quality in the Context of libraries is a measure of achievements of library in terms of 'User Satisfaction'. The definition of quality given by ISO 9000 is that, "The totality of features and characteristics of a product or service that bear upon its ability to satisfy stated or implied needs."

### **Leadership as define by Peter Drucker**

*“ Leadership is the lifting of man's vision to higher sights, the reason of man's*

*performance to higher standards the building of man's personality beyond its normal limitations."*

### **Benefits of leadership Quality in Libraries**

According to miller and steams, "*the Principles of quality management, if implemented carefully would yield immense benefits to a library and information center.*" Incremental changes leading to continuous improvement. Forces library managers to develop leadership skill of obtain effective results. Increases staff participation in decision making improves the level of training given to staff, thus increasing their skills and abilities, Helps to break down barriers between library sections and improves communication with the organization. It has been observed that the time taken to provide information service decreases and the efficiency increases.

### **A New Age Librarian**

A Good Librarian according to me should invariably possess the know-How which is required for the Job requirements as an Expert Librarian. Apart from this he should possess 'Leadership qualities; and a 'Distinguished Personality'. I would like to summarize these in three parts as under.

- A) Know-How for Job requirements.
- B) Leadership Qualities
- C) Distinguished Personality

### **Know-How for Job Requirements**

A Librarian is the custodian of knowledge. He preserves the knowledge which is inscribed in the books, journals, periodicals etc. he is also a friend, philosopher & guide to both the teaching & learning community. In this regard his profession is more than an avenue of earning his own bread & Butter. He is the part of the 'Great & Noble' service of Education to humanity.

Therefore his know-how for job requirements should possess the following:

- 1) He should be skillful in dealing with users.
- 2) He should be skillful in library technique.
- 3) He should be skillfully handling multimedia.

- 4) He should be an expert in handling Information Technology.
- 5) He should be an expert searching Sources of information.
- 6) He should be an expert in repacking of information.
- 7) He should possess a complete knowledge of Library.
- 8) He should be Trustworthy.
- 9) He should have updated information of Library development.
- 10) He should have the knowledge of availability, selection and Cost-benefit books.
- 11) He should be hard working with head & hand.
- 12) He should possess the ability of quick judgment and correct decision making (see flow chart).
- 13) Have love for social services.
- 14) Must be Intelligent, a good reader & over and above a Bibliophile.
- 15) He should organize seminars, workshops and also be a key participant in them.
- 16) He should keep no expectation of any benefits from the readers. He must not indulge in favoritism or nepotism of any kind.

### **Decision Making Process (Flow Chart)**

Defining the Problem Analyzing the Problem Developing Alternate Solution  
Heightening of Alternate Solution Picking the Best Solution Making the Decision  
Effective

### **Leadership Qualities**

Apart from the above Know-How a Good Librarian must develop certain Leadership Qualities for that extra influence to build up a remarkable library:

- 1) He should be good in teaching use of library.
- 2) He should be Expert in Public Relations.
- 3) He should be a Trainer, Teacher and Facilitator.
- 4) He should self-evaluate himself.
- 5) Must be a friend, Philosopher & Guide.
- 6) Must be good in Communication skills.
- 7) Must be a seeker of knowledge

### **Distinguished Personality**

Personality is the 'shining face' of a person. A Librarian with a Distinguished Personality is bound to work with the head & heart of all concerned and make his library a living institution. He should therefore develop the following qualities in his Persona.

- 1) Respect of Readers.
- 2) Knowledge of Readers profile, Choices & preferences.
- 3) Intelligent.
- 4) Soft spoken.
- 5) Humble, Humors.
- 6) Welcoming nature, a presentable face.
- 7) Friendly, generosity, gentility.
- 8) Adaptability and a sound temperament

In my view all the above three aspects are necessary to make up a 'Good Librarian' and I aspire to be so in all earnestness.

### **Staff Development Program**

One of the ways to ensure the development of the library into an efficient and effective information organization is to foster a culture of continuous learning in which all staff are engaged in strengthening their skills and knowledge at all times.

