

E-Commerce Law in Developing Countries: An Indian Perspective

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Abstract—Following the United Nations Commission on International Trade Law (UNCITRAL) Model Law on E-Commerce, the Government of India enacted the Information Technology Act in June 2000. The Act facilitates E-commerce and E-Governance in the country. The Act also establishes a regulatory framework and lays down punishment regimes for different cybercrimes and offences. The problems generally faced by developing countries render it more difficult to effectively implement such 'high tech' legislation as envisaged by the Model law. This article is divided into three parts. The first introduces the Model law and an overview of the Information Technology Act. The second part points out the main differences in the Model law and the Information Technology Act regarding the provisions relating to Electronic signatures and E-contracts. The final part addresses the difficulties that might arise while implementing the Act in a social and economic context and stresses the need to promote electronic governance. It is argued that the lack of adequate training of law enforcement personnel leads to undesirable results, as demonstrated in the 'first landmark case' in the history of cybercrimes in India.

Keywords: *United Nations Commission on International Trade Law (UNCITRAL), Information Technology, cybercrimes.*

1. INTRODUCTION

The United Nations General Assembly adopted the United Nations Commission on International Trade Law (UNCITRAL) Model Law on E-Commerce through a Resolution passed on 30 January 1997, which recommends inter alia that all States give favorable consideration to the Model law when they enact or revise their laws in view of the need for uniformity of the law applicable to alternatives to paper-based methods of communication and storage of information. Recognizing the necessity to give effect to the Resolution, and with an objective of promoting efficient delivery of government services by means of reliable electronic records, the Government of India enacted the Information Technology Act in June 2000.

2. THE UNCITRAL MODEL LAW: BACKGROUND

The decision by UNCITRAL to formulate a model legislation on electronic commerce was taken in response to the fact that

in a number of countries the existing legislation governing communication and storage of information is inadequate or outdated because it does not contemplate the use of electronic commerce. The lack of legislation in many countries in dealing with E-commerce as a whole results in uncertainty as to the legal nature and validity of information presented in a form other than a traditional paper document. Inadequate legislation at the national level will inevitably create obstacles to international trade. The purpose of Model law was to offer National legislators a set of internationally accepted rules as to how a number of such legal obstacles may be removed, and how a more secure legal environment may be created for what has become known as electronic commerce. The Model law seeks to permit States to adapt their domestic legislation to developments in communications technology applicable to trade law without necessitating the wholesale removal of the paper-based requirements themselves or disturbing the legal concepts and approaches underlying those requirements. The Model law thus relies, on a new approach known as the 'functional equivalent' approach which is based on an analysis of the purposes and functions of the traditional paper-based requirement with a view of determining how those purposes or functions could be fulfilled through electronic commerce techniques.

The Drafters of the Model law had considered the impracticability of enacting its entire text as a single statute in all countries. Depending upon the situation in each enacting State, the Model law could be implemented in various ways: either as a single statute or in several pieces of legislation. India opted to enact it as one statute called the 'Information Technology Act 2000'.

2.1. Overview of the Indian Law

The objectives of the Information Technology Act, as outlined in the preamble, are to provide legal recognition for E-commerce transactions, facilitate Electronic Governance and to amend the Indian Penal Code, Indian Evidence Act 1872, the Bankers' Book Evidence Act 1891, and the Reserve Bank of India Act 1934. The Act also establishes a regulatory

framework for cyber laws and lays down punishment regimes for different cyber-crimes and offences.

2.2.1 Legal Recognition for Digital Signatures.

An electronic record can be authenticated by affixing a digital signature, which is effected by the use of an asymmetric cryptosystem and hash function. The public key and private key used in this method are unique to the subscriber and constitute a functioning key pair. (At this point, it is worth noting that this approach is different from the one found in the UNCITRAL Model law. This will be discussed further in due course of this article.) The provisions relating to attribution, acknowledgement and dispatch of electronic records are almost identical to the Model law. Consequently, provisions relating to validity of online contracts are also more or less the same.

2.2.2 Electronic Governance.

The Act provides for the electronic filing of documents or forms; the issue or granting of any license, permit, etc.; and the receipt or payment of money in electronic form. Furthermore, there is provision for the retention of documents, records, and information in electronic form subject to certain prescribed standards of accessibility, originality, accuracy, identification, etc. In addition, an Electronic Gazette has the same status as the traditional paper-based official government Gazette.

2.2.3 Regulatory Framework.

The Act provides for the appointment of a Controller of Certifying Authorities, adjudicating officers and one or more Cyber Regulations Appellate Tribunals.

The regulation of certifying authorities that issue digital signature certificates is the main function of the Controller. The Controller also has quasi-judicial power to resolve conflicts of interests between the certifying authorities and the subscribers.

