Chapter I: General Introduction

[A] Technological Developments and the Convergence Phenomenon

1. The Emergence and Convergence of Communication, and Computer Technology
2. Convergence of Communication and Broadcasting Technology

[B] Legal Regime and Convergence

• Review of existing literature
• Identification of the Issues
• Enquiry and Objective
• Hypothesis
• Methodology
• Chapterisation
Chapter-1: General Introduction

The term convergence is liberally applied, both as a common descriptor and a glowing buzzword with some staying power, to the broad set of technological developments, industry restructuring and regulatory changes taking place that combine aspects of one seemingly separate undertakings. What is perhaps surprising is the scale and scope of changes that are occurring due to the ongoing process of convergence. The convergence of technologies, services and industries has been the subject of much policy discourse in recent years. The blurring of distinctions between previously differentiated industry segments is perhaps the most important dimension, and challenge, for policy makers. Changes in markets have also led to the convergence of ownership and services across national boundaries, creating gaps and contradictions in national policy.

In such a context, convergence means reacting to new structures and services that do not fit well into current policy regimes. Convergence thus poses special challenges to the industry and policy makers alike as they come to grips with the almost overwhelming onslaught of technological change that continues to create new opportunities for services previously unimaginable.

But it is not just the technologies that concern us. It is the social change that accompanies the technologies that must be our prime concern. The new technologies are doing much more. They are changing the way we live-the way we work, relax, manage our money, trade and communicate with each other. The new technologies are changing the way we perceive people, cultures, countries and companies and our expectations of them and also our expectations of ourselves.

The development of communication can be divided into three generations. The first generation of communication method that exhibited a real-time nature was telegraphy. The telegraph allowed an instantaneous transmission of text characters to a remote receiver. Telegraphy utilized a coded translation (via the
Morse code, among other) of letters and numbers into on/off digital representations that could be easily decoded at the remote end by a trained human operator, who listened to the clicks of a remote solenoid. Later, telegraph progressed to a constant-length code that was encoded and decoded by mechanical means. This coded representation became the basis for storage, retrieval, and transmission of text by computers. Although telegraphy provided an important means of communication for critical business and personal one-way communication, it created little change in everyday life. The invention and proliferation of the telephone, on the other hand, did provide pervasive change in everyday interpersonal communication. Unlike written correspondence or telegraphy, two parties could now give immediate feedback by responding to statement, answering questions, providing needed information, or taking needed action. In addition, the telephone added a critical component where one could not only recognize the other person's voice, but hear the tone, urgency, and emotion that is so important to effective interpersonal communication. Subsequently, the development of wireless voice communication through two-way radio equipment provided similar benefits without the need for fixed wiring.

The deployment telephone and two-way radio systems have brought us instantaneous voice communication. As a result, we can have quick and easy voice access to others around the world, and even in aircraft and ships at sea.

Video communication has also moved quickly to influence our everyday lives. From the early beginnings of television, we have had the ability to communicate fixed and moving images in real time. One-way transmission of video and audio content are now second nature, although recent years have seen the addition of more extensive content selections through cable and direct satellite transmission. Now technological advancement will allow new applications for video communication that are not limited to a single direction, one-to-many mode.
Chapter I: General Introduction

The Second-generation systems of communication are digital and capable of providing voice, data and fax transfer, apart from a range of other value-added services. At present second generation systems are still evolving with ever-increasing data rates via new technologies such as HSCSD (hereinafter referred as high-speed circuit switched data) and GPRS (hereinafter referred as general packet radio service). At the same time, there is an increasing demand from consumers for data delivery, telephony services, global roaming, E-mail, video and Internet access on one single device. These needs have resulted in global standards that are more open, like Wireless Application Protocol (hereinafter referred as WAP). Applying high-speed data transfer and radio terminal technology (like bluetooth).

The third generation systems of communication are now evolving to provide the bandwidth required for multiple usages. The 3G (hereinafter referred as third generation mobile system) enable multimedia and is currently in the process of being standardised under 3GPP\(^1\)(hereinafter referred as third generation partnership project) that is a Standardisation body with representatives from Asia, Europe and the America, which is helping to establish technical specifications)

For the first time a merging of communications media is becoming practical. Properly implemented, this will make immediately available the vast knowledge base we have been busy computerizing. It will also make direct voice and video communication ubiquitous. Data sharing, with adequate security and safeguards, we allow information and commerce flow freely. We will create a true global village; with instantaneous multimedia communication, which will provide substantial increases in productivity, a better quality of life, enhancements in education and recreation, and cross-cultural understanding.

