CHAPTER II
CHAPTER – II

REVIEW OF LITERATURE

In order to analyse more about the copyright piracy especially in sound and optical media, this study made an attempt to study the various aspects of copyright infringement in music and film industry. Drawing from existing literature on this topic national and international level, the researcher found many similarities and differences between the articles, working papers, theses, dissertations and other kinds of study information. It helped to strengthen my study and support in several potential avenues in studying the copyright piracy especially sound and optical media. There had been very limited research studies on the topic of Copyright. As this topic is of recent origin, there had been much of concept papers discussed in various journals but very little has been done on research level. Hence those very few research studies done at the national and international level have been analysed at a nutshell.

Copyright being a hot topic needs continuous protection, however it witnesses a wide spread piracy. There are several concept papers and articles written on copyright protection and piracy in several national and international journals which are discussed as under.

INTERNATIONAL STUDIES AND RESEARCH PAPERS

Nadeem, Mohammed M¹ (2002) In his study on “The impact of eCommerce on intellectual property” has attempted to explain the following aspects. Copyright laws and regulations, eCommerce self regulatory efforts, technological restraints and standards are undergoing changes. Qualitative

research methodology based on content analysis procedures confirmed the hypothesis that if legal rules are not set and applied appropriately, digital technology has the potential to undermine the basic tenets of copyright laws and regulations. The study excluded the analysis of domain names, patents, and trademarks issues. The data suggested that new intellectual property digital products will be delivered online.

The results support the hypothesis that adjustment in the U.S. legal system be made to respond to the new technological environment in an effective and appropriate way. Conclusions addressed anti-circumvention and copyright management information, fair use, temporary copies, first sale, and pre-emption to achieve a goal of maintaining the crucial balance between ownership and access rights for successful global eCommerce transactions. Recommendations for further research cover the areas of digital millennium copyright act, the rise of digital rights management technologies, standardization and copyright levies.

Renner, Jasmine Rita (2002) in their Dissertation titled “An analysis of the knowledge levels of Ohio’s post-secondary educators in public/state, private and two-year colleges and universities regarding copyright ownership of web-based/online courses and materials” has made an attempt to find whether Knowledge of copyright is essential for educators in today’s rapidly changing educational and technological environment. The study analyzed the knowledge levels of Ohio’s post-secondary educators regarding copyright and copyright related issues. A stratified random sample of 62 post-secondary educators who taught web-based courses from public/state, private, religious and two-year colleges participated in the study.

The results of the study reveal that post-secondary educators have some knowledge of the Copyright Act and copyright-related issues but were for the most part unfamiliar in this area. Two demographic variables had a significant effect on

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post secondary knowledge of copyright law. It was found that Educators who taught graduate courses scored significantly lower than those who taught undergraduate and professional courses. Additionally, educators who were aware of their institution’s copyright policy scored higher than those who were not. Results from the follow up survey revealed that most educators feel limited in their knowledge regarding copyright, are concerned about legal issues and request ongoing in-services and workshops to remain informed. The study concluded that institutions of higher education must respond to copyright issues and provide ongoing education that must respond to copyright issues and provide on-going education access to copyright material for faculty members.

 Olson, Kathleen Kay^3 (2000) in his Ph.D Degree Dissertation “Farewell to fair use? Contracts, copyright, and first Amendment values online” he stated that the doctrine of fair use has long been used to promote First Amendment values &mdash; side dissemination of information, creative self-expression, and public access to discussion and ideas; while at the same time protecting copyright holder’s rights. These First Amendment values may be jeopardized by the increasing use of licensing and user agreements that restrict or eliminate fair use rights with regard to creative works online. The purpose of this dissertation was to explore how the use of contract to control the flow of information on the internet may affect the balance that has been struck by the copyright law between First Amendment values and the rights of copyright holders.

The study examined fair use from two perspectives: as a First Amendment safeguard on, using law and economics theory, as a corrective device that is necessary only when high transaction costs cause market failure. An examination of the history and case law regarding the fair use doctrine found that most courts

did not explicitly bid their decisions on either First Amendment values or a market failure rationale. Instead, courts applied the statutory fair use factors mechanically and decided the equities of each case on an ad hoc basis.

The dissertation also examined the introduction of the Uniform Computer Information Transactions Act as further evidence of the trend toward contractual agreements that sidestep copyright law in favor of a private ordering of rights. An analysis of the case law dealing with the conflict between contract law and copyright showed that broad, policy-based preemption under the Supremacy Clause has been replaced by relatively narrow holdings based on the statutory provisions of the Copyright Act.

Koutouki, Dina (1999) in his dissertation on "Reconsidering copyright protection for software and databases" states that Software and databases are tools utilized daily by a large variety of people. Copyright, in conjunction with other legal mechanisms and technological protection methods provides too much protection for these functional works. This is alarming since software and databases are generally the tools used to access and utilize information in today’s society. Overprotection in these areas may lead to the creation of information monopolies, stifling innovation and putting at risk the user rights. This is especially worrisome for information and information technology importing countries such as Canada. It is suggested that regardless of the type of protection afforded to software and databases the paramount interest needs to be society’s ability to access information. This can be accomplished by limiting the scope of protection afforded to software and databases and expanding the fair dealing provisions in the Copyright Act. The end result being, increased rights for users, as well as, increased rights for inventors to build upon existing technology and knowledge.

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George E. Higgins\(^5\) (2006) has stated in his study "Digital Piracy: Assessing the Contributions of an Integrated Self-Control Theory and Social Learning Theory Using Structural Equation Modeling" Digital piracy is an emerging white-collar crime that requires empirical investigation. Using a nonrandom sample of 392 university undergraduates, the present study examined how self-control theory and social learning theory come together to explain digital piracy. The findings revealed that low self-control and social learning theory could come together in different ways to explain digital piracy. That is, out of five models examined, the findings revealed that social learning theory partially mediated the effect that self-control had on digital piracy.

A.E. (Annelies) Hogenbirk and H.L. (Hans) van Kranenburg\(^6\) (2001) in their study on "Determinants Of Multimedia, Entertainment, And Business Software Copyright Piracy Rates And Losses: A Cross-National Study" examines cross-national variations in piracy of U.S. copyright related products in the multimedia, entertainment, and software industry. The copyright piracy rates and losses exhibit considerable fluctuations between countries. A study was made to determine which economic and social factors cause the differences in the piracy rates and losses suffered by U.S. copyright industries in individual countries. One unique aspect of that study is, separate account for differences in piracy rates and actual estimated financial losses in US dollars was found. They found that for most industries piracy can be explained by the creditworthiness of the country involved (signaling economic stability and growth potential).

Piracy losses are positively correlated with the size of the domestic market. In case of the motion picture video industry, we find that country’s level of technology –expressed by the share of high-technology products in total exports -


and a high penetration of TV-sets strongly influence the piracy level. The results furthermore suggest considerable variation among regions in piracy in particular industries.

INTERNATIONAL ARTICLES

Papadopoulos, Theo\(^7\) (2000) in his article “Copyright, parallel Imports and National Welfare: The Australian Market for Sound Recordings” states that for more than a decade now there has been considerable, often heated, debate over the issue of the parallel importation of sound recordings into Australia. Citing anti-competitive monopolistic distribution, an increasingly integrated global market and the challenges of new technologies, the Australian government recently passed the Copyright Amendment Act 1998, which permits the parallel importation of “non-infringing” copies of a sound recording. This paper investigates the economic rationale underpinning this regulatory change using a partial equilibrium model and attempts to measure the likely welfare effects on consumers, copyright owners and the nation. In addition the paper examines the likely welfare impact of piracy within the new regulatory framework. This paper also demonstrates that in a global music market characterized by exclusive territorial licences and price discrimination, the removal of parallel import restrictions by a small net-importer of intellectual property may be welfare enhancing for the nation. This welfare gain is at the expense of large foreign copyright owners.