Adjudicating officers are appointed to adjudicate contravention of any provisions outlined in Chapter IX of the Act, which lays down penalties acts committed with respect to computers, computer systems, or computer networks. The adjudicating officer has the powers of a Civil Court.

The Cyber Appellate Tribunal is the body concerned with appeals to orders made by the Controller or adjudicating officer. A further route of appeal lies to the High Court.

2.2.4 Offences And Penalties.

Offences and penalties for contravention of the provisions of the Act are laid down in Chapters IX and XI. While Chapter IX deals with offences for which penalties are purely pecuniary in nature, Chapter XI addresses more serious offences that are punishable by up to ten years imprisonment.

The Act also provides for amendments to the Indian Penal Code, the Indian Evidence Act 1872, the Bankers' Book Evidence Act 1891, and the Reserve Bank of India Act 1934.

3. THE INFORMATION TECHNOLOGY ACT AND THE UNCITRAL MODEL LAW

The Information Technology Act has followed the Model law to a considerable extent. However, there are some areas where it departs from the Model law. The deviations, which will be examined here, are distinct from the Model law in two key areas: digital signatures and provisions relating to online contracting. These deviations were probably carried out with the legal and economic conditions prevailing in the country in mind.

3.1 Electronic Signatures

The definition of electronic signatures in the Model law is well equipped to cope with the rapidly changing technology. Article 7 states:

(1) Where the law requires a signature of a person, that requirement is met in relation to a data message if—

(a) A method is used to identify that person and to indicate that person's approval of the information contained in the data message; and

(b) That method is as reliable as was appropriate for the purpose for which the data message was generated or communicated, in the light of all the circumstances, including any relevant agreement.

As this definition does not mention any particular kind of signature (or, in other words, it is technology neutral), it should be understood that as long as an electronic signature meets the test of identification, authenticity and reliability, it is a valid signature. However, the Indian law differs in this respect as the Information Technology Act mandates certain technical standards—that is, an asymmetric cryptosystem commonly known as 'public key encryption' and 'hash function'.

Due to the potential for misrepresentation and fraud that could arise from the use of this method, it was imperative that the generation of key-pairs was entrusted to a Trusted Third Party. The Act addresses this issue by providing for the licensing of 'Certifying Authorities', who, by virtue of the license obtained from the Controller of Certifying Authorities, may issue Digital Signature Certificates to subscribers. The central government is empowered to prescribe the requirements which Certifying Authorities are to meet with respect to qualification, expertise, manpower, financial resources and other infrastructure facilities. However, the Act itself renders it necessary for Certifying Authorities to have a physical office located in India. In other words, Digital Signature Certificates issued by foreign Certifying Authorities or

Trusted Third Parties may not be recognized unless those issuing the certificates have a physical office in India.

Although this provision was criticized on the basis that it would discourage foreign Certifying Authorities from offering their services in India, there are, for the time being anyway, at least two advantages of this provision.

First there is the economic aspect. In view of the enormous preparations required to set up, Indian Certifying Authorities will take some time to fulfill all the requirements and build up their services. It is vital to protect their interests so that the big fishes do not eat them up. That is not to say that the Government has adopted a closed-door policy to foreign Certifying Authorities. However, it is a reasonable approach to offer everyone a fair and equal opportunity and this provision affords Indian Certifying Authorities a level playing ground with respect to their foreign counterparts. It respects the rights of all the companies concerned.

Second, from a legal perspective, requiring a physical office in India solves many jurisdictional and procedural problems. Section 47 A of the Indian Evidence Act, as amended in accordance with the Information Technology Act, deals with the 'relevancy of facts' with respect to digital signatures. It says that 'when the court has to form an opinion as to the digital signature of any person, the opinion of the Certifying Authority which has issued the digital certificate is a relevant fact'. At the time of enactment of the legislation, there was no international consensus in adopting one particular technical standard for electronic signatures. In fact, the UNCITRAL has now drafted a new Model law on Electronic Signatures, the text of which was adopted in July 2001. Article 3 of this Model law provides for equal treatment of signature technologies as long as the requirements of reliability as outlined in Article 6 are satisfied. It is imperative that countries give mutual recognition to digital signature certificates issued in other countries in order to facilitate the smooth functioning of electronic commerce transactions.

3.2 Electronic Contracts

Any legislation pertaining to E-commerce will be a futile exercise unless it fills up the lacunae in the existing law regarding the validity of online contracts. Recognizing this factor, the Model law has incorporated a provision in Article 11 relating to the formation and validity of contracts:

3.3 Time and Place of Dispatch of Electronic Records

Section 13 of the Information Technology Act relates to the time and place of dispatch of electronic records.