\(^1\) Global body bringing together worldwide standards organisations, including ETSI (q.v.) and US (Committee T1), Japanese (ARIB and TTC) and Korean (TTA) members. Its mandate is to reach an agreement on a common radio interface in order to determine a standard for third-generation mobile telecommunications systems (UMTS). ETSI transferred the work carried out within the SMG committee on UMTS to the 3GPP. Some of the 3GPP's partners are the GSM Association, UMTS Forum and Ipv6 Forum.
Chapter I: General Introduction

[A] Technological Developments and the Convergence Phenomenon

This part mainly discusses technological aspects of convergence.

1. The Emergence and Convergence of Communication, and Computer Technology

Historically communications, broadcasting, and computers emerged and developed independently. In communications technology, the telegram appeared in the 1830s and developed into a network covering the North American continent in the 1880s. The invention of the telephone in the 1870s began the age of individual communication technology. With wireless communication technology developed in the 1890s, inter-continental communication became practical.

In the field of broadcasting, radio broadcasting appeared in the 1920s and soon became an important and influential medium for propagating culture. Following the radio, television broadcasting emerged after a decade, spreading rapidly and having great influence.

Compared to communications and broadcasting technologies, the emergence of computer technology is relatively recent. The first computer was invented in 1946, but computer technology did not become an important tool for business until the mainframe computers of the 1960s. The spread of computer technology to the individual level occurred during the 1980s when the personal computer emerged in the market.

Since the 1960s, technology to permit remote use of computers over the communication network became practical and it was utilized by airline reservations and banking systems. This technological development made it possible to use the network originally dedicated to voice communication to transmit digital information.
At the same time, the communication network itself began to be digitalised; specifically transmission lines and exchanges were converted from an analog to a digital basis. This digitalisation of communication and linking of computers with communications networks was not actually convergence though real convergence between computer and communication technology did not occur until the Internet emerged.

The Internet was developed in the 1960s as a defense project in the United States. Its commercial use began early in the 1990s and explosive penetration occurred after 1995. The Internet can be said to be a convergent product of communication and computer. The key to the Internet's penetration is its connectivity, which is realized by its autonomous architecture and flexible Internet Protocols (hereinafter referred as IP's). Another key to the expansion of the Internet network is its distributed nature such that each user can dispatch information without relying on the facility of a central telecommunication carrier. In addition, the fact that Internet tariffs remained basically flat regardless of the volume of transactions stimulated the emergence of rich content such as pictures and movies. This would never have happened if charges were traffic-sensitive as was the case with telecommunication's service. Now, the convergence of telephone communications into the Internet is destroying the existing business model of telecommunications operators. The phenomenon that every single device and service is available and compatible in Internet Protocol (hereinafter referred as IP) is called "everything over IP."

The power that drives the convergence of communications and computers is the progress in broadband communication technology. The performance of computers has doubled every 18 months since the early 1980s, in what is known as Moore's Law. Over the same period, the digital-exchange was introduced in the communications field and communications rates were falling due to price competition. The performance of communications technology did not improved as significantly as computer performance over this period, however one reason is that
telecommunications is a regulated industry. Another reason is that a large part of the initial telecommunications cost consists of manpower and civil engineering costs, which are not sensitive to technological innovation. The remaining bulk of the industry's costs are for exchanges, which have a depreciation span of more than 10 years and therefore are not sensitive to technological evolution.

These conditions changed in about 1995, however, with the Internet boom. As already mentioned, with the Internet, a computer itself performs as an exchange or a router and it has a very short depreciation period. On the regulatory side, by its nature, the Internet has a non-regulated tariff structure, which has promoted the emergence of new service providers and competitors.

Coincidentally, a technological breakthrough in telecommunications transmission technology also took place around 1995. This particular innovation called WDM (hereinafter referred as wave division multiplexing technology) was an optical transmission technology that enabled passing multiple optical transmissions with different wavelengths through a single optical fiber. This evolution caused communication transmission performance to improve at a rate surpassing Moore's Law, doubling every 12 months according to what is called Gilder's Law. As a result, Internet routers, that are exchanges consisting of computers, could not catch up with the potential speed of transmission lines. This phenomenon implies that in the future photonic exchange might take the place of the convergence of all communication into the IP. Moreover, wireless communications also experienced a breakthrough around 1995 with digital wireless technology as second generation mobile penetrated rapidly around the world. The decline in costs and evolution of technology are continuing with the emergence of a third generation.

