

# Intellectual Property Rights and Internet

R Saha

Technology Information Forecasting and Assessment Council (TIFAC)

## ABSTRACT

This paper describes the relationship between Intellectual Property Rights and Internet operations, including e-commerce. The new issues opened due to the advent of digital technologies for storing and transmitting information are discussed along with types of IPR issues applicable to Internet.

## 1. INTRODUCTION

A spurt in the interest in intellectual property rights (IPRs) has been visible in the country for the last five years, even though the legal and other regimes to deal with IPR have been in place since independence and earlier. The recent interest started with a curiosity and sometimes with an element of apprehension, has now graduated to a need-based compulsion and desire to play a new game introduced with the formation of World Trade Organisation (WTO). With the opening up of trade in goods and services, the IPRs have become more susceptible to infringement without adequate return to the creator of knowledge. There has been a quantum jump in the R&D costs with an associated jump in investments required for putting a new technology in the marketplace. The stakes of the developers of technology have become very high and hence, the need to protect the knowledge from unlawful use has become expedient, at least for a period, that would ensure recovery of R&D and other associated costs and adequate profits for continuous investments in R&D.

Information technology (IT) requires a strong IPR protection system for many reasons; the important ones are:

(a) It changes rapidly,

(b) Product life cycle is becoming shorter,

(c) Investments on R&D, production, marketing are very high,

(d) It is a multidisciplinary area requiring high level of skills,

(e) It is unaffected by geographical boundaries,

(f) It is a great equaliser and unifying factor for the human society,

(g) It is now highly software driven, and

(h) The industry is very competitive. Therefore, one expects a large number of patents being granted in the IT sector all over the world, including India.

In a recent study conducted by the Patent Facilitating Centre (PFC) of the Technology Information Forecasting and Assessment Council (TIFAC), it was found that electronics is the second most important area after chemicals, in which a large number of patent applications are being filed in India. Of the 2678 applications considered, most applications were related to areas such as: encoding and decoding (114), optical fibre (97), cellular telephony (78), antennas (63), data transfer (45), CDMA (38), TDMA (19), display devices (96), chips (48), computer network (23), and Internet and e-commerce (23). The bulk of these applications (95 per cent) have

been filed by foreign companies and individuals, indicating their strong interest in India. Many applications appear to be linked to software and databases that are not patentable in India. These applications need to be tracked. Similarly, applications related to Internet and e-commerce may also be tracked.

Internet has introduced many new features in sharing of information and knowledge and there is a general feeling that some special protection regimes may be called for. The matter is being discussed globally by international organisations like World Intellectual Property Organisation (WIPO) and WTO. So far no recommendations have emerged, which could be considered acceptable to all. However, there is one common understanding that new rights of intellectual property should be avoided and no greater protection to intellectual property need be provided in the cyber space than that exists elsewhere.

## **2. INTELLECTUAL PROPERTY RIGHTS**

Intellectual property rights as a collective term includes several independent intellectual property rights (IP), namely, patents, copyrights, trademarks, registered (industrial) design, protection of IC layout design, geographical indications and protection of undisclosed information.

The IPRs are awarded by the member country and most of the rights are territorial in nature, except the copyright. A copyright generated in a member country of the Berne Convention is automatically protected in all the member countries, without any need for registration. However, the rights will not be automatically available in countries that are not members of Berne Convention. Like any other property, IPR can be transferred, sold or gifted. One of the main underlying principles of IPR is that protection is not given for what is already known in the public domain. The IPRs are meant to benefit creators of work, inventions and designs. These rights are granted for a limited period, except for trademark where the protection period could be extended indefinitely by way of renewal. IPRs, which are

the monopoly rights, prohibit unauthorised use of protected work/invention. In return for such rights, the state expects that the invention/original work should be made public for use by others, after the period of rights has expired, or during the period of protection with proper authorisation from the right holder. However, while protecting undisclosed information, the above principle of disclosure will not apply.

A patent is awarded for an invention which satisfies the criteria of global novelty, non-obviousness and industrial application. Patents can be granted for products and processes. As per the Indian Patent Act 1970, electronic equipment, circuits, etc. can be patented and currently their term of patent is 14 years from the date of filing. It is expected that this term will be extended to 20 years after the amendments to the Act take place.

India is a signatory to the Berne Convention and has a very good copyright legislation, comparable to that of any country. Copyright is awarded to literary, dramatic, audio-visual and similar works. Computer programs and databases are also considered literary works and hence, are protected by copyright in India. In fact, these are considered copyrightable items under the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPs). It may be noted that copyright protection extends to expression of an idea and not to the idea itself. To get protection, these works should be in a tangible form, i.e., in a form capable of either visually or audibly recreating the representation of the original work. Works are not copyrightable if they are merely ideas or sounds or gestures. Therefore, any information transmitted on Internet is a subject matter of copyright.