- Need to develop professional, personal and higher level competencies
- Need to adapt to the changing library landscape
- Need to adapt to the changing wants, habits, and abilities of users
- Need to develop leaders

A staff that participates in continuing education, workshops, and professional activities, and is aware of current trends in librarianship will be inspired to develop creative solutions to issues confronting all of New new age libraries. A staff development plan will work to priorities educational opportunities for library staff to ensure a library's needs are met. When writing a staff development plan it is important to identify (1) core competencies for staff, and (2) training methods that should be used to ensure all staff will be able to have the skills necessary to do their jobs.



According to Richard Naylor,

- The ability to develop high quality collections of materials.
- The ability to catalog and classify materials for effective storage and retrieval.
- The ability to provide readers' advisory services for most library subject areas.
- Knowledge of literature and media both for acquisition and readers advisory services.
- Creativity in implementation of library programs to provide a stimulating environment and reinforce good reading behaviors.
- Interviewing and communication skills for information services.
- Information-related problem solving skills.
- A superior knowledge of information sources, including the Internet and electronic databases.
- Technological components of service delivery, including remote access and real-time interactivity.
- A strong service orientation with a dedication to quality.
- Specialized subject expertise that greatly increases the value of the service area.

Training can be done one-on-one.

- Staff members can train other staff members
- A knowledgeable community member may be able to volunteer their expertise in training library staff
- There are a number of training videos available through interlibrary loan at the State Library
- The University Library offers a number of excellent training courses for librarians at different locations around the state all year long.

### **Staff Development Plan**

- Analyze the profile data of the library staff to identify the level of competencies required
- Identify possible competency gaps
- Prepare a training roadmap for each staff
- Identify providers of training or conduct in-service training
- Evaluate results of the training

## **Observation**

Change is a way of life whether it is of the individual or institution. Change should bring in new innovative ideas and practices in library & information services. Change is noticed at the level of the library information center as well as at the national and global level. Quality in products and services should be the hall mark of all library services in New age librarian.

Library services is vitally important for college development therefore librarian and library as well as information systems, all play a role in fostering creativity and dealing with people's needs and expectations. Libraries should consider what is needed for national development and train sophisticated professionals to deal with development issues.

Librarian has provided Great & Noble Services of Education to humanity in my view all the above aspects are necessary to make up a 'good librarian' and I aspire to be so in all earnestness therefore I say that "librarian is a noble social servant".

## **Conclusion**

Though several educational committees and commissions described library as 'heart' of an educational institution but I say that, "library is a brain of an educational and research institution" Library staff will have the appropriate skills to successfully carry out assigned duties and will be prepared for changes in library environment and services.

In this way, a role of librarian has been understood not only for the maintaining the quality of library based education system but also to spread right way of knowledge to develop educational pattern. A further, it is also necessary to comprehend relevance of a librarian in the socio-cultural scenario of the contemporary society for spreading and updating knowledge of readers. The important role played by a librarian can not be underestimated as the librarians' role in modern society has got a significant value for as a messenger between books and their reader.

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# **Doctoral Research on Legal aspects and Allied fields in Indian Universities: A Bibliometric Study**

***Ms. Amrit Kaur<sup>1</sup> and Mr. Ramneek Singh<sup>2</sup>***

## **Abstract**

*The case for P.hD in law is growing rapidly in India, the main reason being that today most of the universities are demanding a doctoral degrees for law facilities as well as for senior professional in university and other higher educational. The present study investigates the arte of successful doctorates awarded by the Indian universities in the field of law departments. The data of the doctoral research in law departments' science in Indian universities has been analyzed in chronologically, P.hD awarded wise, subject wise, universities wise, language wise and pages wise.*

**Keywords:** Doctoral Research, Indian Universities, Bibliometric Study

## **Introduction**

Research in law briefly means the collection and analysis of original data on a problem of law field. Research in this connection broadly includes investigations, studies, survey, department work all the doctoral level and research by practicing libraries and information professional etc.