Reuters\(^8\) (2005) in their report presented, discussed about paper “Piracy issue may spell trouble for Russian WTO bid” stated that Russia is getting worse with regard to theft of intellectual property because of the biggest economy still not a member. The US is one of a handful of countries left whose approval Russia

needs if it is to join. One of the three big issues stalling the two countries talks is
the widespread piracy in Russia of the US made films, music and software. The
pirate’s normal practice is to go to a country where a film has already been
released and smuggle an amateur camera into a cinema. They record a movie from
the cinema screen and then copy it on to DVDs. Dan Glickman; chairman of the
motion picture association of America said that we can not support Russia’s
accession to the WTO, an organisation founded on rules, until the piracy problems
were addressed satisfactorily. The Moscow police had wrapped up “operation
counterfeit “their biggest crackdown yet on the pirates in an effort to show they
were serious about dealing with the illegal trade.

Silva, Francesesco; Ramello, Giovanni-B(2000) in their paper on the
topic “Sound Recording Market: The Ambiguous Case of Copyright and
Piracy:” attempts to analyze the organization and the economics of information
industries starting from the case of the phonographic market. The focus here is on
the relationships between copyright, the pivotal element of the market, and
unauthorized sound reproduction which is its main lamented infringement. The
trade-off between the push to discuss and the push to exclusion which is at the
root of the market functioning, is here discussed to show that unauthorized
reproduction should be considered as an endogenous constituent because of the
institutional setting and which has positive effects for the industry itself.

Dam-Kenneth-W(1995) has affirmed in his paper on “Some Economic
Consideration in the Intellectual Property Protection of software” that
Intellectual property has frequently had to confront the issue of how to protect new
technologies. The rise of software as a major industry is one such new challenge.
An economic approach to the protection of software adds to the already extensive

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9 “Sound Recording Market: The Ambiguous Case of Copyright and Piracy” in the Journal of
10 “Some Economic Consideration in the Intellectual Property Protection of software” in the Journal
legal analysis. On the one hand, existing copyright and patent law provides a sound basis for an economically efficient system of protection. Copyright law deals with the appropriability problem without creating significant monopoly or rent-seeking problems. Copyright law also provides a sound basis for preserving a balance between today’s innovation and innovations of tomorrow. These conclusions depend crucially, however, on maintaining the distinctions between attachment and replacement and between transformative and substitutive uses. Software-related patents are economically sound. However, when actually administered, the system may generate too many invalid patents. Suit generic protection is less desirable than copyright and patent protection.

Heide-Thomas\textsuperscript{11} (2000) in his article “Access control and innovation under the emerging EU electronic commerce framework” states that legislative developments in the European Union and United States alike have sought to extend legal protection to access control technology, while, the United States has chosen to legislate within the Copyright Act, the European Union, as part of its control mechanisms employs a directive having no connection with copyright law. This Article focuses on the Conditional Access Directive which extends and argues that its legal recognition of interests on access control technology used in conjunction with certain services and argues that its legal copyright law as a whole, or more importantly, it can affect the limitations and exceptions found under copyright law which are designed to promote creation and innovation. This Article argues that, given copyright law’s promotion of innovation-driven competition, its applicability must be ensured. The article reveals that the international community and European Union have previously dealt with similar threats to the integrity of copyright law in several treaty instruments and EU directives. To avoid placing the applicability of copyright law into question,

particularly as applied in the digital environment, this article recommends that the legal relationship between the conditional access directive and copyright law be more clearly set forth.

Samuelson, Pamela (1999) avowed in his article “Intellectual property and the digital economy: why the anti-circumvention regulations need to be received” that the digital Millennium Copyright Act of 1998 (‘DMCA’) prohibits circumvention of technological protection measures used by copyright owners to control access to their works. It also bans devices whose primary purpose is to enable circumvention of technical protection systems. The DMCA’s anti-device provisions are, moreover, overbroad and unclear, especially on the questions whether it is legal to develop a technology necessary to engage in a privileged act of circumvention (e.g., a fair use).

Mark, David (2000) In his article “House votes to repeal music measure” states that On September 19, 2000, the House passed a measure (HR 5107) that legislators are hoping will extricate Congress from a battle between recording companies and artists over who controls sound recordings. This bill would repeal a section of the fiscal 2000 omnibus spending act that placed sound recordings into a category known as “work for hire.” That provision permitted music companies to retain permanent control of sound recordings instead of allowing artists to regain control after a period of 35 years. Legislators have now worked out a compromise in which Congress has taken itself out of the dispute.

Cook, Richard (1999) in the article “Sound advice- Does MP3 Mean the death of the CD?” He declared that the MP3 music format, which allows music

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13 “House votes to repeal music measure” – CQ Weekly V 58, No37, September 23, 2000, pp.2213, United States.
to be downloaded directly from the Internet, will affect the music industry. He argues that, at the moment, the home-made culture of MP3 is so fragmented and chaotic that the format seems unlikely to present a cogent alternative to the entrenched forces of music for a long time.

Islam Shada15 (1996) expressed in the article “Foreign record companies have a deal for China” that an increasing number of foreign record companies are signing licensing agreements with local agents in China, hoping to tap into a huge new market. In return for offering new investment in China’s recording industry, they will want better copyright protection and improved access to the country’s record market, which they believe is set to take-off. Details of why cracking the China’s market is no easy task and of what China itself has to gain from an improved recording industry are provided.

Nyhan, Paul16 (1995) confirmed in his paper “Copyright bill advances – Digital Copyright Protection” that on July 27, 1995, the house Judiciary Subcommittee on Courts and Intellectual Property approved legislation (HR 1506) that would expand copyright protections for recording artists and record companies. The bill would require the payment of royalties by digital music services to the owners of copyrighted sound recordings. Currently, when a digital audio-cable service or a radio station plays a song, the musicians and music companies are not paid anything.

Warner, Gray17 (1995) pointed out in his paper “Copyright measure for music OK’d” that on June 29, 1995, the Senate Judiciary Committee approved legislation (s 227) that would allow performers who create sound recordings to

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15 “Foreign record companies have a deal for China” - Far Eastern Economic Review V159, Nov 21, 1996, p.84.
license the digital transmissions of their work. At present, owners of every kind of copyrighted work practically have the exclusive rights to authorize the public performance of that work, but no such performance rights exist for sound recordings and the artists and companies that produce them. Under the proposed bill, in digital technology, the performer will receive compensation for a digital music service or for on-line digital transmission, and if contracted fees are not paid or if the music is used in any manner without being paid for, performers can bring their case to court. However, the legislation does not cover radio broadcasts or music played in bars and restaurants, a limitation that has drawn criticism from some cable and digital services.

Marilyn Hall Patel\(^\text{19}\) (2000) in his Judgment stated in the journal of Economist on the topic “Rewired for sound” that on July 26, 2000, Judge Marilyn Hall Patel issued a preliminary injunction to shut down Napster, the hugely popular online service that allows users to swap copyrighted music files in the MP3 format, anonymously and free, but two days later, an appeal court unexpectedly stayed the injunction until it can hear the case. Although experts contend that the record industry would probably win the legal fight, any legal victory would be hollow unless the record labels devise attractive online services of their own—and quickly. The appeal court’s decision does not necessarily mean that it is digressing with the injunction order. Instead, it believes that the case has raised new legal questions that warrant analysis before the plug is pulled on Napster. Whatever the court decides, the problem posed by Napster’s underlying “peer to peer” technology will not go away.

Software\(^\text{19}\) (1994) the author of this paper “will be won by creativity and copyright, not by using patents to protect computer programme”, stated that the U.S. Congress seems intent on making the software industry protect its products

\(^{18}\) “Rewired for sound” - The Economist, V356, August 5, 2000, pp.59-60.
\(^{19}\) The Economist, Volume331, April, 1994, p.17.
with ever stronger patent laws. Patents have a tendency to stifle innovation, since most programs are partly based on existing software designs. What are needed are sound intellectual-property laws. If Congress wants strong American Software industry, it should forget about strengthening patent laws and concentrate on where and how software copyright can be applied.

Andy Patrizio (1999) in the paper “DVD Piracy: It Can be done” he stated that the worst fear of movie studios has been realized: DVD movie encryption has been broken. A utility called DeCSS is currently floating around on the Net that will read a DVD movie disc and save the file on a hard disk, minus the encryption. All that’s required is a DVD-ROM drive -- since CD-ROM drives can’t read the 4.7GB DVD movie discs -- and a lot of disc space. The faster the CPU, the faster it will process the file. The hack opens up illicit online trading of DVD movies, although minus DVD-ROM's interactive elements and outstanding audio/visual quality.