A trademark is any word, name, symbol, or device or any combination thereof, used by a person to distinguish his or her goods, including a unique product, from those manufactured or sold by others and to indicate the source of goods. The purpose is to protect the public so that it will get the product with certain qualities if it goes for a product having a particular trademark. Industrial design is connected with the protection of external shape, appearance and configuration of an article. Protection of

integrated circuit (IC) layout design is associated with the mark design in (ICs). At present, there is no law in the country for providing this protection but such law is expected to be available by January 2000, as stipulated in TRIPs. Protection of undisclosed information is quite similar to the concept of trade secret, which includes formula, pattern, compilation, programme, device, method, technique or process. The new legislation is expected to be in force in India by Jan 1, 2000.

### **3. NEW ISSUES OPENED BY DIGITAL TECHNOLOGY**

The move from analog to digital technologies for storing and transmitting information is a major shift in IT. New paradigms of economics and law, including the IP laws will have to be evolved to solve new problems not experienced so far. IP laws have, in the past, responded to new developments in science and technology, but with a time lag. For example, copyright was evolved as a response to the development of printing press. In the 17<sup>th</sup> century, the right to copy was equivalent to a right to vend because it was cheaper to buy an authorised original of the work than to copy it. Basic concepts of copyright protection must shift as the relative costs of events affecting the creator's market position change. Internet has posed many questions related to copyrights, trademark and patents; countries are even thinking of evolving new protection regime to protect commercial interests through protection of creators' works.

The growing power and ever diminishing costs of computers in the last 50 years have brought about some important convergence among technologies through which information has been produced and distributed. Office automation, especially wordprocessing, computerisation of newspaper publishing and the availability of low-cost open architecture computer networks have been responsible for moving away from purely paper and ink-based technologies. The PC revolution and access to digital communications have made it attractive to disseminate information electronically. Much of the information produced and distributed through broadcast and television, radio and

telephone conversations were analog in nature. As a result, it was difficult to transmit different categories of information through a common channel. With improvements in the digital technologies, it became feasible to conceive of the voice and video content of television, radio and telephone being digitised, produced and distributed through digital networks that no longer will be distinct from the networks used for text-based information. The different categories of information have distinct positions in the law but with this erosion of the boundaries between categories, a new challenge for evolving an appropriate law has become imminent. Further, the information can be replicated with a very high speed and each copy is as good as the original. Digital representation also allows random access to parts of a document or message rather than requiring review of an entire new record, from the beginning to the end.

Some basic issues influencing the application of existing IPRs in the internet environment have emerged and call for a shift in the conceptual framework, operational and execution strategies and legal premises. Firstly, a truly intangible and an ephemeral property in cyber space is being dealt, which does not exist at any particular location as one understands, but seems to float in space. All IPRs are territorially limited, in the sense that the laws of the country, where the alleged infringement is supposed to have taken place, will decide whether an infringement has actually taken place or not.

The traditional notion of infringement needs to be re-appraised as it may sometimes be difficult to locate the infringer, and sometimes, the place of infringement may not have proper IPR laws, particularly copyright laws. People involved with IPRs, like authors will have to review their position, especially in the light of the potential for exploitation, and adopt new market and investment strategies. It is likely that novel methods will be developed by investing large sums of money to stop unauthorised use of copyrighted material along with other systems, using high technologies. This may limit the total number of service providers on Internet and these players will then

dictate the future use of Internet. This may not allow open trading in IP. Further, the technological convergence puts pressure on traditional institutional arrangements for selling things, collecting money, and preventing piracy. Basic legal concepts need to be developed.

There has been a rapid growth of Internet; the number of users has grown from about 1 million in 1990 to more than 70 million in 1997. The e-commerce grew from US\$ 2.6 billion in 1996 to US\$ 20 billion in 1998. This figure is expected to run to hundreds of billions of dollars in the early years of the next millennium. As the number of users increases, the chances of infringement of copyrighted material also goes up. The IP framework acknowledges that some free riding is inevitable in any publishing activity; the important question about protecting IP is whether large-scale piracy could be reduced to almost zero level. India's stakes in the entertainment market are quite high and there is a need for a close-to-airtight mechanism for protecting the rights of creators, and therefore, there is an urgent need to have a close look at transacting Indian music and pictures, etc. over the Internet.

#### **4. TYPES OF IPR APPLICABLE TO INTERNET**

Generally speaking, the enforcement aspects rather than the protection aspects of IPR are occupying people's minds and the people are, perhaps, more concerned about the non-IPR issues, such as levying duty on accessing information on Internet and doing e-commerce through the Internet. While dealing with IPR the Internet, one is predominantly concerned with copyrights: trademarks, patents, registered design and protection of IC layout design and undisclosed information. Each of the rights mentioned above provide a different kind and degree of protection. The strictest regime is the one provided by patents.