## **Objectives of the Study**

The present study is structured as follows:

- ♦ Quantitative measurement.
- ♦ Chronological wise
- ♦ Universities wise
- ♦ State wise

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- ♦ Language wise and
- ♦ Page wise

## **Bibliometrics**

The word 'Bibliometrics' is derived from Latin word 'biblio' and the Greek word 'metrics' etymologically it means the application of Mathematics to the study of bibliography. According to Pritchard (1969), bibliometrics is defined as “the application of mathematics and statistical methods to books and other media of communication.” Potter (1981) defines bibliometrics as “the study and measurement of the publication pattern of all forms of written communication and their author”

Later on, Derek de Solla Price (1970), argued that scholars in the hard sciences are likely to give more citations in their papers and these citations are more recently published works. The study concluded indicating that the time lag between publication and citation was shorter in the hard sciences than it is in other disciplines. He further stated that citations represent a measure of utility rather than of quality. The concept of citation analysis was enunciated by Eugene Garfield (1972). He is also known as father of citation analysis studies, who has conducted enormous studies and published views based on analytical studies and out of his hundreds of studies which covers almost every branch of the natural and social sciences, indicated the better use of citation studies. Bibliometrics is a technique for identifying the research trends in a different area, obsolescence, core periodicals, studying the productivity, characteristics of subject literature including structure of knowledge, historical and sociological aspect of science and helpful in formation of need based collection development policy, weeding and stacking policy and many others. The bibliometric laws such as Lotka's Law (Lotka 1926), Bradford Law (Bradford 1934), Price Law (Price 1963) are some of the prominent measure which have been used by different library and information scientists to test their implication on different literature as well as subject.

## **Scope of the Study and Methodology**

For the purpose of this study, bibliometrical survey method and has been used for the collection of data from the following sources though visit through their websites. Present study is limited to the following databases.

Some updated data have also collected from the various universities, viz. Cochin University of Science & Technology, Punjabi University, Delhi University, Guru Nanak Dev University, Goa University, Osmania University, Andhra University, Aligarh Muslim University, Shivaji University, Maharshi Dayanand University, Karnatak University, University of Mysore, Maharaja Krishnakumarsinhji Bhavnagar University, Jawaharlal Nehru University, University of Pune, Mahatma Gandhi University, Bharathidasan University, Acharya Nagarjuna University, Saurashtra University, Shri Jagdishprasad Jhabarmal Tibarewala University. These databases up to the year 1996 have been chosen as sources for this study. From the whole databases, nearly 200 theses records were retrieved. The retrieved records were printed out and checked manually to avoid duplication of entries after the scrutiny theses related to academic libraries were selected.

**Table 1**

S.No.	Source	Mode of Collection	No. of Theses	%	Cumulative %
1.	Cochin University of Science & Technology	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	36	18	
2.	Punjabi University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	9	4.5	22.5
3.	Delhi University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	4	2	24.5
4.	Guru Nanak Dev University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	8	4	28.5
5.	Goa University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	7	3.5	32
6.	Osmania University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	2	1	33
7.	Andhra University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	2	1	34
8.	Aligarh Muslim University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	6	3	37
9.	Shivaji University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	3	1.5	38.5
10.	Maharshi Dayanand University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	22	11	49.5
11.	Karnatak University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	4	2	51.5
12.	University of Mysore	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	9	4.5	55.5
13.	Maharaja Krishnakumarsinhji Bhavnagar University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	3	1.5	56.5
14.	Jawaharlal Nehru University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	10	5	61.5
15.	University of Pune	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	10	5	66.5
16.	Mahatma Gandhi University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	10	5	72.5
17.	Bharathidasan University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	21	10.5	83
18.	Acharya Nagarjuna University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	16	8	91
19.	Saurashtra University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	9	4.5	95.5
20.	Shri Jagdishprasad Jhabarmal Tibarewala University	<a href="http://shodhganga.inflibnet.ac.in/">http://shodhganga.inflibnet.ac.in/</a>	9	4.5	100

**Analysis and Findings**

A Total 200 theses have been selected for the study from the retrieved data.

**Chronological Distribution**

Table 2 gives the chronological distribution of PhD theses under study. From the above data, we can see that there is a steady growth in the number of doctorates awarded to law professional since 1966. Maximum numbers of PhD 101 (50.5%) were awarded in year 2013, following by year 2010, in which 01 (0.5%) candidate were awarded PhD in the field of law.