Section 13 of the Information Technology Act, therefore, only offers a frame-work for understanding the formation of E-contracts in India. It does not, in any way, alter or modify the existing substantive law of contract. In order to ascertain the formation of electronic contracts, one has to read Section 13 together with Section 4 of the Contract Act, which enunciates

certain rules regarding the communication of proposals, acceptance, and revocation:

However, the Supreme Court of India, recognizing the distinction between 'postal rules' and 'receipt rules' as elaborated in *Bhagwandas vs. Girdharilal*, following the English decision in *Entores Ltd v. Miles Far East Corporation*, had held that Section 4 is applicable only in non-instantaneous forms of communication and does not apply to instantaneous forms of communication. Therefore, it may be noted that this method is useful only for non-instantaneous forms of communication like contracts concluded by E-mail and may be inapplicable in instantaneous forms like 'web click' contracts. In the case of instantaneous forms of communication, it has been held that a contract is formed when the offer or receives the acceptance. Therefore, in the virtual world, an offer or acceptance is complete when the addressee is in receipt of the electronic record as defined in Section 13(2) of the Information Technology Act.

4. IMPLEMENTING THE INFORMATION TECHNOLOGY ACT 2000

The Information Technology Act 2000 was hailed as a bold step in the right direction, but there are many more substantive areas that need to be addressed—for example, spamming laws, consumer protection, intellectual property rights, negotiable instruments, data protection rights, and privacy rights. However, all of these issues are being debated fiercely and the Government is understood to have been taking adequate measures to address them. This article will highlight a relatively unsung, but no less important area: that of proper enforcement and effective implementation of the Act.

In order to understand the problems of implementing such a 'high tech' legislation, it is relevant to examine a few social and economic aspects of the country. The Government of India set up a 'Working Group on Information Technology for the Masses' in May 2000 to study and make recommendations on how to extend the benefits of Information Technology to the masses and to 'formulate a set of policy initiatives to be implemented by the government' in this direction. The Working Group finalized its report in July 2000, and identified many facts, which are relevant to this article also.

4.1 Vital Statistics

India is the second most populous country in the world with over a billion people—one-sixth of the world's population. Out of the one billion, only 20% belong to the rich/upper class, while 40% constitute a large middle class and the remaining 40% (about 400 million people) continue to live under the poverty line. The International Bureau of Education and the UNESCO Survey 200030 reveals that an estimated 44.2% of the Indian population (age 15) remain illiterate.

4.2 The Information Technology Act As a Tool

Meanwhile, the last decade of the twentieth century saw information technology (IT) become the most prominent technology to have a revolutionary effect on the lives of people around the world. India emerged as a significant contributor to this field and the Government aims to raise India's contribution to the IT industry to the level of US\$ 50 billion by the year 2008, thereby making the country an IT superpower. The Government decided to use IT as a major vehicle for all-round socio-economic development in the country and thus, as a by-product, facilitate creation of a strong domestic IT market. The Information Technology Act is meant to be a legislative mechanism to enable large-scale application of IT in various areas related to the day-to-day lives of the people. Therefore, the Information Technology Act is expected to be a major enabler for the mass spread of information technology in the country.

However, there are aspects that need strict consideration while pursuing this goal. The most important one being avoiding the possibility that the promotion of the IT industry will create a further divide in Indian society, what can be referred to as a 'digital-divide' (i.e., the division between those who have access to IT-based services and those who do not). The Working Group identified that, apart from providing infrastructure facilities and services, education and awareness programmes are crucial to making sure that the benefits of IT reaches everybody, irrespective of the existing class divide. This also holds true for the successful implementation of the relevant law. This is where E-governance assumes significance.

4.3 Electronic Governance and the Impact on the Economy

The reasons why governments should go online were elaborated in the United Nations Conference on Trade and Development (UNCTAD) E-commerce and Development Report 2001.

There are many reasons to expect that changes brought about by the Internet regarding the delivery and management of public services will be significant. As in the private sector, adopting e-government practices will allow Governments to achieve significant savings in areas ranging from procurement to personnel management. Not only can resources be saved, but also the quality of services provided to citizens can be dramatically improved. Furthermore, e-government will provide an example and an incentive for firms to adopt e-business practices, thus spreading the efficiency gains to the economy as a whole.

The report further examined the impact of E-commerce on global economy and explained how it would benefit developing countries:

If developing countries catch up with developed countries technologically, the convergence in productivity in service sectors allows developing countries to increase their external

competitiveness and increase output, wages and welfare. A one percent productivity growth in the services sector in Asia, for example, would result in welfare gains of US\$ 12 billion, GDP growth of 0.4 percent, a wage increase of 0.4 percent, and a growth in services exports of between 2 and 3 percent. By reducing costs, increasing efficiency, reducing time and distances, e-commerce could thus become an important tool for development.