The significance of this emerging broadband technology is not limited to the fact that it permits transmitting moving images. Instead, Broadband makes it possible to move such activities as financial services onto the network, making them easily accessible and combinable with many other services. Unbundling of financial
services into separate financial service functions that can be bundled with communication services on the network thus creates new services and platforms. Indeed, every service industry has begun to converge and new services are emerging constantly.

A fundamental change in the communication paradigm occurring in parallel with broadband is the transition to ubiquitous networks and distributed communication architecture. A ubiquitous network means that communications power exists everywhere and everything is connected. Dispersion of communication power has shifted from the state to enterprises and now to individuals. This phenomenon is the main source of problems with governance today.

At the same time, distributed communication technology allows individuals to communicate autonomously with each other in a peer-to-peer manner. As already mentioned, this capability is inherent in the Internet. And this is the very reason why Internet space has expanded so rapidly—each user can be an originator of information without going through a central computer. In addition, peer-to-peer capability has recently created Napster and Gnutella, which are applications that enable users to exchange music data directly with each other. These applications have also raised serious problems relating to infringement of copyrights and thus have focused attention on the rules and governance of Domain names and contents of websites.

Recent technological development has also created the possibility of distributed wireless communication systems. In the architecture of the existing mobile wireless communication system, every transaction basically goes through the exchange stations on the premises of a telecommunications operator. New types of wireless communication systems, such as wireless Local Area Network (hereinafter referred as LAN) or ad-hoc communication system have more Internet-oriented communication architecture, in which each terminal can communicate directly with every other one and a chain of such connections creates a network. It is significant
that the capability and cost-performance of this distributed technology are evolving rapidly compared to the centralised architecture of the existing wireless network. This phenomenon is breaking down the common assumption that communications must be carried out by telecom operators, and thus it is causing a change in paradigm from a carrier model to a user model. This change is again raising issues about the policy for allocating the frequency spectrum.

2. **Convergence of Communications and Broadcasting**

The convergence phenomenon generated by such technological developments can be divided into the following categories.

**Convergence of Services:** The first aspect of convergence is observed in the emergence of intermediate services that link communications and broadcasting. Private, one-to-one communication was the essential attribute of communications technology, but now the Internet Protocol permits using the communications network to deliver information to many people, such as replaying content on the Internet by means of streaming technology. The joining of Internet and communications technologies will realize communications of a public nature whereby voice and moving images are transmitted to a number of recipients. The types of 1-to-1 information delivery already available over the communications network include electronic bulletin boards, email, facsimile transmissions, video teleconferencing systems, and homepages. On the other hand, in broadcasting—which was originally based on mass communications—broadcasting satellite (hereinafter referred as CBS) and communications satellite (hereinafter referred as CS) broadcasting also permit new services with a similar nature of specificity. These intermediate services that have the features of both communications and broadcasting are expected to expand in the future as well.

**Convergence of Terminals:** The second aspect of convergence is "terminal convergence", a phenomenon in which terminals, or information
appliances, are being developed to use for both communications and broadcasting. Recently, personal computers (hereinafter referred as PCs) with built-in television (hereinafter referred as TV) tuners have appeared on the market. With these terminals one can not only view terrestrial wave broadcasts, but also record and compile programs. A Korean Internet site that permits on-demand access to already broadcast terrestrial wave programs is enjoying growing popularity. Also, an electrical appliance manufacturer has come to market with a set-top box that enables Internet access through a TV set. These trends all demonstrate the active promotion of terminal convergence, offering both communications and broadcast services over a single terminal.

**Convergence and Changes in Industrial Structure:** As the demand for content increases in the wake of expanding broadband capabilities in access loops and the spread of digital broadcasting, mechanisms are being developed that allow general users stress-free access to content. They will enable the delivery of all kinds of content such as publications, video, music, and games through a variety of terminals.

Content-delivery models between providers and consumers and among companies are also diversifying as content-delivery markets continue to expand. For example, a fee-based service providing video within the Internet using streaming technology has been started.

At the same time, however, these developments have opened up a new and serious social problem that has rapidly expanded in recent years - the peer-to-peer exchange of content. For example, huge communities such as Fast Track and Gnutella, which consist of more than 40 million people, have emerged for the purpose of exchanging content over the Internet as the source code or software on which they are based has already been made public, peer-to-peer content exchanges are likely to continue even if content producers prevail in pending litigation.
Chapter I: General Introduction

According to a survey by Gartner Group in August of 2001, only six percent of Internet users who downloaded music files from the Internet within the past three months paid the required fees. Governments and private industry must take concrete steps to establish appropriate copyright-handling systems and transaction rules if a healthy content distribution structure is to survive. Of course, the formulation of global rules is made even more problematic by the existence of those who refuse to recognize copyrights for such content.