#### **5. COPYRIGHT**

Protection of copyright appears to be the most obvious and important subject matter. Once a material is published anywhere in member countries of the Berne Convention, it

becomes copyrighted material and no separate registration is required. Therefore, any information which is transmitted on Internet is a subject matter of copyright, as it is available in public domain. In addition, many pieces of information transferred and transmitted on Internet may already be copyrighted. There are several players whenever one is dealing with transaction of information on Internet, namely, the internet service provider, the content provider, the person downloading the information, bulletin board service provider, etc. The cause of infringement may be any of the players. The situation becomes very complex when a collection of copyrighted work is transacted. Take, for example, the case of multimedia which represents an integrated whole of computer program, audio-visual work, text, sound recording and databases. These components may be separately protected through copyrights or some other regime. The question, which arises, independent of the Internet is: who is the owner of such a work and what exactly needs to be protected? As different components are protected, it may be felt that it may not be necessary to protect the multimedia work per se. But, this approach may not be conducive to new investments for reaching the benefits of the digital revolution to a large population.

A deeper analysis would show that a multimedia work is neither a literary, musical or dramatic work nor it is a database or a computer program. However, the potential of multimedia works is immense and is proving to be large revenue generators. Therefore, it appears that a standalone legal regime may be considered by the publishers and pushed into international debates. The main question arises as to who would be responsible for wrong and unauthorised use of such information. Secondly, it is also equally important to ensure that Internet does not promote and encourage unlawful use of any copyrighted material.

There are many court cases dealing with infringement of the nature mentioned above. Playboy Enterprise claimed in 1993 that 170 centrefold photographs and other photographs from its publications appeared on the bulletin-board service (BBS) run by Mr Frena

for which he did not have any authorisation from Playboy Enterprises. The District court held that Mr Frena was an infringer. Similarly, in another case, the court granted a restraining order against the uploading and downloading of copyrighted computer software of Sega Entertainment, permitted by a BBS operator. The court also upheld the seizure of the computer memory devices, which had been distributed by BBS operator. At the Diplomatic Conference of WIPO held on December 20, 1996, two new obligations have been introduced on a treaty on copyrights.

The obligations concerning technological measures demand that each contracting state shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this treaty or Berne Convention and that restrict acts, in respect of their works which are not authorised by the authors concerned or permitted by law. This, in other words, means that the use of decryption devices without the consent of the authors will not be allowed. It may therefore lead to a situation that a user may have to purchase a decryption system recommended by the authors or their assignees.

Many developed and member countries are also allowing patenting of these items. Copyrights are often thought of as special territory for artists, composers, writers, and those connected with the entertainment industry. People in these activities have long been aware of the special value of copyright protection. What is not well-understood is that copyrights are at least as valuable to the commercial world, as to government operations and fields of science and education.

## **6. DOMAIN NAMES AND TRADEMARK ISSUES**

The estimated number of domain name registration has increased from 100000 in 1995 to 5 million and is growing at a volume of 70000 new registration, every week. The domain name is that part of the e-mail address or the home page address which appears after

'@' and 'www', respectively. Domain names are read from right to left. The first level on the right, such as '.com' or '.co.uk' is known as the top level domain (TLD). The part immediately to the left of TLD is known as the second level domain (SLD). It is the SLD which is allotted to users as the unique identifying element in their Internet address and this usually corresponds to the user's trading name. It is clear that the Internet is an effective tool for marketing internationally and creating more and more business opportunities. Potential markets are not limited by geographical boundaries.

For this new communication medium, the goods or services offered are not available for instant physical identification, as are goods in a store. Instead, these goods or services must be located and accessed by a domain name. It is at this point that an issue related to trademark arises. The concern is that an Internet address assigned to A would contain words constituting B's trademark. If A is an entirely different business from B, there may not be any trademark infringement problem because there is no possibility of consumer being confused. The problem arises when A is in the same business. It is known that many corporate giants did not appreciate the hidden potential of domain names in the early days and others used their trademarks as domain names. It has been reported that TATA is being used as a domain name by someone other than TATA Sons. There are reported cases where these corporate houses have bought domain names at a price. Now, many industries are reserving domain names of their interest. For example, it is reported that 1, Craft Foods Inc. has registered 150 domain names relating to its product line.

Similarly, Proctor and Gamble has reportedly obtained domain names corresponding to trademarks for its products and has taken additional steps of registering domain names associated with the use of its products, such as 'underarm.com' and 'diarrhea.com'.