Thus it is seen that electronic governance offers an infrastructure for the overall development of the economy. However, it should be borne in mind that E-governance also has an important role to play in ensuring that the poor benefit from other advantages of information technology as well.

4.4 E-Governance and the Masses

The Information Technology Act facilitates the filing of documents, the receipt and payment of money, and other processes with the Government through electronic medium. In order to ensure that this does not end up being the privilege of the rich class, the Government should adopt various citizen-centric methods including awareness and training programme. Further, many governments are now using information and Internet-based technologies in development projects designed to help the poor improve their lot. However, personal computers are still unaffordable for many people in India and, therefore, other options must be explored.

Intensive use must be made of mass media such as radio, television (including cable) to educate the common person about the benefits and importance of E-governance. Developing countries do have an infrastructure problem with the Internet. Telephone networks continue to be the most prominent communication media for access to the Internet. As the telephone density in India continues to be extremely low, access to the Internet is concentrated in only very limited parts of the country. However, with the convergence of various forms of information delivery systems such as television, radio, telephone, personal computers and the Internet into one unified environment, it is now possible to enable all to enjoy the benefits of IT-based services.

India has only 8 million households with telephone connections, whereas there are 70 million households with television sets, out of which 35 million have cable connections. Subsidizing the cost of access devices to the Internet, such as set-top boxes for connecting televisions to an Internet access device, cable modem, and so on, would help more people access to the Internet and consequently they would be able to benefit from E-governance.

It may be noted that some progress has been made in achieving this goal. A group of scientists and engineers, mainly from the Indian Institute of Science, Bangalore, recently developed a handheld computer called Simputer (Simple Inexpensive Mobile Computer). This palm-size device can read out audibly the text found on web pages in native Indian languages, thus helping the poor and illiterate

enter the information age and, most important of all, this facility costs less than US\$200 (INR9,000).

4.5 It Illiteracy among Government Staff

A common feature of most developing countries is the importance of the government's role as service-provider in the Information Technology segment. However, a large percentage of governmental staff still remains IT illiterate. It has already been pointed out that facilitating E-Governance is a vital factor for the growth of E-commerce. Furthermore, E-Governance helps to reduce red tape and corruption, and offers the convenience of doing transactions from the comfort of one's home or office. Many businesses need to obtain licenses, permits, etc. from the government for many of their activities, more so if the business is a foreign enterprise.

Legislation does not in itself facilitate E-governance. Neither is E-governance all about setting up a web site. The training and education of staff, especially working-level staff, should be a priority area. IT literacy, as per a well-defined course module, should be made compulsory for recruitment to government service at all levels. Existing staff who are IT illiterate should be trained, with the requirement that they attain IT literacy within a specified time frame.

4.6 Law Enforcement and Policing

Enacting a law is one thing, and effective enforcement is something totally different. The Indian Government should exercise particular care while enforcing the Information Technology Act and special regard must be given to its technical nature. Failure to do so will produce undesirable results. This can be illustrated by a case study and analysis of provisions that give wide powers to the police for search, seizure, and arrest without warrants.

5. CONCLUSION

The Information Technology Act is a commendable piece of legislation for India and is a bold step in the right direction. It upholds the spirit of the UNCITRAL Model law. However, it should be borne in mind that the Model law is not intended to cover every aspect of the use of electronic commerce. Hence, many more substantive areas need to be addressed like consumer protection, data protection, spamming, intellectual property, etc. It may be wise to have separate legislation for some of the above rather than complicating the Information Technology Act with numerous things. Similarly, though the

pro- vision relating to electronic signatures suited the country's prevailing circumstances and available technology at the time of the legislation, it should be amended in due course in order to accommodate changing technological advances.

Developing countries generally face the problems of illiteracy, a huge class-divide, and infrastructure deficiencies. The technical nature of this law renders it more susceptible to misuse and abuse by the authorities. In some cases, people might not respond to this, again due to ignorance. Hence, proper training of governmental staff and enforcement personnel is vital and should not be neglected.

E-commerce has immense potential to generate wealth for developing countries. Enacting legislation in order to facilitate E-commerce transactions is merely a first step. Effective implementation and strategic exploitation of its potential is a much more arduous task and should be done with care and caution. In addition, greater attention should be given to promoting electronic governance.

The Information Technology Act of India is a laudable work of the Government and it is to be hoped that it will be an inspiration for other developing countries to legislate E-commerce laws as envisaged by the United Nations Resolution on the UNCITRAL Model law. Moreover, these countries will have the advantage of observing and learning from India's experience and taking measures to address some more issues at the enactment stage itself.

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