Once decrypted, the DVD movie files, which have a .VOB extension, are too big to fit on a CD-ROM. Most .VOB video files are 1 GB in size, and a movie will be in three or four files. But there are many DVD conversion utilities floating around on DVD ripping sites, like DVD digest. It has conversion tools, like DVD2MPG and VOBSplit, which can be used to convert a DVD movie into VCD format, which can fit on a CD-ROM disc. There are even sites dedicated to converting DVDs to VCD format. This means losing the interactivity of DVD-ROM and its tremendous sound and video quality, but it also means VCDs can be played on CD-ROM drives. It also makes it easier to trade the movie online. Movie piracy has been a growing problem on the Internet, with films traded in MPEG and AVI format via Web sites and private file transfer sites. Movies in MPEG format are around 600 MB in size.

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Kelly G Hyndman, Steven M Gruskin And Chid S Iyer (2005) in their paper “Technology Transfer: What India can learn from the United States” discussed a brief history of tech transfer in the United States, followed by a discussion of the Bayh-Dole Act, which served as a catalyst for the successful tech transfer regime in effect today. Various aspects of IP ownership are discussed, followed by a relevant case study. Indian universities and government-funded research organizations produce world-class research that is mostly published in scientific journals. While the society gains from the increased knowledge, the university or the government receives very little direct benefit. Developed countries like the United States have been encouraging similar institutions to secure their intellectual property rights in the new technology arising out of the research in addition to merely publishing in scientific journals.

Shahid Alikhan (2002) in the paper “The Role of Copyright in the Cultural and Economic Development of Developing Countries” discusses about the role of copyright and intellectual property in cultural and economic development of developing countries, as also in the promotion of qualitative competitiveness in national and international trade. Economic growth depends increasingly on international competitiveness of the economy, industry and business. This competitiveness is driven by knowledge-based technological progress, which is encouraged, promoted and helped through effective IP protection. Effective use of the IP system and its enforcement by the judiciary and other enforcement agencies, essential for the socio-economic development of a country, is discussed in detail. WIPO Internet Treaties for the protection of copyright and related rights in the digital age were also discussed.

Mahesh Madhavan (2003) through his article, “Use of Copyright by Open Source Software Movement on Computer Software and its Implications” stated that open source software and the movement behind it, the open Source Software Movement unknown to many has been in existence since long. Discussed in the article is this concept with relevance to the software industry. The US statutes on intellectual property law provide the backdrop of discussion, for this is where the movement, the organizations and the forefathers behind the fostering of the movement owe their origin. Some of the licensing schemes under open sourcing, which have turned out to be the buzzwords in the computer software industry are also brought into limelight. A look into how the movement assists in the development of the software industry and the long-term implications, the movement could pose for the copyright protection of computer software, were also considered.

Farooq Ahmad (2003) describes about the basis of liability, judicial trends in resolving the issues of liability, and treatment of liability issues in WIPO Internet treaties in his paper “Liability Limits of Service Providers for Copyright Infringement” One of the contentious issues associated with the online industry is the liability of service providers for transmitting content created by others. Explaining the role of service providers in making copyrighted work available to end users, as a model law, the Online Copyright Infringement Liability Limitation Act (OCILLA) is discussed in detail. Indian scenario is also discussed briefly and the need for clear and well-defined liability standards for service providers is pointed out.

24 “Liability Limits of Service Providers for Copyright Infringement” Journal of Intellectual Property Rights, Vol. 8, May 2003, pp 181-190
Martin Peitz & Patrick Waelbroeck\textsuperscript{25} (2004) in their working paper on “The Effect Of Internet Piracy On Cd Sales” the role of music downloading on the current downturn in CD sales was analyzed. The study provided 2000-2001 cross-country evidence in support of the claim of losses due to internet piracy made by the music industry. In the U.S the potential loss from internet piracy using detailed survey data were also assessed. They concluded that the internet piracy played a significant role in the decline in CD sales in 2001.

David Y. Choi and Arturo Perez\textsuperscript{26}(2006) in their explorative paper on “Online piracy, innovation, and legitimate business models” has examined the impact of online piracy on innovation and the creation of new, legitimate businesses. While viewed only as a legal matter, online piracy has shown to be an important source of technological and strategic innovation to both industry incumbents and newcomers. This paper briefly describes the evolution of pirate technologies and the associated online communities. It also examines the processes by which pirate technologies and communities have stimulated innovation and the creation of pirate as well as legitimate business models. The paper concludes with some suggestions by which incumbents and entrepreneurs may deal with and take advantage of piracy.

Bloom, J.A. Cox, I.J. et al\textsuperscript{27} (1999) in their article on “Copy protection for DVD video” stated that the prospect of consumer digital versatile disk (DVD) recorders highlights the challenge of protecting copyrighted video content from piracy. The copy-protection system broadly tries to prevent illicit copies from


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being made from either the analog or digital I/O channels of DVD recorders. An analog copy-protection system is utilized to protect the NTSC/PAL output channel by preventing copies to VHS. The digital transmission of content is protected by a robust encryption protocol between two communicating devices. Watermarking is used to encode copy-control information retrievable from both digital and analog signals. Hence, such embedded signals avoid the need for metadata to be carried in either the digital or analog domains. Finally, the copy-protection system provides the capability for one-generation copying. They also discuss some proposed solutions and some of the implementation issues.

Shujen Wang & Jonathan J.H. Zhu Their article on "Mapping Film Piracy in China" examines one of the most crucial yet often-overlooked links in global film processes piracy. It does so within the context of a changing digital media environment that calls for a reassessment of key dimensions: networks, globalization, technology, space and the state. More specifically, it focuses on the operation of film piracy networks in Greater China that includes the Mainland, Hong Kong and Taiwan. By zooming in on 'Greater China', this article presents empirical accounts of specific links and connections on and between the intersecting distribution and piracy networks. In sum, distribution and piracy in China highlight some of the most interesting and intricate insights into issues of power, control, technology, network, speed, global-regional-national dynamics, subjectivities and reflexivity. Given the complexity of the issues, this study argues for a spatial, network and process-oriented theoretical framework.

Shujen Wang & Jonathan J.H. Zhu Fairbank Center for East Asian Research at Harvard University & City University of Hong Kong
Robert F. Easley\textsuperscript{29} (2005) on the topic "Ethical Issues in the Music Industry Response to Innovation and Piracy" briefly describes some of the challenges faced by the recording industry, and examines some of the ethical issues that arise in various industry and consumer responses to the opportunities and threats presented by these innovations. The paper concludes by highlighting the risks associated with responses that threaten further innovation, ultimately reducing the chances of finding solutions that hold appeal for all parties. The current conflict between the recording industry and a portion of its customers who are involved in illicit copying of music files arose from innovations involving the compression and electronic distribution of files over the internet.

Ram D. Gopal & G. Lawrence Sanders\textsuperscript{30} (1997) stated in their paper on "Preventive and deterrent controls for software piracy" that an attempt to protect their intellectual property and compete effectively in an increasingly dynamic marketplace, software publishers have employed a number of preventive and deterrent controls to counter software piracy. Conventional wisdom suggests that reducing piracy will force consumers to acquire software legitimately, thus increasing firm profits. Their results suggest that preventive controls decrease profits and deterrent controls can potentially increase profits.

Ramnath K. Chellappa and Shivendu\textsuperscript{31} (2003) in their paper on "Economic Implications of Variable Technology Standards for Movie Piracy in a Global Context" discussed that even if bandwidth on the Internet is limited, compression technologies have made online music piracy a foremost problem in

\textsuperscript{29} Journal of Business Ethics, Volume 62, Number 2 / December, 2005, ISSN0167-4544 (Print) 1573-0697 (Online), Pages 163-168, USA, (http://www.springerlink.com/content/100281/).


intellectual copyright protection. However, due to significantly larger sizes of video files, movies are still largely pirated by duplicating DVDs, VCDs, and other physical media. In the case of DVDs, movie studios have historically maintained different technology codes or formats across various regions of the world, primarily to control the timing of theatrical releases in these parts of the world. This paper formulates an analytical model to study the implications of maintaining different or incompatible technology standards in DVD and other optical disc players on global pricing and piracy of movie discs. Their formulation developed two distinct piracy types, namely, regional and global piracy, signifying if consumers will pirate movies released for their own region or those meant for other regions. Their results find that maintaining separate technology standards is very critical when there is piracy, as losses from global piracy can be higher than that of regional piracy. Further, they observed that piracy is not a victimless crime, in that not only do producers suffer losses but consumers in regions with high willingness to pay for quality also stand to lose. In addition, they explained that increasing homogeneity in consumer preferences for quality across regions may not be beneficial to digital product vendors unless there is also uniformity in copyright protection laws and conclude with recommendations for research and practice for movie studios as well as producers for other goods that are dependent on copyright protection such as books and pharmaceuticals.