**Table 2**

S.No.	Year	P.hD Awarded	%	Cumulative %
1	2010	1	0.5	
2	2011	13	6.5	7
3	2012	38	19	26
4	2013	101	50.5	76.5
5	2014	47	23.5	100
		200		

**Guide Wise Distribution**

Table 3 indicates that 200 researchers scholars were guided by as many as 125 guides. Dr. Sebastian guided 08 (4%) research scholars, which is highest number. Co-guides were very few and are not mentioned in the list.

**University wise Distribution**

Table 4 gives the details of university wise distribution of PhD. Research facilities in law department are available in near about universities in India. It is found that from the study that Cochin University of Science & Technology has awarded the maximum number of 36 (18%) PhD and Osmania University has awarded the Minimum number of 2 (1%) PhD

**Table 3**

S.No.	GuideWise	Nos.	Percentage	Cumulative Percentage
1	Unavailable Information	2	1	
2	<u>Aithal, K R</u>	1	0.5	1.5
3	<u>Akbarsha, M A</u>	1	0.5	2
4	<u>Akhlaq Ahmad</u>	2	1	3
5	<u>Anand, P H</u>	1	0.5	3.5
6	<u>Annie John</u>	1	0.5	4
7	<u>Antharianam, D Sukumari</u>	1	0.5	4.5
8	<u>Asmita Adwait Vaidya</u>	1	0.5	5
9	<u>aspal Singh</u>	1	0.5	5.5
10	<u>Ateeque Khan</u>	2	1	6.5
11	<u>Badruddin</u>	1	0.5	7
12	<u>Bapat, Shailaja</u>	2	1	8
13	<u>Basavaraju, C</u>	3	1.5	9.5
14	<u>Bhardwaj, D N</u>	1	0.5	10
15	<u>Boopathi, T</u>	1	0.5	10.5
16	<u>Chandrasekharan N S</u>	3	1.5	12
17	<u>Chaug, Promila</u>	3	1.5	13.5
18	<u>Chimni, B S</u>	1	0.5	14
19	<u>Daisy, P</u>	1	0.5	14.5
20	<u>Daljit Singh</u>	1	0.5	15
21	<u>Daniel, Roy Sam</u>	1	0.5	15.5
22	<u>Dass, Poonam</u>	1	0.5	16
23	<u>Dhillon, Pushpinder Kaur and Singh, Param Jeet</u>	1	0.5	16.5
24	<u>Dodiya, Jaydipsinh</u>	1	0.5	17
25	<u>DSouza, Carmo</u>	4	2	19
26	<u>Dwarakanath</u>	1	0.5	19.5
27	<u>Ekamolot, Ongodia</u>	1	0.5	20
28	<u>Gadre, Shridhar R</u>	1	0.5	20.5
29	<u>Gopalakrishnan, N S</u>	2	1	21.5
30	<u>Gupta, Vidya S</u>	1	0.5	22
31	<u>Haragopal Reddy, Y R</u>	2	1	23
32	<u>Haram Suresh</u>	1	0.5	23.5
33	<u>Ilango, P</u>	1	0.5	24
34	<u>Indrayan, N K</u>	2	1	25
35	<u>Ishwara Bhat, P</u>	3	1.5	26.5
36	<u>Jayashekhar</u>	1	0.5	27
37	<u>Jayasree, L</u>	2	1	28
38	<u>Joseph, George</u>	3	1.5	29.5
39	<u>Joshi, Kuldip</u>	1	0.5	30
40	<u>Joshi, Pratibha</u>	1	0.5	30.5
41	<u>Joshi, Vimal</u>	1	0.5	31
42	<u>Joshipura, Kamlesh P</u>	1	0.5	31.5
43	<u>Kalavathy, S</u>	1	0.5	32
44	<u>Karve, Smita S</u>	1	0.5	32.5
45	<u>Kashmir Singh</u>	1	0.5	33
46	<u>Kaul, B T</u>	1	0.5	33.5
47	<u>Kaur, Kuljit</u>	1	0.5	34
48	<u>Kaur, Prithpal</u>	1	0.5	34.5
49	<u>Khalsa, Madanmohan Singh, Jeurkar, Ramakrishna Keshavrao</u>	2	1	35.5
50	<u>Khalsa, Madanmohansingh Amarsingh</u>		0	35.5
51	<u>Khan, Rahmatullah</u>	1	0.5	36
52	<u>Kirawale, K</u>	1	0.5	36.5