Expansion of the Platform Business: Many types of network infrastructure must be developed to support the full-scale deployment of BS, digital CS, and Internet broadcasting and the proliferation of providers of music and video content through the Internet. The required infrastructure includes stable transmission, rate-charging and payment, authentication, copyright protection e.g. conditional access system (hereinafter referred as CAS), and management services, all of which will utilize high-speed backbone circuits. For instance, e-commerce, where anybody can easily buy or sell products using high-quality video images, presents a number of credit risks ranging from whether purchasers actually receive the products they expect to whether sellers get paid for what they sell. Reflecting that, new services are being designed to reduce such credit risks and they are expanding as expected. As a matter of fact, escrow services (intermediate services to guarantee the safety of transactions) by financial institutions and trading companies as well as other credit-related businesses have emerged within the past several years.

Moreover, there is an increasing demand for content delivery network (hereinafter referred as CDN) services. CDN services provide a better environment for the distribution of large-capacity content (such as animated programming) that relies on broadband access. They deploy content-servers capable of handling accelerated speeds on networks located close to data distributors and consumers. Such platform markets are expected to grow even more rapidly under the current environment in which the convergence of communications and broadcasting is picking up speed.
**Convergence throughout Industry:** The expansion of IT-related business centered on the Internet in the late 1990s was promoted by: (1) the growing proportion of the Internet community that was using mobile and (2) the construction of LANs within industrial firms and the involvement of individual users in the broadband network. As a matter of fact, the possibility that convergence generates of being able to deliver high-quality images and sound is having an effect in many other industries in addition to broadcast and communication. For example, in the medical and nursing care industries, networks linking hospitals, pharmaceutical companies, and testing companies enables the sharing of massive amounts of patient information such as test results and diagnostic images. In the case of the education industry, technology that enables delivery of high-quality images promotes distance learning. In the publication and newspaper business, e-documents and e-newspaper delivery services are expected to proliferate with the full-scale development of e-paper technology exploiting prime quality images.

This phenomenon enables consumers to access any type of content at anytime and anywhere. Such inconveniences as finding a document out-of-stock would not occur anymore under such environment. It would also become much easier to enlarge the typeface or transfer the written content to a digital voice recording Suppliers as well as consumers benefit from this technological development. For example, book and newspaper publishers will face much less inventory risk. Thus, it is expected that paper-medium will slowly become extinct.

Moreover, the banking business is expected to shift from office-based operations to net-based operations. This shift will enable banks to distribute the same or even better services to customers located anywhere at anytime through devices such as high-definition type mobiles. Or, as Wells Fargo Bank of the U.S. is doing, they may install television monitors at various office sites and offer such teleconferencing services as customer consulting.
Securities business can use this technological capability of high-quality image or voice delivery to convey Investor Relations information or video comments of their financial analysts and economists; for example, as Nomura and Merrill Lynch are doing. They can also use it to transmit such information to the sales staff.

Within the distribution industry, the technology enables firms to take on the role of delivering promotional images for new products or they can use it to create powerful communication campaigns.

For the real estate industry, the capability of delivering high-quality images over a network to potential buyers will enable firms to promote properties or even execute entire transactions without taking prospective buyers to visit each alternative property.

Finally, the advertising industry will also experience the shift from paper-based to network-based medium along with the newspaper and publishing industry. The shift may have an even stronger impact on the structure of the advertising industry, as existing mass paper-based advertisements give way to more individualized, private delivery through moving images or voice.

These convergence phenomena point to the coming of vertical integration through cross-industry alliances that extend far beyond the domain of individual industries. Moreover, applying this new technology with high-quality moving images and sound in each industry can create new businesses opportunities. On the other hand, firms that cannot adapt to the speed of these changes are likely to disappear in the near future.

[B] Legal Regime and Convergence

Our legislation has not really kept pace with technology, and the 120 year old Telegraph Act (1885) still governs telecasting, although it was originally meant for telegraph, wireless, military and defense equipment. In the 1920's when the radio
was started, it was covered by Telegraph Act. We did not bother till 14 to 16 years ago, because everything was under the government's monopoly. The government is now conducting several exercises in this regard. The government passed Cable television Network Regulation Act 1995, Telecom Regulatory Authority of India Act 1997 and Information Technology Act 2000.

