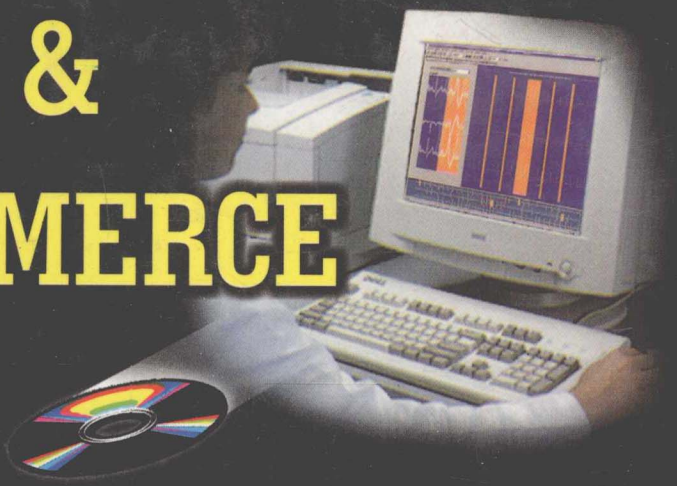
Bharat's

Hand Book of

CYBER & E-COMMERCE LAWS



(Incorporating Issues of Data Protection, IT Copyrights, Electronic Evidence, Digital Signature, Individual Rights, Cyber Crime, Computer Hacking Remedies and E-commerce Laws)

with

- Information Technology Act, 2000
- Information Technology (Certifying Authorities) Rules, 2000
- Cyber Regulation Appellate Tribunal (Procedure) Rules, 2000
- Information Technology (Certifying Authority) Regulations, 2001

Edited & Compiled by

P. M. Bakshi

Former Member, Law Commission of India
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Preface

Electronic commerce provides an enormous business opportunity globally through the use of digital technology. The digital technology provides effective communication platform to communicate to customers directly that is why it is often called direct or online marketing. The use of e-commerce technologies helps speed up the flow of information and to eliminate unnecessary human intervention; the computer can now accomplish tasks much better. Computers now can do better than people—process routine business transactions quickly and accurately, even 24 hours a day. This in turn frees up people to handle tasks that computers may never be able to do—exercising judgement, creativity, and experience to manage exception, solve problem and continually improve business process.

The new vistas of knowledge and application of technology has compelled the society to frame a legal framework for putting the governance issues to so called free flow of information through Internet or World Wide Web.

The Cyber and E-Commerce Laws are under continuous process of development in various countries. The key objectives of the development of relevant statutes and laws is to harmonize the existing laws and create new laws to correct any social, business and legal problems, so as to reduce the cost of world trade by easing out the inconsistencies and uncertainties.

There are three broad frame works for such a development. *Firstly* the enactment of new legislations or statutes. *Secondly* the expansion and amendment of existing laws and statutes. *Thirdly*, the judicial exposition and evolution of principles already recognized in the legal system.

The present book is a modest attempt to look at the various issues related to development of legislation powers in various countries of the world. It has made attempt to explore the genesis of Information Technology Laws. The book is divided into two parts. The first part has sixteen chapters and the second part details out the various Acts, Rules, Regulations, other related case materials, and popular websites.

9th Sept. 2001
New Delhi

P.M. BAKSHI
R.K. SURI

Introduction

Scientific inventions, when put into wrong use by mankind, give rise to social problems. Social problems, in their turn, lead to controversies and conflicts. In the long run, these conflicts often assume a legal dimension with aim to provide remedies to parties.

The use of Information Technology

Information technology furnishes an apt example of what has been stated above. The main applications of such technology, in regard to information consists in its use for the recording, storage and dissemination of data. Electronic recording of information at time generates legal controversies, when attempts are made to "steal" such information. Electronic transmission of information may raise legal problems when the problem arises whether and if so when the information has been effectively communicated to the other party to whom it is addressed. In this context, "information" is to be understood as encompassing all matter that is recorded electronically, whether it be correspondence, Government documents, legal instruments, private exchange of news and views or any other matter which emanates from man and is transformed into machine recorded data.

Legal Problems: Their Nature and Dimensions

Information technology gives rise to a variety of legal problems. The problems themselves are not novel, in their essential character. But they deserve special treatment, because of the environment in which they take their birth and the nature of the machinery used in the environment and the means employed for recording the information in question. Traditional documents are stored and transmitted through the use of visible and tangible letters, figures and marks, while information which is stored and transmitted electronically, has no visible shape or tangible form. It is this peculiarity of the technology, that gives rise to a variety of legal problems. These problems can be generally resolved on *principles* already known to the legal system. But in view of their *subject-matter*, they may necessitate some adjustments in, and additions to the content of the law.