53	<u>Krishnamoorthy, T K</u>	1	0.5	37
54	<u>Kuljit Kaur</u>	2	1	38
55	<u>Kumar, R Girish</u>	1	0.5	38.5
56	<u>Leelakrishnan P</u>	2	1	39.5
57	<u>Mahalwar, K P S</u>	2	1	40.5
58	<u>Maharajan, M</u>	1	0.5	41
59	<u>Malhi, B S</u>	1	0.5	41.5
60	<u>Mani, V S</u>	4	2	43.5
61	<u>Maniar, B G</u>	3	1.5	45
62	<u>Markose, A T</u>	1	0.5	45.5
63	<u>Martin Deva Prasath, P</u>	1	0.5	46
64	<u>Maruthi, T R</u>	3	1.5	47.5
65	<u>Marwah, Rajinder Kumar</u>	1	0.5	48
66	<u>Mittal, Raman</u>	1	0.5	48.5
67	<u>Mohammad Shabbir</u>	1	0.5	49
68	<u>More, V S</u>	1	0.5	49.5
69	<u>Mukherjee, Aditya, Tanika, Sarkar</u>	1	0.5	50
70	<u>Nair, G Sadasivan</u>	5	2.5	52.5
71	<u>Nair, K Vikraman</u>	2	1	53.5
72	<u>Naresh Kumar</u>	3	1.5	55
73	<u>Nazer, M</u>	2	1	56
74	<u>Nijjar, Manjit Singh</u>	1	0.5	56.5
75	<u>Nomani, Zafar Mahfooz</u>	1	0.5	57
76	<u>Padmavathy, S</u>	1	0.5	57.5
77	<u>Pandya, J A</u>	1	0.5	58
78	<u>Pandya, Jitendra A</u>	2	1	59
79	<u>Paramjit Singh</u>	1	0.5	59.5
80	<u>Patil, N P</u>	1	0.5	60
81	<u>Philominathan, P</u>	1	0.5	60.5
82	<u>Pillai, K N Chandrasekharan</u>	4	2	62.5
83	<u>Pinheiro, M</u>	1	0.5	63
84	<u>Pinheiro, Marian</u>	2	1	64
85	<u>Prabhakar Goankar</u>	1	0.5	64.5
86	<u>Prasannan R</u>	1	0.5	65
87	<u>Promila Chugh</u>	1	0.5	65.5
88	<u>Rajashekhar C</u>	3	1.5	67
89	<u>Rajeev D</u>	3	1.5	68.5
90	<u>Raiya Lakshmi, V</u>	1	0.5	69
91	<u>Ram, Usha</u>	1	0.5	69.5
92	<u>Rama Subbaiah, Y P</u>	5	2.5	72
93	<u>Rangaiah, N</u>	1	0.5	72.5
94	<u>Reddy, G B</u>	1	0.5	73
95	<u>Rodrigues, Valerian</u>	1	0.5	73.5
96	<u>Saravanan, D</u>	1	0.5	74
97	<u>Satya Narayana, Y</u>	1	0.5	74.5
98	<u>Saxena, Poonam</u>	1	0.5	75
99	<u>Sebastian V D</u>	8	4	79
100	<u>Selvam, M</u>	1	0.5	79.5
101	<u>Settu, T</u>	1	0.5	80
102	<u>Shah, S A</u>	1	0.5	80.5
103	<u>Shah, Santosh A</u>	1	0.5	81
104	<u>Sharma, B L</u>	2	1	82