Convergence connoting the provision of different kinds of services over the existing infrastructure, and the enhancement of existing technologies so as to provide a wide variety of services is a relatively new phenomenon; in addition, the rapid technological development are leading to an inability to predict the emergence of new services. The existing legislations are proving inadequate in dealing with the emerging scenario of convergence. Furthermore, the existing licensing and registration powers, and the regulatory mechanisms for the telecom; information technology and broadcasting sectors are currently spread over different authorities. Therefore a flexible type of legislation to accommodate and encourage permutation and combination of technologies and services is required. The Indian Communication Convergence Bill, 2001 (hereinafter referred as CCB) proposes to establish a structured mechanism to promote, facilitate and develop in an orderly manner the carriage and content of communications (including broadcasting, telecommunications and multimedia) in the scenario of increasing convergence of technologies.

These rapid technological changes challenge the existing legal institutions. The delicate balance of copyrights in our society can be upset when trying to keep the legal developments abreast with the technological advances. Software and telecom companies, broadcasting organisations have all found a niche in cyberspace while legislation tries to keep pace. We are still governing the converging technologies by the traditional Intellectual property Laws. Such as Copyright Act 1999, The Patent Second Amendment Act 2005 and Trademark Act 1999. Going by the latest events in the digital world, there are no doubts that the future balance of
rights will depend on the current bargains and the judicial dimension decisions about the extension of a central element in contemporary law - the intellectual property.

Differences in rules are beginning to be questioned. Similarly, it is an open issue to what extent regulation in the different content areas should converge.

Now the regulation is a great challenge before the world because the way legal and regulatory reform is carried out will determine the manner in which convergence affects our daily lives.

The fundamental problem in India is two-fold. Firstly, whether it is regulation of convergence, secondly or it is convergence of regulations. To overcome this problem the government of India has proposed the CCB.

The objectives of the bill are fairly well drafted and the intention to bring about a convergence between conflicting interests of all segments including the Government, Business and the Consumer are well stated. But the bill is totally silent on the copyright implications of the converging technologies.

The main control centre for the Convergence legislation lies with the communication commission of India (hereinafter referred as CCI). But the proposed provisions in the bill requires to be re-examined because it looks that the provisions may not be able to materialise the esteemed objectives to satisfy all the intermediaries such as, Copyright owners, Domain Name holders, Internet service providers, consumers and netizens of the convergence.

**Review of the Existing Literature**

Although lot of literature is available on the issues relating to Telecommunication, Broadcasting and Information Technology. The existing literature, which has been surveyed, includes websites, books, various articles published in journals, magazines, and newspapers. Cases decided by various high courts, Supreme court of India and foreign courts, various statutes, Bills, and reports.
Yet no attempt has so far been made on the question of Legal Implications (with special reference to Intellectual Property implications) of the Convergence of Telecommunication, Broadcasting and Information Technology.

It has now become imperative to go for an in-depth research so the problems of convergence could be understood and viable, pragmatic and durable solution could be arrived. So the hardship to copyright holders of multimedia works, computer software, Internet service providers, domain name holders can be mitigated. The harmful impact of convergence on society can be removed, real objectives of convergence could be achieved and a healthy, risk free environment for e-commerce could be created.

**Identification of the Issues**

Developments are rapid and involve much more than transmitting and processing of information. They involve non-routines works unstructured activities, and novel formulations. Information technologies erode boundaries between countries, and help in process of globalisation.

The converging technologies contributing the following issues are noteworthy: Telecom contributes with infrastructure regulation and access issues; broadcasting with access and content issues; together with IT the different areas contribute with new regulatory issues of intellectual property rights (hereinafter referred as IPR). Which are as follows: framing, hyper-linking, deep-linking, inlining, communication, publication, parallel imports, rights management information (hereinafter referred as RMI), Fair dealing, implied license, liability of internet service providers (hereinafter referred as ISP), domain name, jurisdiction are a challenge before the regulators.

These issues are of the general societal importance of convergence policies, the balance between benefiting from industrial complementarities and the problems of media concentration, and access to networks and content.
Information and communication technologies (hereinafter referred as ICT) provide many opportunities to deliberately, negligently or unwittingly infringe upon rights. Internet service providers' liability is a major focus area within the debate about infringement of intellectual property rights. There are many issues in the intellectual property rights debate, some of them are noted as follows: Finding the balance between preventing intellectual property rights violations and protection of intellectual property rights violations; Electronic content, electronic distribution mechanisms, and so on make it difficult to determine who is the original owner of the intellectual property rights. In peer to peer networks, who the perpetrator is and where infringement occurs is totally dynamic and difficult to track; Technological innovations and innovative applications of ICT for different purposes offer new means for the stealing, modifying, copying and other tampering of electronic content; Limited systems, resources and human resources capacity to monitor intellectual property rights violations in India.