R.K. Chellappa & S. Shivendu\textsuperscript{2} in their conference paper on “Economics of technology standards: implications for offline movie piracy in a global context” explained how reduced sizes of music files due to compression technologies has allowed for piracy to become a rampant problem on the Internet even in the absence of significant bandwidth. However given the large sizes of

\textsuperscript{2} Chellappa, R.K. Shivendu, S., Southern California Univ., Los Angeles, CA, USA; “Economics of technology standards: implications for offline movie piracy in a global context” (http://ieeexplore.ieee.org/xpl/RecentCon.jsp?punumber=8360)
video files, movies are still largely pirated by duplicating DVDs, VCDs and other physical media. Conventionally DVD formats have differed across various regions in the world albeit the controlling theatrical releases of movies. This paper formulates an analytical model to study the implication of varying technology standards of DVD players across different regions on the piracy of movies. This research identifies conditions under which consumers engage in global and regional piracy. Their findings show that maintaining separate technology standards across regions is effective in not only thwarting global piracy but it also allows movie studios to create variable quality movies and engage in discriminatory pricing. While consumers may still engage in local piracy, the overall profits to the firm under variable technology standards are shown to be higher than when a common DVD standard is adopted across all regions. The paper concludes with recommendations for research and practice.

Paul Edward Geller (2005) on the topic “International Intellectual Property, Conflicts of Laws, and Internet Remedies” has discussed the notion of territoriality, as applied within the classic framework of conflicts analysis. Following classic conflicts analysis, courts tend to vacillate between different arguable countries of infringement, and they thus risk applying the law of one country or another arbitrarily across any global network. This article proceeds from the framework of interest analysis that would resolve any conflict of laws by considering the public policies of the jurisdictions with stakes in the outcome of the resolution. Its premise is that diverse interests from one country to the other are best optimized by following the public policies that underlie the community emerging between countries in the relevant field of law. In the field of intellectual property, courts best look to how policies underlying the international treaty regime, effectively the Bern-Paris/TRIPS regime, compel remedies. As a rule,

these policies favour applying the laws of the countries whose markets are targeted or prejudiced, respectively, as bases for injunctions or compensatory monetary awards.

David Y. Choi34, on the topic “Online Piracy and the Emergence of New Business Models” examines the impact of online piracy on the emergence of innovative, legitimate business models. While often dismissed by academics and professionals alike, online piracy has shown to be a valuable source of innovation to both industrial incumbents and entrepreneurs. The paper briefly summarizes the evolution of piracy technologies and associated online communities. Then, the paper explores piracy in the media industry and discusses the means by which it has influenced innovation. Finally, the paper observes the Torrent phenomenon and suggests its potential impacts on the emergence of new business models.

Saraju P. Mohanty35 in his paper states tutorial review of the digital watermarking techniques on the topic “Digital Watermarking: A Tutorial Review” the growth of high speed computer networks and that of Internet, in particular, has explored means of new business, scientific, entertainment, and social opportunities. Ironically, the cause for the growth is also of the apprehension - use of digital formatted data. Digital media offer several distinct advantages over analog media, such as high quality, easy editing and high fidelity copying. The ease by which digital information can be duplicated and distributed has led to the need for effective copyright protection tools. Various software products have been recently introduced in attempt to address these growing concerns. It is done by hiding data (information) within digital audio, images and video files. One such way of hiding data is digital signature, copyright label or digital watermark, that completely characterizes the person who applies it and,

34 Loyola Marymount University, Los Angeles, California, dchoi@lmu.edu.
35 Digital Watermarking : A Tutorial Review University of South Florida, Tampa, smohanty @see.usf.edu
therefore, marks it as being his intellectual property. Digital Watermarking is the process that embeds data called a watermark into a multimedia object such that watermark can be detected or extracted later to make an assertion about the object. Watermarking is either “visible” or “invisible”. Although visible and invisible are visual terms watermarking is not limited to images, it can also be used to protect other types of multimedia objects.

McIntyre, Andrea Noel\(^\text{16}\) (2003) in their investigation on “An Analysis of Technological Needs, Costs, and Desirability in the Delivery of Streaming Video Instruction on Handheld Wireless Devices” analyzed the technological needs, costs and University of Colorado graduate student interests in the delivery of streaming video instruction on handheld wireless devices. The purpose of the investigation was to (a) explore the range of quality of streaming video on a wireless handheld device in terms of resolution and color depth, (b) determine costs for equipment and access for color streaming video on wireless handheld devices (c) examine and specify hardware and software needs required to serve streaming video to wireless handheld devices, (d) compare the hardware and software needs required to stream video to a handheld, wireless device with the hardware and software needs required to stream video to a personal computer with a dial-up modem, (e) examine differences in the video preparation needs for streaming video to a personal computer with streaming video to wireless, handheld device, (f) determine what legal and regulatory issues govern streaming video

Michael K. & Jon Silver\(^\text{37}\) in their paper has examined the issue surrounding the potentiality of digital technology to change channel dynamics, strategy, and structure in the video movie distribution market on the topic “Analysing The Effect of Digital Technology on Channel Strategy, Power and

\(^{16}\) http://hdl.handle.net/hosted online on 13-May.2003.

\(^{37}\) Michael K. Mills, Department of Marketing, Griffith University, Nathan, Department of Marketing, Griffith University, Nathan
Disintermediation in the Home Video Market: The Demise of the Video Store?"
being exploratory in nature the paper suggests that digital technology is already well on the way to changing existing methods and channels of distribution for movie videos, as well as power relationships within this network.

C Niranjan Rao \(^{38}\) (2004) in his Working Paper on "The Role of Intellectual Property Rights in Information and Communication Technologies" recapitulates the basic arguments provided by economic theory to explain the existence of the patent system. The paper then concentrates on the three important ICT industries viz., telecommunication equipment, computer hardware and semiconductor industries. The issues covered in the discussion on these industries are the technological characteristics; market structure and technology transfer experiences of selected developing countries. Even though there are some differences in these industries, what come out clearly are some similarities. These similarities pertain to concentration by firm as well as country; rapid technological changes; existence of scale economies; rising minimum efficient levels of production; entry barriers to the industries both financial and technological etc.

Rick Harbaugh & Rahul Khemka\(^{39}\) in their paper "Does copyright enforcement encourage piracy" show that broad-based and targeted copyright enforcement have different implications for firm pricing strategies, piracy, and social welfare. Broad-based copyright enforcement raises prices to ward the monopoly level, reduces piracy, and lowers consumer surplus. In contrast, enforcement targeted at high-value buyers leads to super-monopoly prices and an increase in piracy. Extending enforcement down the demand curve broadens the copyright holder’s captive market, leading to lower prices and higher sales that can increase both profits and consumer surplus. The standard tradeoff between

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\(^{38}\) C Niranjan Rao "The Role of Intellectual Property Rights In Information and Communication Technologies" Centre For Economic and Social Studies Working Paper No. 61, SEP 2004

\(^{39}\) Khemka "Does copyright enforcement encourage piracy?", Rick Harbaugh, Claremont McKenna College, Rahul Khemka, Georgetown University
incentives to generate intellectual property and costs of monopoly power is therefore avoided. Private enforcement by copyright holders may be insufficiently extensive since consumers can also benefit from more extensive enforcement. Similarly, new technologies which lead to stronger control over illicit use can paradoxically benefit consumers.