105	<u>Sheoran, C P</u>	3	1.5	83.5
106	<u>Shetty, Dayanand Bhoja</u>	1	0.5	84
107	<u>Shrivastava, Geeta</u>	1	0.5	84.5
108	<u>Singh, B P</u>	1	0.5	85
109	<u>Singh, Charanjit</u>	3	1.5	86.5
110	<u>Singh, Preet</u>	4	2	88.5
111	<u>Singh, Ravi Karan</u>	1	0.5	89
112	<u>Singla, D K</u>	1	0.5	89.5
113	<u>Solairaju, A</u>	1	0.5	90
114	<u>Soman N S</u>	1	0.5	90.5
115	<u>Subhakara Reddy, P</u>	1	0.5	91
116	<u>Subrahmanyam A</u>	4	2	93
117	<u>Suganthi, J</u>	1	0.5	93.5
118	<u>Sumant, Yashwant</u>	1	0.5	94
119	<u>Sundaramoorthy, V</u>	2	1	95
120	<u>Suresh S. Haram</u>	1	0.5	95.5
121	<u>Thirunalasundari, T</u>	2	1	96.5
122	<u>Varghese, K V</u>	1	0.5	97
123	<u>Varkey, A M</u>	4	2	99
124	<u>Zafar Mahfooz Nomani</u>	1	0.5	99.5
125	<u>Zaheeruddin</u>	1	0.5	100
		200		

**Table 4**

S.No.	Universitywise	Nos.	%	Cumulative %
1	Acharya Nagarjuna University	16	8	
2	Aligarh Muslim University	6	3	11
3	Andhra University	2	1	12
4	Bharathidasan University	21	10.5	22.5
5	Cochin University of Science & Technology	36	18	40.5
6	Delhi University	4	2	42.5
7	Goa University	7	3.5	46
8	Guru Nanak Dev University	8	4	50
9	Jawaharlal Nehru University	10	5	55
10	Karnatak University	4	2	57
11	Maharaja Krishnakumarsinhji Bhavnagar University	3	1.5	58.5
12	Maharshi Dayanand University	22	11	69.5
13	Mahatma Gandhi University	10	5	74.5
14	Osmania University	2	1	75.5
15	Punjabi University	9	4.5	80
16	Saurashtra University	9	4.5	84.5
17	Shivaji University	3	1.5	86
18	Shri Jagdishprasad Jhabarmal Tibarewala University	9	4.5	90.5
19	University of Mysore	9	4.5	95
20	University of Pune	10	5	100
		200	100	

**Table 5**

S.No.	Statewise	Nos.	Percentage	Cumulative Percentage
1	Aligarh	6	3	
2	Amritsir	6	3	6
3	Andhra Pradesh	3	1.5	7.5
4	Bhavanagar	3	1.5	9
5	Cochin	36	18	27
6	Delhi	4	2	29
7	Goa	7	3.5	32.5
8	HYderabad	11	5.5	38
9	Jalandhar	2	1	39
10	Karnataka	4	2	41
11	Kolhapur	3	1.5	42.5
12	Kottayam, Kerala	7	3.5	46
13	Maharashtra	6	3	49
14	Meghalaya	4	2	51
15	Mysore	9	4.5	55.5
16	Nagarjuna Nagar	4	2	57.5
17	New Delhi	10	5	62.5
18	Patiala	9	4.5	67
19	Pune	4	2	69
20	Rajasthan	9	4.5	73.5
21	Rajkot	9	4.5	78
22	Rohatak	22	11	89
23	Tamil Nadu	20	10	99
24	Visakhapatnam	2	1	100
		200		

**State wise Distribution**

Table 5 reveals the state wise distribution of PhD theses. Out of 200 PhD theses, the highest number, i.e. 36 (18%) were awarded in Cochin University state, after this 2 (1%) PhD theses were awarded in Visakhapatnam whereas the lowest number.

**Table 6**

S.N	Subject	Nos.	Percentage	Cumulative Percentage
1	A anatyical Study	8	4	
2	A Case study	12	6	10
3	A Comparative study	6	3	13
4	A Critical Study	6	3	16
5	A legal study	19	9.5	25.5
6	A study in tax law	9	4.5	30
7	A study of fundamental right	5	2.5	32.5
8	An Empirical study	8	4	36.5
9	Child development	8	4	40.5
10	Criminal justice system	15	7.5	48
11	Human Rights	37	18.5	66.5
12	IPR	17	8.5	75
13	Legal Challenges	38	19	94
14	Women rights	12	6	100
		200		

## Subject wise Distribution

Table 6 reveals the subject wise distribution of successful doctorates awarded in the field of laws. All 200 theses have been distribution in 14 subject areas. Out of 200 theses, Legal challenges subject is the maximum number of 38 (19%) and a study of fundamental rights is the minimum number of 5 (2.5%).