The Inquiry and objective

It is an inquiry into the appropriateness, compatibility and efficaciousness of the traditional conceptual framework of telecommunication, broadcasting and information technology, a construct of technological age to encompass multimedia works, computer programme, and websites a creation of convergence age, and an enquiry into the possibility of umbrella legislation for convergent multimedia regulation.

An effort would be made to enquire in the following matters during the course of discussion: whilst convergence is occurring at the technology level, to what extent and at what speed is this happening at the industry, service and market levels? Are the effects of convergence already being felt in the business world and in our everyday lives and if so, in what way? What is the likely impact of the barriers, which may have a significant impact on the convergence process? Whether and if so, to what extent convergence challenges the principles underpinning existing regulatory
approaches in the telecommunications, media and information technology (hereinafter referred as IT) sectors? Are the definitions in the telecommunications, media and IT sectors in national and/or Community legislation adapted to the convergence process? What is the impact of convergence on intellectual property (esp. on copyrights and trademarks)? Does the existence of different regulatory authorities or ministries responsible for different aspects of telecommunications, media and IT activities offer a workable structure for regulatory supervision in the light of convergence? Is further action required at an international level in light of convergence?

The objective is to provide the Government with sound analytical instruments that will enable the tracing of a regulatory framework for the telecommunications, broadcasting and information technology sectors in a convergent environment, and taking in due relevance the need to safeguard the public interest. The process for the “Convergence its implications and Regulation” involves a number of activities, of which this research is part, to collect, analyse and find out viable solutions.

Hypothesis

Due to Convergence of telecommunication, broadcasting and information technology the transmission of information, whether voice, data, sound or pictures, in digital form may be carried over broadcast networks or over terrestrial wired or wireless infrastructure.

The regulatory framework, which governed each technology separately became inappropriate and the fundamental change in the communication paradigm occurring in parallel with broadband is the transition to ubiquitous networks and the distributed communication architecture, now the communications power exists everywhere and everything is connected. Dispersion of communication power has shifted from the state to enterprises and now to individuals.
This phenomenon is the main source of the problems with regulation and governance today. Convergence is therefore an engine, which creates new services and industries. At the same time, convergence generates new-types of problems that old rules cannot cover. The delicate balance of copyright and trademark in our society can be upset when trying to keep the legal developments abreast with the technological advances.

On the basis of the above observations we may develop a hypothesis that the inherent difficulties of enforcing rights and obligations of the intermediaries such as copyright owners, consumers, netizens, domain name holders and Internet service providers of Internet worldwide is the cause of digital intellectual property implications and the legal liability for copyright infringement may be on those who allow and enable the copyright infringers to exist namely Internet Service Providers.

**Methodology**

Primarily this is a study based on the Doctrinal method which is descriptive and analytical. The bibliographical references followed are based on the ISO recommendations (ISO/R 690-1968 E) which have been approved by India also. The major source of material was the Internet. However, some landmark cases text books, journals, magazines, newspapers are also consulted. The study, to begin with, was causing some difficulties in getting the basic information on the convergence. One of the reasons for that was the topic is very innovative, fast changing and no proper research was done in the field in India. Within the above limitations, we approached the study by seeking information from experts in the field. Attempts were made to extract information on various aspects of convergence matters form the main pillars of this channel. Information was also sought from apex industry associations, Telecom Regulatory Authority, Ministry of Information Technology and national association of software and service companies (hereinafter referred as NASSCOM).
Chapterisation

The whole research is systematically divided into seven chapters keeping in mind the interdisciplinary nature of the subject.

Chapter I of the work is a brief introduction to telecommunication; broadcasting and information technology. It also defines the convergence of these three different sectors and its regulatory implications.

Chapter II deals with the convergence and its regulation. It analyses the convergence bill 2001.

Chapter III examines the copyright law governing the multimedia products in convergent environment.

Chapter IV deals with the laws governing computer software and measures of controlling the software piracy.

Chapter V examines the trademark protection to domain names, control of cybersquatting and protection of contents in websites.

Chapter VI points out the difficulties in fixing the liability of Internet service providers for copyright infringement.

Chapter VII provides conclusion and suggestions.

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