RELATED LITERATURE IN INDIA

Dr. N.K. Nair** - The study on 'Copyright Piracy in India' is the first study of its kind commissioned by the Ministry of Human Resources Development, the apex body on copyright matters in India and conducted by the National Productivity Council (NPC), New Delhi. The study assesses the extent of copyright piracy prevailing in the various segments of industry impacted by the copyright law, namely cinematographic works including video, sound recordings, computer software, literary works and performers; the effect of piracy on the copyright holder and the national economy; and attempts to evolve a phased programme for tackling the situation by improving the enforcement of the Copyright Act as well as to promote the awareness of copyright among the public. The study involved interaction with and information sourced from a host of important national and international agencies connected to the concerned industries.

The study finds that in the developed countries, copyright-based industries contribute handsomely (up to 5 per cent) to GDP and their exchequers. The NPC study estimates the contribution of copyright-impacted industries in India to be approximately one per cent of the GDP in 1996-97. Because of the exclusion of electronic media from the study, they feel that the actual contribution could be more. The NPC survey estimates that the value of illegal application software

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** Director (Research and International Services), 'Copyright Piracy in India' - Ministry of Human Resources Development, the study conducted by the National Productivity Council (NPC), New Delhi.
works out to Rs. 1,063 crores, which is about 44 per cent of the total domestic software market (Rs. 2,410 crores) in 1996-97. This ‘grey market’, propelled by nearly 50 per cent growth in the last three years, has led to the widespread use of pirated application software. Such high piracy rates could be a result of numerous factors, the most important being cost of software. On the one hand, the average price of copyrighted application software, according to Business Software Alliance of US and NASSCOM, is US $ 250 (approximately Rs. 10,000). On the other hand, the ‘grey market’ price for Windows ‘98 or Windows 2000 in New Delhi can be as low as Rs. 250 only.

Dr. V. Manickavasagam\(^1\) (2007) has made an attempt to study the impact of piracy in entertainment industries on the topic ‘copyrights and copy wrongs – compliments and complications to Tamil film industry’. In their research paper it is stated that ‘Piracy inflicts enormous economic losses on the countries by production, importation, exportation, and domestic distribution of pirate optical media. These economic losses are felt throughout the chain of creativity, from the musicians, artists, performers, film-makers, software developers, to others holding jobs in copyright-based companies.

Dr. Gunmala Suri\(^2\) in his article on ‘A Glimpse of intellectual property rights issues in the new information order’ attempts to expose problematic nature of the emerging copyright regime and discusses new concepts of how free access to information can be combined with incentives to create and publish. How one can set up an infrastructure than would free information from the control of the distributors whose role was created by difficulties of moving around printed matter and other physical objects are some of the aspects which have been explained in this article.

\(^1\) Current Taxcom News, volume 33, Issue no 9, 12\(^{th}\) May 2007, pp. 157-164 (Prof & Head , Dept of Corporate Secretariaship, Alagappa University, Karaikudi).
\(^2\) 'A glimpse of Intellectual Property Rights (IPR) Issues in the New Information Order' Executive chartered Secretary, May 2007, PP -458-462
Pavan Duggal\textsuperscript{43} pointed out in his paper "checks balances needed in cyber cafes to prevent crime" that, the given widespread use of cyber cafes for crime activities some regulations are needed. He also is insisting upon the identity of the person using cyber café. This will enable the law enforcing agencies to leap a check on people who commit cyber crime through cyber cafes and also act as a deterrent for people indulging in cyber crime. The rule mandates that cyber cafe owners / network service providers ensure that their computers and systems are not misused by their clients. These provisions may to lead to the evaluation of the cyber hafta and the system of paying protection money to avoid the harassment of the agencies responsible for the ensuring the implementation of the law. He also pointed out that, section 80 of the Information Technology Act 2000 gives absolute arbitrary powers to police officers not below the rank of Deputy Superintendent of police to enforce the Act.

CS Somu\textsuperscript{44} (2005) stated in his paper "Software Patents: Good or Evil" that the economic philosophy behind granting patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors. Sacrificial days devoted to such creative activities deserve rewards commensurate with the services rendered.

While software has been specifically identified by the Parliament and the courts as deserving of copyright protection, the scope of copyright protection afforded to software has been in flux in recent years. The Copyright Act, 1957 specifically state that copyright protection does not "extend to any idea, procedure, process, and system, method of operation, concept, principle, or discovery." Copyright protection extends only to specific expression, and not to the ideas

\textsuperscript{43} Supreme Court of India Advocate, Pavan Duggal, pduggal@vsnl.com.

\textsuperscript{44} "Software Patents: Good or Evil" SDM- Institute for Management Development, Mysore, Paradigm, Vol. IX No.1 January – June, 2005 , PP102-105.
behind this expression – commonly referred to as the “idea –expression” dichotomy. Chances are that, patents on Software, common practice in the US and on the brink of being legalized in Europe, in fact stifle innovation. Europe could still alter course. But India has joined the US Bandwagon. Modern society relies heavily on computer technology. Without software, a computer cannot operate. Software and hardware work in tandem in today’s information society. So it is no wonder that intellectual property protection of software is crucial not only for the software industry, but for other business as well.

K.G. Kumar45 “Films, piracy and copyright” The recent furor over the issue of piracy of Malayalam films highlights the need for creative alternatives to the conventional copyright route of protecting intellectual property. Honesty and integrity are values that are universally upheld, especially in socially responsible business activities. And so, it shouldn’t be surprising that the Malayalam film industry stalwarts were shouting themselves hoarse, denouncing the venal pirates. This point has not been made to sound facetious. While no one can deny the need to protect intellectual property and ensure fair returns to its legitimate creators, the whole furor over the video/film piracy issue smacks of certain hypocrisy - on the part of the Malayalam film industry. Even as conception of ideas as inviolable property is widely recognised, progressive movements all over the world are now experimenting with more creative ways to deal with copyright and patent laws that will favour the common good.

Mohan Padmanabhan46 (2002) in a paper “Awareness campaign launched to tackle book piracy, plagiarism” - The Federation of Publishers & Booksellers’ Associations in India (FPBA) has launched a major campaign to create awareness in schools, colleges, universities and libraries on the menace of

45 “Films, piracy and copyright” kgkumar@gmail.com.
book piracy, plagiarism and violation of copyright laws. The FPBA is in the process of reviving the Good Offices Committee (GOC), a body comprising representatives of the book trade, libraries and government agencies which was mainly concerned with the task of fixing rates for both imported and domestically produced books meant for libraries and other establishments.

Neharika Srivastava⁴⁷ (2005) in her article on the topic ‘The advantage of institutional arbitration in IT/IPR disputes” explores the advantage of submitting a dispute to an arbitral institution in the context of IT and IPR related matters. Discussed in detail is the concept of arbitration and its advantages over litigation, definition of an arbitral institution as well as the procedure and benefits under the institutions vis-à-vis the IT industry and IPR issues involved in such disputes. Also discussed some of the reasons why parties may wish for arbitration and the procedure under institutional arbitration such as the secretariat, the arbitrator’s rules, administrative fee, documentation, appointment of arbitrators and supervising arbitration. She suggested that institutional arbitration is the higher choice for most global and domestic disputes, as they provide prompt, effective lower cost dispute resolution in IP and it related matters. When a dispute arises especially in a relationship that is ongoing and the fundamental to the business, speedy intervention is required to resolve the dispute and reinstate the original basis of mutual trust that is essential to the survival to the relationship. Institutional arbitration provides resolutions of disputes in a cost effective, expeditious and confidential fashion.

Naresh Kumar⁴⁸ (2005) in his Article on “IPR and International arbitration” attempt emphasis the difference between the TRIPs and Patent Law Treaty / Substantive Patent Law Treaty and also discussed the nature and types of

⁴⁷ Research Associate (Law), Indian Council of Arbitration, New Delhi, “The advantage of institutional arbitration in IT/IPR disputes” Executive Charted Secretary, October 2005, pp. 905-907.
IPRs disputes and the settlement of IPRs disputes. The subject has assumed vital importance with the coming into force of the agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs) under the world trade organisation (WTO). In this context an attempt is made to briefly discuss the salient features of the IPs, major areas of disputes and settlement methods.

Dr. V. Jeelan Basha^1 (2005) in his article “Intellectual property rights – an Indian experience:” the importance has given to highlight the consequences of IPR piracy to Indian music and film industry. Knowledge is none’s assets for which intellectuals strive to acquire and create new knowledge. There are many inventions, innovations designs and creations of new knowledge coming from gross root level, which are left unnoticed in India. The real inventor is deprived of reaping benefits of his creations for which he is entitled to claim. This leads to infringements of creations. This is because of the ignorance about intellectual property rights.