**Table 7**

S.No.	Language	Nos.	Percentage	Cumulative Percentage
1	Different Lang.	8	4	
2	English	188	94	98
3	Hindi	4	2	100
		200		

## Language wise Distribution

Table 7 reveals the language wise distribution of PhD theses. It is found that, out of 200 theses 188 (94%) theses were awarded in english language, 4 (2%) theses were awarded in hindi language 4 (2%) and rest of the 8 (4%) theses were awarded in different language

**Table 8**

S.N	Pages	Nos.	Percentage	Cumulative Percentage
1	1-100	2	1	
2	101-200	18	9	10
3	201-300	50	25	35
4	301-400	74	37	72
5	401-500	38	19	91
6	501-600	15	7.5	98.5
7	601-700	2	1	99.5
8	701-800	0	0	99.5
9	801-900	1	0.5	100
		200		

## Pages wise Distribution

Table 8 reveals the pages wise distribution of PhD theses. It is found that, out of 200 theses maximum number of 74 (37%) pages under 301-400 range and minimum number of 1 (0.5%) pages under 801-900 range.

## **Conclusion**

The present study finds that 200 research theses have been published in different universities in law department. The study reflects that the doctoral students have contributed largely to the law departments in various universities.

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# Physical Stock Verification of Library: An Experience at FIIB

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## Abstract

*Stock Verification is one such job of management of library collection about which the library authorities have remained much particular and which they have been insisting to be carried out regularly and meticulously. The paper defines the concept and advantages of stock verification. In addition to these it also describes that how SV is different to weeding out, frequency of stock verification and various methods of SV. Lastly the paper deals with the studies of physical stock verification of collection with reference to FIIB Library, New Delhi.*

Keywords: Stock Verification, Library Collection, Weeding Out

## Introduction

Stock verification (SV) is denoted by some other terms, too, such as, stock taking', Stock Checking 'StockInspection', Inventory Taking etc. The concept of stock verification is applicable to store in government and commercial concerns. Inventory taking is for similar purposes in America and in some other western countries. Indian librarians mostly use the term stock Verification. The job of SV involves an inspection of stores to check and find what and how much is missing from stores. The Shorter Oxford Dictionary<sup>1</sup> defines stock taking as” a periodical examination, inventorying ,and valuation of all the stock of goods in a shop, warehouse,etc.However in libraries verification of stock is not similar to verification of stores in a private or government business house so far as the spirit behind and purposes of the job are concerned.

The library is a public institution and these are subjected to accounting and checking, verification and reporting. The rule99 in the chapter 8 of General Finance Rules (GFR) read with rule 116 make the difference between “Store and Library

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collection “much clearer “The position of library books ,etc. is different from the other stores.

SV in libraries , thus, means –checking as to what is in stock in relation to what it was', the emphasis being put more on to discover which items are missing than on how much is the loss calculated in rupees.

### **Stock Verification and Weeding Out**

Many times the two jobs of SV and weeding out are discussed together and are believed to be attached with each other. This belief deserves a critical appraisal. Ranganathan has enumerated these jobs as two distinct functions of maintenance section. It may be made clear that information sources in library's collection, when put to open and free use, get physically worn in due course of time. Ill-mannered students and other users of library material, quite often damage material by their acts of mutilation, tearing off pages, underlining or marking the, etc. Damage may be caused for other factors also, such as, rain, moisture, fire, dust, insects etc. Such worn, torn, mutilated and damaged information sources and those ones which have become outmoded in their thought contents cannot be put to further use. In a service library no useful purpose is served by retaining such books and providing shelf space for them. The proper course is to weed them out periodically.

Observation: weeding is, thus, a regular and periodic job to be done in a library. Weeded items are finally withdrawn from the library collection and also from various library records. Hence, there is common practice to prepare their lists and append these with the SV report. Perhaps, this practice has led to the belief that the job of SV and Weeding Out need to be recognized as two different jobs which are performed in different manners and which fulfill entirely different objectives.