The Machine, the Medium and the Message

The majority of the legal problems that arise in this sphere are related to the following components of information technology, namely:

(a) The *machine* (i.e. the instrument used in the technology)

(b) The *medium* used for the purpose (i.e. the symbols and, other means, used for recording and transmitting the information); and

(c) The *message*, i.e. the information which is stored or transmitted, through the above medium.

A few illustrations will make the matter clear.

First, so far as the computers are concerned, they can be tampered with, and made to give out results that were never intended. The law has, therefore, to concern itself with the question whether any, and if so, what additional provisions, are needed, to deal with this aspect.

Secondly, there is the question of the medium. Communications with the assistance of information technology—particularly through the extensive use of Internet communication flow across the borders of various countries. They are transnational in character and raise, *inter alia*, problems of jurisdiction. Besides this, the medium by which information is recorded, i.e. the operational symbols—are radically different, from the means employed in traditional writing or printing. Traditional means, such as letters, numerals or punctuation marks, are not put into the computer in their original form (though they do come out in the final print out in traditional form).

Finally, as regards the message transmitted through information technology, there are certain special issues that need to be considered. No doubt, the print-out that issues from the computer is not substantially different from typed matter. But matter put on the internet may, by reason of its content, come into conflict with the law of the country where it emanates or the law of the country where it is received. How far, is each of these countries legally equipped, to deal with such infringement? The answer to this question will depend on the substance of the laws of the country concerned. If the contravention is to be examined from the point of view of the criminal law, the exact text of the penal statute becomes material fact.

The Legal Response

For dealing with issues of the nature mentioned above (as arising out of the use of information technology), some countries have enacted specific legislation. In India, the Information Technology Act, 2000, is an example of such legislation. However, in the absence of specific legislation, or in regard to matters not covered by such specific legislation, the legal problems that arise will be governed by general principles of law—which are often referred to as principles of "common law."

In this manner the legal response to the vast and emerging arena of information technology has to be intensive and extensive. The present book comes at the right moment, dealing as it does with several facets of this new and fascinating subject. The book seeks to travel the nook and corner of this challenging topic taking the reader on an interesting journey through its numerous segments. We are also offered glimpses into English and American laws related to Information Technology while peeping through this book. Of course, in a subject which is new, one cannot expect finally, either the academic exposition or in judicial pronouncements. But then the merit of a good book on such a subject lies not so much in the face that it offers, but in the extent to which it succeeds in exciting the interest of the reader. Good books are like catalysts. They can generate sparks and thus enkindle a sprinkle of voyage into new regions. The reader will then find, (after reading a good book), that not only he has become well-informed but he is now, well-formed to embark on further studies on the subject at hand with prefit.

Information technology studied with the help of said books, may thus be expected to enhance the intellectual equipment of all discerning readers.

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CHAPTER 1

Information Technology and Law

> As Karnow has said "It is in this digital soup, this is hyper-relational environment, that we see the death of the barrier . . . what we do have is, the network and the death of dichotomy. This is fatal for the legal system, which depends, for its very life, on the existence of barriers—after all, that's what the law does: it utters the line between this and that, and punishes the transgressor."
>
> —*Curtis E.A. Karnow*

Introduction

It is now an accepted fact that information is a vital resource in the development all activities of any society, By the word "information," we mean news, or items of knowledge. Thus, information is a source of knowledge. The words or pictures through which we choose to convey information, are referred to as signals, bonfires, semaphores, or drum beat.

In a growing materially affluent society, information or energy is the dominant technology.

Cyber Laws and their Function

The large volume of information and the greater simplicity of its transfer in modern times causes a number of legal problems in the shape of managing the information related legal issues. Thus, information is hard to protect. The speed and spread of false and malicious information is increasing every day. The aim or object of laws related to Information Technology or Cyber Laws is to develop the relevant statutes and harmonize the existing law, so as to reduce the cost of world trade by easing out inconsistencies and uncertainties.

Historical Development of Computers

The so called first computer with the capability of performing a simple range

of tasks in accordance with a specific set of instructions (programme) was the ENIAC (Electronic Numerical Integrator and Calculator) machine, developed in the United States in 1946, by a team of experts led by Professor Eckert and Mouchly at the University of Pennsylvania in USA.[1]

Computers increase our capacity to store, search and retrieve information. One need to only think of the changes brought about by the invention of the telephone, radio and television in order to realize that information revolutions have their place in history earlier also. Each of these technologies increased our capacity to communicate over great distances. In some cases, the communication took place over *physical* cables, and in other cases, the communication took place over frequency waves with no *physical* connection required.

But the issues have remained the same. How to deal with frauds, negligence and inefficiency? How to interpret and enforce contracts? These have been the issues.