Due to infringement, the repercussions of piracy/infraction led to loss of income not only to the inventors / creators but also loss of tax revenue to the Govt. This suffered loss of employment opportunities and wages. Certain African countries have got protection of its folklore under their copyright law. But our most valuable Lambani Dance was filmed for commercialization by other countries because of lack of awareness of IPR. He stressed that it is the need of the hour for our country to be aware of importance of IPR and their protection.

Dr. V. Manickavasagam^2 (2005) in his article on “Infringement of copyright”, has emphasis the infringement Of Copyright .they have made an attempt to the main objects of copyright legislation is to protect the copyright in works from infringement and piracy. The owner of a copyright has the exclusive

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^1 Faculty in Accounting & Finance, ICFAI National College, Gulbarga., “Intellectual property rights – an Indian experience” Southern Economist, Volume 43, Number 21, March 1, 2005, pp.16.

^2 Infringement of Copyright” Current Taxcom news, volume19, Issue no 1, 12th January 2005, PP. 60-62
right to do certain act in respect of the work. In any other person does any of these acts without proper authority he would be guilty of infringement of copyright in the work. The paper mainly focus on the Essential ingredients of infringement, circumstances of infringement, defenses against infringement, acts which do not constitute infringement, violations of copyright act.

**Tarun Bajaj**\(^5^1\) (2004) in his article “**perils of protection**” analyzed and answered for the question- “Isn’t Copyright protection in cyberspace a case of over zealousness?” discussed about the copyright management system and the new digital technology. Copyright law in real space tries to balance the romantic conceptions of creations of an author by ensuring a return by way of protection of content) with the utilitarian conception of society for learning and knowledge. Copyright law has developed over countries as a responds to the developments in technology. Each new wave of copy reproduction and distribution technology has forced legislative adaptation of Copyright law in order to maintain the delicate balance between the rights of the user and producers of content. He has highlighted that the arrival of digital technology and the internet, Copyright is going through a metamorphosis. He argues that the new technology makes the older law inadequate, the content providers and amongst them the powerful film and media groups have been pressing for greater protection to safeguard their economic interest.

**Dr. Gunma Suri**\(^5^2\) (2007) in her article on ‘**Intellectual property and knowledge management**’ attempts to expose knowledge management and intellectual property. Knowledge management is increasingly discussed and debated world over. In the context of knowledge transfer and knowledge sharing, the implications of IPR arising from the WTO requirements are examined in this

\(^{5^1}\) Senior IAS Officers, “perils of protection” The Economic Times, 22\(^{nd}\) August 2004, Sunday, p.6.

\(^{5^2}\) ‘Intellectual property and Knowledge Management’ Executive Chartered Secretary, February 2005, pp.143-147.
exposition. The impact of copyright is more ubiquitous than in the case of patents, software, textbook and academic journals. She states that there are some inherent misconceptions in the whole idea of trusted computing and digital rights management. There are contradiction between a system that claims to be free market capitalism on the one hand, and the ownership of idea on the other. Digital networks offer us an opportunity to enhance our productivity and growth while simultaneously improving democracy and increasing individual freedom.

Mashelkar\(^5\) (2002) in his article *Intellectual Property Rights and Wrongs: the developing World Concerns* pointed out that the intellectual property will no longer be seen as a distinct or self contained domain, but rather as an important and effective policy instrument that would be relevant to a wide range of socio-economic, technological and political concerns. The development of skills and competence to manage IPR and leverage its influence will need increasing focus in particular, in the third world.

Nirmalya Ganguly\(^6\) (2007) in his paper “Copyleft: An Alternative to Copyright in Computer Software and Beyond” deals with the development, which has provided a new perspective towards looking at traditional copyright law, viz. the institution of copyleft. By highlighting the myriad facets of copyleft licenses (typified by the GNU General Public License, the brainchild of Richard Stallman), the author illustrates the fact that the notion of copyleft bases itself upon the institution of traditional copyright, whilst aiming to eliminate many of the ‘voices’ that are said to plague the latter. The paper examines intricacies of copyleft licenses, focusing in detail upon the criticisms leveled against it by proponents of proprietary software (essentially, business versus liberty argument),


as well as contrasting it with open source software, another crusader in the war against established copyright law. It is author’s conviction that although its ambit is yet to be canvassed in a court of law, copyleft is surely a wake-up call for proprietary software manufacturers; it would encourage further research and innovation by the latter.

Anu Tiwari, et al\textsuperscript{55} (2006) examined in their paper “Proprietary Rights or Common Property? “The Dilemmas of Copyright Protection of Case-Law Reporters” that Law reporters have long been an integral part of the legal fraternity, being the principal source of communicating judicially evolved laws; forming fundamental basis for academic research as well as locating precedents within the litigation arena. Enhanced electronic availability has led to obvious questions regarding their ambiguous status under copyright legislations, both with respect to protection afforded for individual components like head notes, indices, etc., as well as of the entire reporter. The paper concludes with an assessment of the various reasons for which law reporters must be accorded copyright or some other form of proprietary rights over their databases, thereby assisting in the proliferation of technically superior reporters.

Ankita Singhania\textsuperscript{56} (2006) on the topic “Copyright Laws in India and Maintenance of a Welfare State” pointed out that, Information has attained the status of a ‘primary good’ and is therefore essential for the socio-economic development of an individual in any society. Given the Indian polity nature is a Welfare State, the current copyright regime in India, which has largely been modeled to fulfill India’s obligations under the TRIPS Agreement, does not strike a harmonious balance between promoting the progress of arts and sciences and fulfilling the constitutional mandate of achieving social and economic justice. The

lengthy term of protection of copyright is detrimental to the benefit that public
might derive from release of such work in public domain. Developing nations like
India should develop copyright models that do not stunt the growth of their skilled
work force and further satisfy their constitutional goals.

Rajat Rana57 (2006) has analysed in his paper ‘Indigenous Culture and
Intellectual Property Rights’57 the intersection between intellectual property
rights regime and indigenous claims in the context of folklore songs, practices,
etc., as well as human rights law and intellectual property law with specific
reference to Australia where the judiciary has played a significant role in
protecting the cultural interest of the aboriginals.

Shantanu Sahay58 (2006) in his paper “Piracy of Trade Dress and the
Law of Passing off: National and International Perspective” deals with the
meaning and connotation of trade dress and growing dimensions with respect to
the scope of its definition which has expanded to include hotel design, virtual trade
dress, etc. The possible mechanisms to deal with trade dress infringement and
protection with respect to passing off are also discussed. The scope of trade dress
infringement with respect to passing off has been highlighted by various courts in
the US and in a particular case, the US Supreme Court brought passing off
protection within the scope of the statute itself. These relevant instances within the
US and English laws with respect to passing off cases are examined. Finally, the
Indian context, which is largely based upon the UK laws, is reviewed with
reference to a recent case law in this regard.

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Arjun Krishnan\textsuperscript{99} (2005) in his article on "Testing for Copyright Protection and Infringement in Non-Literal Elements of Computer Programs" examines applicability of tests to the Indian context in order to locate an appropriate test for India, in the light of Indian copyright jurisprudence. Computer software is one field in which India enjoys a competitive edge over other countries due to a fast growing industry and skilled manpower. One of the forms of protection of intellectual property in software is copyright protection. It has long been recognized that non-literal infringement of a work is also possible. Despite the importance of the software industry, no test has been enunciated in relation to non-literal infringement of computer programs. This article examines US and UK case law relating to non-literal infringement of computer software and the different tests lay down by the courts in these countries. Divergence of judicial opinion as to what is the most appropriate test for non-literal infringement has raised several doubts relating to some of the fundamental tenets of copyright jurisprudence.

Dharam Veer Singh And Pankaj Kumar\textsuperscript{100}(2005) in their paper "photocopying of Copyrighted Works for Educational Purposes: Does it Constitute Fair Use?" analyses that whether photocopying of copyrighted works for an educational purpose constitutes fair use or not. The statutory provisions on the issue in different countries have been enlisted. The provisions of the US law have been exhaustively dealt with followed by the guidelines as prescribed by the government body under the US congressional mandate. A case analysis has been done in order to ascertain the approach of the courts in applying the statutory provisions to the instances of making multiple copies of copyrighted works for educational purposes. Fair use under the US statute depends on the four factors of


purpose, nature, amount, and effect. The guidelines, however, make fair use dependent on brevity, spontaneity, and cumulative effect. In the last part of the paper, the prevalent US law is compared with the prevalent Indian law.