A domain name is not a legal right as such—unlike patents, trademarks and copyright, there is no domain name law. It is becoming a valuable piece of IP in cyber space. It is quite

evident that law suits involving trademarks will emerge. It may be a difficult choice to determine who the real infringer is, the owner of the domain name or the NIS or the service-provider. New guidelines have been worked out which put heavy responsibilities on the person applying for a domain name so much so that he/she has to almost certify that the proposed domain name does not infringe any trade name, company name or any other IPR. Many developing countries are not members of treaties related to trademarks. Due to the international nature of Internet, this will lead to many legal cases, as many applicants will have very difficulty in accessing the trademarks and trade names already registered in other countries. This development makes the allotment of domain name dependent on a global search. Further, consideration may be given to changing format of the domain name to avoid the trademark issues. No clear-cut guidelines exist to decide the cases related to domain and trade names. However, it seems from a number of judgements in the US that the trademark laws can be used to settle IPR issues related to domain names vs trademarks/trade names.

## **7. PATENTS & OTHER RIGHTS**

Patents seem to have occupied a secondary place while discussing the IPR related issues regarding Internet. In view of the trans-continental nature of the Internet operations, it would be better to minimise infringements by providing better protection mechanisms through better technologies for encryption and decryption. In the context of e-commerce, these technologies play a very important role as they provide the best solution for avoiding unlawful access to what is being transacted on the Internet between two or more parties. This secrecy could only be maintained by assigning special keys (codes) to the players of e-commerce (EC) having unique identification.

The concept of digital signature is based on these technologies. The development of digital technology has permitted huge expansion in the capacity for encrypted services. However, at the same time, the sale of unauthorised decoding devices has had an adverse effect on the operators of encrypted services. EC has

estimated that unauthorised decoding devices currently represent between 5 and 20 per cent of the total number of devices in circulation. This would promote some Internet service-providers and database operators to monopolise such devices and make the users dependent on the operators for many other facilities, which the users themselves can arrange.

As the sophistication of technologies goes up with the passage of time, developing countries may face a difficult time, especially in terms of hardware. The issue becomes complex due to the fact that such devices are eligible for patents. Software, encryption and decryption systems including equipment, assemblies, ICs, components or software with capability to maintain secrecy, compression algorithms, techniques for representing graphical images, databases and databases retrieval techniques have become subject matter of patents in developing countries. For example, US patent number 4,405,829 (September 1983) deals with the RSA encryption, 5,396,343 (March 1995) with image compression systems with optimised data access, 5,428,741 (June 1995) with high speed image pre-processing system including a multipurpose buffer for storing digital image and 5,428,462 (June 1995) with facsimile apparatus having user name register with means for receiving image signals. Whereas in India, software is not patentable per se as these are considered literary works; in advanced countries it is now possible to obtain software patents.

There are two advantages of software patents, namely, copying of the idea of a patent is prohibited and a stronger legal protection is ensured. One of the reasons of starting software patents is that these are now developed with substantial investment of finances and human resources and are responsible for better functioning machines, novel performance of microprocessors, and when transported through discs, it becomes a tangible product.

Devices being used for decryption are subject matter of patents. All the ICs can be protected through a separate regime. There are strong indications that software developed for

masking information or avoiding infringement through special technique like the watermarking technology, will be converted into chips and then multiple protection may be available for software. The chip could be protected under the IC layout design or as a component of an overall hardware. Once hardware are protected through patents, it would be difficult to by-pass them. The external shape can be protected through registered design, and customer confidence can be achieved by protecting the product through a trademark/trade name. It appears possible that such devices may be monopolised globally as the business of Internet gets into a few hands, which appears to be a distinct possibility.

## 8. CONCLUSION

The IPR professionals are faced with a totally new situation while ensuring that IP rights are not violated when business is transacted over the Internet. It would be better if new IP rights are avoided but at the same time, the interests of innovators need to be secured with the existing provisions. Whether a total governmental control over unauthorised

reproduction and distribution of copyrighted works over Internet will work or not, is a difficult question to answer at this stage. If there are no controls then are we expecting it to be driven by market forces alone?

The experience of satellite communication and international telephone services may be helpful in solving some of the conflicts arising out of cross-boundary and simultaneous use of information. It appears that innovative technologies and industry self-regulation, rather than policing, may provide some answers. If there is a common and clear understanding about enforcing copyright laws, an effective awareness campaign may be beneficial for the end users, content providers and Internet access providers. It must dawn upon all that the society has to recognise the innovative work and reward the generators of innovations adequately, and others do not have a legal or moral right to earn on infringements.

Ultimately, the purpose is to make the Internet economically viable for the benefit of the newly emerging information society, and this would largely depend on how successfully one is able to resolve the issues related to IPRs.

## Contributor

**Shri R Saha** is Scientist F at the Department of Science and Technology and the Director of the Patent Facilitating Centre (PFC), Technology Information Forecasting and Assessment Council (TIFAC), New Delhi.