Internet

With an exponential rise in computer usage for the broad purpose of communication, many people from all walks of life are discovering the virtual community of the Internet. This on-line world, that was once almost exclusively utilised by the Government, educational and research institutions, has now linked the average person to "Cyberspace."

The Internet is often described as a network of computers, originally used by education, research and Government, linked to each other *via* telephone lines. All that it needed to access the Internet is a personal computer, modem, and a service provider.[2]

In the early 1980s, William Gibson wrote a science fiction novel set in the not-to-distant future. The novel, "Neuromancer," involved huge corporations that replaced Governments. A large part of the plot unfolded in a setting that had no physical existence. Gibson named this setting "Cyberspace." Cyberspace was a conceptual hallucination that felt and looked like a physical space, but was actually computer generated. In this setting, people, connected to network, carried out business transactions, worked, played and broke the law.[3]

The Framework

It is cyber-law that deals with issues generated by the use of the computer and internet etc. It achieves the object of dealing with such issues, through

1. Takashi Koyama, Making the Switch, *Financial Times Supplement to Economic Times*, May 28, 2000.
2. Katsh Ethan: Law in a Digital World: Computer Networks and Cyberspace, 38 Vill. L. Rev. 403 (1993).
3. E.A. Cavazos and Govino Morin, Cyberspace and the Law: Your Rights and Duties in the On-line World (1994), p. 1.

a triple framework, namely—

(a) enactment of new legislation;

(b) expansion and amendment of existing legislation; and

(c) judicial exposition and evolution of principles already recognised in the legal system.

Cyberspace has empowered the average person to explore and question the structure of our society.

The society in which we live, we have broad legal system and framework which are constantly challenged by technological advancements. Thus, it creates a need to constantly update and adopt the ways in which to design and organise ourselves in order to maintain the state's overall control of its domestic affairs and national interest. Therefore advent of technology, has enabled the transmittal of voice, data, image and video information with a great ease and this has been labelled as "information superhighway."[4] This new technological breakthrough has and shall provide a new route or highway/path for faster exchange of goods and services across the globe. Very little has been unveiled on various aspect of taxation on account of economic transaction through this route. Accordingly, United States Treasury Department has identified the taxation ramification through the use of "information superhighway" as top priority. To quote Carol Doran Klein, Deputy International Tax Counsel in Department's office of Tax Policy "The possibilities of the Internet are just beginning to be explored, as are the tax implications of doing business over the internet.[5]

Characteristics of Information Society
The information society is characterised by the following facts featured (a) most of its members are engaged in productive pursuits that are knowledge intensive, knowledge-generating and knowledge based; (b) a communication network freely circulates information so that this information is consistently, effectively and efficiently acted upon in making choices. (c) management of inevitable conflict between conservative pressures and pressures for adaptive change is effected by reason, knowledge-based understanding and enlightened creative wisdom blended with human values, and ethos, rather than traditional resort to base emotions and brute force alone.

4. E.A. Cavazos and Govino Morin, Cyberspace and the Law: Your Rights and Duties in the On-line World, 1994, p. 1.
5. UTAH CODE ANN - 46 - 3 - 101 to 46 - 3 - 504 (199). CAL GOVT. CODE 16.5 (West 1999).

Evolution and Genesis of Computer Technology

The chairman of IBM considered that there might be a world market for at least five machines.[6]

We generalise the premise that invention of the transistors by Barden, Brattin & Shockley almost transformed the situation. By the late 1950s computers were beginning to become established in commercial and public sector organisations. Therefore the second generation of computers were created in the period 1956-1963. It is essential but the use of transistors increased the reliability and decreased the size of computers, the mainframe machine remained supreme until the invention and development of the semi-conductor chip which brought about a new age of miniaturisation and thus a third generation of computers revolved.

Starting from about 1964 the third generation computers dominated the market until 1971 when the first large scale integrated chips signalled the advent of the fourth generation of computers and with it the personal computer era[7] commenced.

Whilst the original semiconductor chips were able to fit three components onto a piece of silicon, large scale integrated chips increased this into the hundreds. Since then, Very Large Scale Integration (VLSI) and Ultra Large Scale Integration (USLI) brought further increases the massive usage into the hundreds of thousands and then the millions.

Despite now await the arrival of the fifth generation of computers whose defining characteristic has been identified as human-like intelligence. The fifth generation begins from 1990s; this generation computers have become very fast reliable and inexpensive. The emphasis is on the development of expert systems and application based systems.