**Veerendra Tulzapurkar** (2005) has attempted to make a systematic analysis of the much discussed issue of ‘remix’ of old songs in his article on “Remix and Copyright Law”. It explains, in detail, how remix is done and the economics behind it. The provisions of the Copyright Act, 1957, which make it possible to make a remix from an old song, were also explained. It further analyses and comments on the decisions of the courts on this issue. While interpreting and commenting on the relevant provisions of the Copyright Act, 1957, it suggests the provisions in the Act by which objectionable remix of an old song can be prevented.

**Harsh Kumar** (2005) in his article “Employer’s Copyright vis-à-vis Author’s Right: An Unresolved Legal Dilemma” explores the protection to authors, employees and freelancers in India in the light of the recent US decision in the Tasini case. Traversing the history and context of the Tasini case, particularly, explaining the court’s philosophy behind the recognition of a freelancer’s right over his employer/publisher, the paper highlights the concept of authorship in India and the significant differences in the manner employees and freelancers are treated under the Indian legal system.

**Philippe Baechtold And Tomoko Miyamoto** (2005) in their paper “International Patent Law Harmonization - A Search for the Right Balance” addresses the historical development of international norm setting at the World

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Intellectual Property Organization (WIPO), while international patent law harmonization has been an issue in progress since the conclusion of the Paris Convention in 1883, it is facing new challenges due to the increased use of the patent system in the knowledge-based economy and the growing sensitivity to the patent system’s social and economic role for society. The historical development of international norm setting at the World Intellectual Property Organization (WIPO), including the ongoing negotiations on the draft Substantive Patent Law Treaty (SPLT), and highlights today’s international challenges surrounding the international patent system. The paper further examines a number of features that appear to be fundamental for a well-balanced patent system serving society as a whole, while supporting innovation. It concludes with some suggestions that may be considered for any future work in this area in order to find common ground in terms of bringing closer the operational principles of patent law and practices at the international level.

Paul Ganley64 (2005) has clearly stated in his paper “The Internet, Creativity and Copyright Incentives” that the copyright industries savour their role as critical intermediaries in the copyright supply chain. To this end, they are continually seeking to strengthen their legal entitlements by arguing that stronger copyright incentives fuel future creative action. But the reality of creativity is different from the linear economic reward/action relationship that these industries promote. This reality has been brought into sharp focus by the seemingly limitless creativity that the Internet has unleashed. Much of this creativity occurs without reference to the incentive structure provided by copyright law and demonstrates the potential redundancy of several existing industry functions. The result has been a seemingly intractable tension between established industries and emergent modes of production and dissemination. The clearest examples of this tension are the current debates over the utility of peer-to-peer technology and the competition

between proprietary and open source software development models. A diverse range of creative experiments facilitated by digital networked technology is considered and used as a backdrop to a general discussion on some of the areas where reforms to copyright’s existing incentive structure are most needed.

Anurag Dwivedi and Monika Saroha (2005) attempts to analyse the existing copyright laws with a view to determining their potential to extend protection to these vulnerable rights by his paper "Copyright Laws as a Means of Extending Protection to Expressions of Folklore", One of the great ironies for indigenous people and local communities is that while scientific and commercial interest in their ecological knowledge and resource management practices have never been greater, human cultural diversity is eroding at an accelerating rate as the world steadily becomes more biologically and culturally uniform. With the advent of globalization, cultural heritages of different countries have become more vulnerable to those of the rest of the world. Folklore is one such heritage for the indigenous people of one country. Intellectual property rights are meant to protect diverse heritages.

Kaushik Laik (2005) has investigated the impact of a strong IP regime in the economic development of a nation through his paper “Role of Intellectual Property in Economic Growth” In spite of substantial economic growth of nations, there still persist conflicting views among developed and developing countries in retaining a strong intellectual property regime in the domestic realms. The fact that developing countries vary widely in the quality and capacity of their scientific and technical infrastructures, poses a major hurdle to the extent of applicability of IP, particularly, patent laws, to each of them. Having a uniform IP standard across the globe undoubtedly seems to be an easy solution, but the issue

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certainly involves numerous micro and macro considerations which need to be taken heed of.

The aim of the present paper is to investigate the impact of a strong IP regime in the economic development of a nation. Beyond any doubts, IP protection is an important determinant of economic growth. The fact that strong IPR actually provoke IPR infringements in many developing nations also seems to be an issue which needs to be analysed while comprehending the need for the former. The trade-off between unfair competition laws and IP also assumes importance of high magnitude and hence needs to be particularly emphasized.

Suvrajyoti Gupta (2005) in the paper “Digital Alteration of Photographs and Intellectual Property Rights” discusses how such alteration interferes variously with the intellectual property rights of the author, owner, or the subject of the photograph. Digital alteration of photograph has consequences in copyright law, passing off, celebrity’s right to publicity as well as areas like criminal law, law of defamation, etc., where the injured party needs to have proper remedy. The paper also discusses law in USA and UK as well as the relevant laws in India. Advancement in technology has made it easier to digitally alter a photograph. This along with faster dissemination of text and images through the Internet has elevated morphing or digital alteration of images to the status of a cottage industry.

Philip G Altbach*^ (2002) in his paper “The Subtle Inequalities of Copyright” discusses in detail the copyright provisions in TRIPS Agreement, effects of technological advances on copyright, responsibility of copyright holders, and steps to be taken to help developing countries gain access to the world’s knowledge and build up their own publishing industries.

Sudha Mysore⁶⁹ (2002) explores in his paper “Adoption and Implementation of Intellectual Property Rights: Experiences of Selected Countries” that the new trade rules in the form of Trade-Related Intellectual Property Rights (TRIPS) includes the compulsive modification of the existing Intellectual Property protection legislation with regard to agriculture especially by the developing countries. One of the important reasons for extending intellectual property (IP) protection for plants and other living organisms, it is said, is to make agriculture a commercial venture and for attracting private investment into agricultural research. The present study reviews the economic impact of the adoption of IP protection mechanisms in USA and Latin American countries. Results indicated that availability of IP protection is in itself insufficient in determining the rate of innovation. More important factors like the scientific base of plant breeding, market forces and demand side factors appear to have greater influence in determining the rate of introduction of new varieties. Consolidation by the multinationals in seed industry and increased seed prices were among the other significant results.

RA Mashelkar⁷⁰ (2002) discussed about the need for a fair play in technology transfer, and concerns of the Third World about such harmonization and the new challenges in his paper “Intellectual Property Rights and the Third World”. The discussion includes the need for a fair play in technology transfer, creation of ‘favourable economics’ of essential medicines from the point of view of the Third World, protection of traditional knowledge, etc. The creation of Traditional Knowledge Digital Library (an essentially Indian initiative) and linking it to the International Patent Classification (IPC) system through a Traditional Knowledge Resource Classification (TKRC) system is an important

conceptual step forward. The possible models for material transfer and benefit sharing when products are created based on community knowledge are also discussed. Other discussion includes the challenge of bridging the divide between the Third World and other developed nations, with special emphasis on intellectual property information sharing, capacity building with creation of appropriate physical and intellectual infrastructure and awareness building. It is argued that the third world should negotiate a new ‘TRIPS plus’, which means ‘TRIPS plus equity and ethics’.

Tusar Kanti Saha71 (2003) in his Paper “Copyright Law in the Changing World” deals at length on evolution of copyright law and its basic principles. It examines concept of originality in the law and raises the issue on the conflict between patent and copyright protection of software.

Zakir Thomas72 (2003) stated in his article “Copyright—the Otherworldly Kind” that the concept of authorship is central to copyright law. Copyright system developed to reward the human author behind creation. Citing two cases relating to literary works where authorship of the subject matter was questioned this note raises the issue of changing concept of authorship as the development of technology and modern methods of creation of cultural goods brings in new tools for creation of works.