### **Advantages of Stock Verification**

With a view to help in having a quick look into the two sides of the coin, viz., and necessity of SV in libraries, advantages of the ordeal (SV) as these may occur to a library authority or to a library staff (which includes library staff, library users and library professional) are enumerated below:

- Periodic stock verification and write –off of resultant loss helps to reduce unnecessary escalation in book value of assets.
- Physical verification also helps in replacing relevant, useful and on

- demand documents with new copies wherever lost or mutilated.
- Stock verification is the time to introduce new ways of arrangement of stack, modified or new lending system and other procedures.
- Stock verification helps to review the precautionary measures already taken in preventing loss and mutilation as well as to identify any deficiencies in the existing procedure of maintenance of library and vigilance.
- Stock verification provides an opportunity to the staff members to acquaint themselves with the holdings of the library which results in the better reference service to the users.

### **Frequency Norms of Stock Verification**

The holdings of the library may be checked at regular intervals. Library should conduct periodic stock verification in order to:

- Have an up-to date record of library holdings.
- have concrete data on rate of loss;
- Assess strengths and weaknesses in the collection.

### **Methods of Stock Verification**

Libraries traditionally perform the periodic stock verification by adopting any one of the methods enumerated as follows.

- By accession register;
- By separate register with accession numbers in consecutive order;
- By slips containing accession numbers;
- By numerical counting of documents on the shelves;
- By shelf-register cards or shelf-list cards;
- By sample stock verification;
- By making stock verification as a continuous process; and
- By using computers and library management software and other automated methods.

In general, there may be three types of environments for stock verification of documents in the Library;

- Manual library environments: Without the help of computers, only staff involved.



- Semi-automated library environments: Partial use of computers.
- Complete automated library environments: Fully use of computers, Library Management Software, Barcode Technology, etc.

### **Stock Verification of Library Collection at Fortune Institute of International Business**

As desired by the Management, the job of Stock Verification was undertaken in the months of March-April 2013. The findings are submitted as follows.

1. No of volumes in library collection as per Accession Register as on March 31, 2013 = 16936 vols.
2. Books reported in the past, as already weeded out
  - i) In September 2004 = 1705 vols.
  - ii) In February 2005
    - a) Price recovered from the students - 189 vols
    - b) Lost and written off = 177 vols.Total = 366 vols.
  - iii) In June 2006 = 2503 vols.
  - iv) In January 2008 = 20 vols.
3. Gaps noted in Accession Register
  - i) Acc. No. 2801 - Acc. No. 2900 = 100 vols.
  - ii) Acc. No. 3901 - Acc. No. 4001 = 100 vols.
  - iii) Acc. No. 4301 - Acc. No. 4401 = 100 vols.

### **Findings**

The job of checking was done by Dr. Arun Kumar (Librarian) and Sh. Ravinder Kumar (Assistant Librarian). However, the part time assistance was provided by Sh. Basant Patra (Peon) and two persons from Housekeeping staff. After checking, the data collected was organized and findings were reported by the Librarian on (1) Weeded Out (4290 vols.), (2) Price Recovered (923 vols.), (3) Untraceable Books (143 vols.), and (4) Cases of Multiple Acc. Nos, 126 vols.

- As per earlier records, it was found that 4290 volumes were weeded out and written off as on Jan, 2008.
- The price of 923 vols was recovered from defaulter library members.
- It was found in the stock verification that 143 volumes are not traceable. These could have been lost while in library use during a span of period

from 2005-2013. These may now be treated as library loss and be written off. The approximate cost of these volumes at the average cost of Rs.250/- per volume comes to Rs.35, 000, which may be written off from Library Account.

- For the first time in the Library, the Accession Register Method of Stock Verification was used for physical verification. It seems some unresolved errors occurred in the process of speaking/noting/typing of checked Accession Numbers, at the time of checking.

Observation-Such and many other problems in stock verification were discussed with library professionals on Stock Verification. They have advised to follow 'Check Card Method' for doing SV in future. The Check Card Method makes the whole process most authentic and errors-free.

## Conclusion

Stock verification is much irksome and problematic job in collection management. Burden of this job is more felt because of non-availability of man power for doing it. If library staff is deployed, other library works suffers. If other members of the institute staff do the job, the library records and arrangement of library items get disturbed. The job therefore can be better got done through a professional agency. Then, the problem of library losses reported after stock verification is much acute.

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