The Law and the Computers

One can trace the period of 1940s to 1970s as the first stage in the genesis and evolution of relationship between law and computer (now generally referred to as information technology). The number of fundamental issues arise from increased cyber criminal explorations over the years. We must decide how, as human beings, how we wish to deal with these issues. Recent efforts in cloning produced a human foetus. The scientist that achieved this remarkable feat, immediately halted research arguing that a public debate must arise to deal with the ethical and moral issues surrounding the technology. They argued that before experimentation in closing environment continued, we must decide as a society which direction that new technology will go, what ends we hope to achieve, and what the limits on its use should be. A similar debate on the issues of use computer

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6. *The Mighty Micro*, Christopher Evans, Coroner, 1980.
7. http://www.digital century.com/cncyclo/update/comp-hd.html.

based cyberspace must take place.[8] There is no need to stop technology, but we must decide what direction we want the technology to take, and what rules will govern its use. We must do this now, before the technology starts dictating the rules to us, before it is too late to make changes in the basic structure of cyberspace without destroying the whole concept. As no any community that attract a myriad of different persons and personalities, the "Virtual Communities"[9] takes the good with the bad. As the use of this technology increases so does the abuse, and the law is finding it extremely difficult to keep pace.[10] Whilst legal issues relating to computers had been raised—the first paper write up on a computer law topic appeared in 1960—the issue was generally confined to the periphery of legal consciousness. In 1970, Alan Westin, one of the early authorities on the topic of privacy and the computer, wrote to the effect that 'you do not find computers on street corners or in free nature, you find them in big powerful organisations'. Given the limited impact of the computer on aspects of everyday life, denial of the existence of specific computer related legal issues was a not an unreasonable response.

The Computer Specific Legislation

In the year 1970 the world's first computer specific legislation or statute was enacted in the German state of Hesse in the form of a Data Protection Act. This prompted in large measure by memories of the misuse of records under the Nazi regime, the legislation sought to assuage the public concern about the use and misuse of computers to store and process large amounts of personal data. A very different rationale or logic for the introduction of data protection legislation has be seen in the case of Sweden first national statute in year 1973. Here, data protection was seen as fitting naturally into a two hundred year old system of freedom of information with the concept of subject access being identified as one of the most important aspects of the legislation. It need to be highlighted that the concept of data protection even today remains one of the most significant legal responses to the computer.

From the beginning of the data protection act, one can witness the genesis of the second stage of the legal response to the computer which expanded to encompass the enactment of computer specific measures in a range of fields. Even in the area of data protection, the Hessian example was followed throughout Europe and, often in different forms, throughout much of the world during the 1970s and 1980s.

The origin of computer crime or misuse statutes can be dated from the

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8. Suri, R.K. and Chhabra, T.N., "Cyber Crime", Pentagon Press, 2001. (in press)
9. "Virtual Community" is a term comes from the definition of virtual as meaning "in essence or effect though not in actual fact" and community as meaning "a group of people living in same locality" and is meant to refer to the people who interact over the communications networks of the internet.
10. Gene Barton, Taking a Byte Out of the Crime: E-mail Harassment and the Inefficiency of Existing Law, 70 Wash. L. Rev. 465.

early 1980s and specific intellectual property provisions from the late 1980s. In addition to wide coverage to substantive legal topics, procedural provisions have also required to be modified to take into account of computer developments such as the move towards systems of Electronic Data Interchange (EDI) and E-commerce, e-governance where agreements and transactions are evidenced on computer storage devices rather than on paper in black and white. The 1990s witness the beginning of enactment of Information Technology related laws in number of countries like Singapore, UK, India, etc..

Legal Intervention basic Premises

The most common feature of almost all the legislative activity in the second stage mentioned above has been based on two premises. *Firstly*, Recognising that the application of established principles to new forms of computer related behaviour might be difficult and problematic, some difficulties were seen as being a matter of perception as much as of law. Thus, in considering the application of the provisions of the English Criminal Damage Act, 1968 to instances of computer hacking where the damage suffered was to the intangible contents of a computer system rather than any physical components, the Law Commission argued that although there had been a number of successful prosecutions under this statute, there remained:

> recurrent (and understandable) difficulty in explaining to judges, magistrates and juries how the facts fit in with the present law of criminal damage.[11]

Secondly, the problems were more substantial and procedural, but it was viewed with generally accepted conviction that comparatively minor reform would bring computer related conduct within the ambit of existing substantive and procedural laws in the fields such as copyright and the law of evidence. Thus, the *Copyright* (Computer Software) (*Amendment*) *Act, 1986* provided that computer programs should be classed as literary works and protected as such under the copyright regime.[12] In a number of fields, database and semi-conductor chips being the main examples, *sui generis* provisions have been developed although these have drawn heavily on principles of copyright law.

Relationship between Computers and Law Today

The significant legal changes can be noticed identified over the past quarter century. The comparison between computer technology in 1975 and 2001 indicates a rapid pace of development of technology upgradation which was so rapid as almost to defy comprehension of each an every human being. In 1970s the first man had just landed on the moon. Although much stress

11. Law Commission No. 186 at para 2.31.
12. S. 1(1).