TC James73 (2002) in his Paper “Indian Copyright Law and Digital Technologies” traces the history of Indian Copyright Act. Describes various amendments carried out in it from time to time. Responses of international community to the challenges of digital technologies in the form of WIPO

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Copyright Treaty (WCT) and WIPO Performers and Phonograms Treaty (WPPT) are presented. The prominent copyright issues in the digital era are identified. It was found that in the Indian Copyright Act many issues are still left unaddressed. Amendments in the Act to make it compatible with the WCT are suggested.

Saptarishi Bandopadhyay\(^4\) (2003) in his paper “Justifying the ‘Back-Step’: Establishing the Foothold reverse Engineering within the Indigenous Ethical Parameters of Software Copyright” discusses the subject of reverse engineering in the light of the ethics that surround the realm of utilization of copyrighted material with specified focus on software copyright. It is the contention of the author that an ethical perspective with respect to reverse engineering must stem from the basis of all intellectual property jurisprudence and not a mere ‘market oriented’ interpretation. The paper thus utilizes both Indian and international legal sources to trace out the growing acceptance of reverse engineering as a viable tool for research and development in the sphere of computer software. It draws specific reference to the Indian copyright law and how its restrictive approach towards reverse engineering of software is a hindrance to the technological development of the nation, in as much as it may attempt at statutory protectionism. Author concludes that, reverse engineering is essential to the development of intellectual property and it is the restrictions placed upon it, which are unethical.

J David Livingston\(^5\) (2003) has made an effort to explain the need for a system to protect human ideas related to different walks of life in its conceptual stage in “India Needs an Idea Bank to Lead the World in Intellectual Property Protection” At present, there is no effective system available to protect such ideas.


The proposed idea bank is a concept to protect the ideas of different nature. In the idea bank, each idea will be properly recorded with an identification number and the priority date under proper classification. In future, any of this protected idea can be tested and commercialized by anyone, anywhere in the world, giving an opportunity to the ‘ideator’ (idea generator) to claim the due share from the users of his/her idea. Thus, a new platform for the protection of human knowledge base must be created in association with the international agencies like WIPO, PCT and WTO. By utilizing the information technology and the Internet any person would be able to access the information from anywhere in the world.

Yashojit Mitra\textsuperscript{\textcopyright} (2003) considers the various tests for determining copyright infringement in his paper “Copyright Protection of Indirect Copying of Computer Programs: Suggestions for Indian Courts” With the growth of the software industry in India, the legal protection to be afforded to computer programs is a specific subject of copyright protection under the Copyright Act, 1957. Since the courts in India have till date never dealt with the question of copyright infringement of computer programs, this paper considers the various tests lay down by the foreign courts when considering such issues and discusses the pros and cons of each such test. This paper also brings to the fore the inapplicability of certain tests for determining copyright infringement of literary works formulated by the Indian courts to the area of computer programs, mainly because of the highly technical nature of such works and suggests methods and considerations which the courts should keep in mind when faced with questions of copyright infringement of computer programs.

Zakir Thomas (2003) in his article “Digital Technologies and Emerging Copyright Scenario” explores the concerns of the developing countries in securing access to information and the suggestions of the Commission on Intellectual Property Rights. Technological progress, which ushered in new modes of exploitation of copyright works, brought in challenges to the copyright regime which had to be periodically modified to ensure adequate return to the authors and access to the public of these works. Most significant of the challenges hitherto has been from digital technologies. In order to update the copyright system the international community drew up two treaties, the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT). In addition to enhancing the rights of the authors the treaties provided legal protection to the technological measures used by the authors in digital transmission. Accession to the Treaties has been rather slow and implementation of technological protection measures has been a hotly debated issue. The article also explores the concerns of the developing countries in securing access to information and the suggestions of the Commission on Intellectual Property Rights. Noting the importance of copyright as a public policy tool, the author pleads for calibration of the copyright balance to suit India’s national interests. The author also exhorts the academic community to take active interests in copyright policy matters.

TC James (2004) has made an attempt to look at the issues in the background of the philosophical justification for copyright protection in his paper “Copyright Law of India and the Academic Community.” Copyright plays a crucial role in academic institutions. Although, copyright protection has been in existence in India for more than 150 years, copyright issues in academic institutions have not received enough attention. This paper discussed the issues in

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77 Digital Technologies and Emerging Copyright Scenario, Journal of Intellectual Property Rights, Vol 8, July 2003, pp 276-301
the background of the philosophical justification for copyright protection. After a bird's eye view of the basics of copyright, the paper looks at the traditional issues relating to scope, ownership and use of copyrighted works in educational institutions, in the light of case laws. Then the possible issues that Indian educational institutions may have to face in the context of the emergence of digital technologies and widespread use of information technology are examined. The paper concludes with certain suggestions for the consideration of the educational institutions.

Sourav Kanti De Biswas (2004) in the paper “Copyrightability of Characters” discussed about the intellectual property law protection that could be granted to graphic and fictional characters that are part of our daily lives. Special focus is made on the copyrightability aspect of intellectual property protection. The judgments of various courts have been dealt with in detail to determine the attitude of the courts with regard to this kind of protection. This has been essential because there are no express provisions in the law, which could grant copyright protection to characters. The courts have not been hesitant to grant copyright protection to graphic characters, but when it comes to fictional characters, the courts used various tests developed over the ages, to determine whether a character is well delineated or not. If the character is found to be extremely well-developed, unique and has a personality different from other characters, only then is a copyright protection granted to such a fictional character.

Sanjay Pandey (2004) has explain the concept of neighbouring rights, its Indian context and the protection regime, loopholes and remedies in his paper “Neighbouring Rights Protection in India”. Neighbouring rights have acquired a status, from which no relegation is possible now, what is left is to move further

and devise stringent legal regime to strengthen these intermediary rights. Both the treaties, WCT and WPPT, particularly deal with the use of copyright protected works, performances and sound recordings in digital networks, such as the Internet. Authors, performers and phonogram (i.e. record) producers are granted a broadly worded exclusive right of communication to the public, covering interactive services and delivery on demand. Still a lot needs to be done to cope up with the developing aspects of neighbouring rights. The world looks ahead to WIPO webcasting treaty in order to see a bright dawn of the neighbouring rights protection regime. In this paper, an attempt has been made to highlight and identify protection regime for the neighbouring rights under the Copyright Act, 1957, in India.

Hima Lawrence\(^1\) (2006) in the paper titled “Bootlegging — It’s Impact on Sound Recording Industry and Legal Responses” looks at the legal standpoint on unauthorized recordings of unfixed performances in the conflicting scenario existing due to the aforementioned stipulations. As it is known all sound recording is considered a subject matter for copyright protection. But it is also a known fact that fixation in a tangible form is a prerequisite to be eligible for protection under the copyright law.

Neeta Kolhatkar\(^2\) (2006) stated in his paper “Piracy makes Bollywood bleed” that according to studies by the Television and Film Producers Guild of India and Yes Bank. The domestic home video market was the worst affected, losing Rs 490 crore to piracy in 2004, according to the Yes Bank report. This is a significant market for producers as it provides revenue long after a film’s release. Piracy is giving Bollywood film-makers sleepless nights. The Rs 3,000-crore Hindi film industry loses nearly Rs 1,000 crore annually to piracy.

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CONCLUSION

The resolution of the piracy problem in music and film industry requires efforts from economists, legal system researchers and industrial practitioners, this study calls for attention from academia, the bureaucrats, copyright societies, creators of copyright and the general public to develop models and methods that are suitable to curb piracy, at least partially, address the issues. The study concludes with recommendations for research and practice.

This study observed that the various patterns of piracy pioneering new market insight, market communities and business models is repeated with each generation of new pirate technology. We point out that companies that understand the pattern and take advantage of the innovation offered by piracy communities can build businesses of significant value.

Hence, this research study was undertaken to fill the gap of the study on the theft of sound and optical media. This study is first of its kind not only in the state of Tamil Nadu but also at the national level in this arena of audio video piracy in sound and optical media. It is also one of the first writings to describe the transition steps to control copyright piracy and suggestion to safeguard the legitimate businesses of sound and optical media. The researcher believe that this is a practical study that can be of use to the producers and creators of copyright products, implementing authorities of Copyright Act, law makers and academics as well as the future researchers in this field.