
The Electronic Bill of Lading

By:

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Abstract:

The bill of lading is a document evidencing the loading of goods on a ship. It contains stipulations as to the quantity of the goods as well as the condition in which they were received. The bill of lading has also been the most outstanding document of the mercantile genius because it enables goods to be sold and bought while in transit where there is not only the transfer of property in the goods, but also the right to possession on arrival.

The latest development in this field is Electronic Data Interchange (EDI). The most important advantage of EDI is that it makes speedy transactions possible, it is also instantaneous and rapid. This in turn made it adaptable to the shipping industry, replacing traditional paper shipping documents, particularly bills of lading. The transition from paper documents to electronic or computerized data is therefore not a simple task.

We shall examine two legislative approaches in regard to electronic bills of lading and to evaluate whether these approaches meet the requirements of the traditional bills of lading. These are the UNCITRAL Model Law for Electronic Commerce and the Committee Maritime International Rules and to see whether such approaches can be adaptable under Kuwaiti law.

This paper examines the implication of electronic bill of lading in the following structure:

Chapter I: Traditional Bills of Lading

Chapter II: The Evolution of Electronic Bills of Lading

Chapter III: Law Relating to Electronic Bills of Lading

Chapter IV: The "Functional Equivalence" To Paper Based Documents

Introduction

Most of the legislations in the maritime law were formulated at a time when there was no knowledge of many of the latest technologies. Maritime Law can be perceived as “law of documents”. The shipping documents represent the core of international trade, they describe the goods to be shipped, their condition, and designate the person who has the right of delivery of the goods at the port of destination. In the course of payment of price through letter of credit mechanism the document state “ not only the seller and the buyer but also the banks will retain various shipping documents”.

The latest development in this field is Electronic Data Interchange (EDI).⁽¹⁾ The most important advantage of EDI is that, it makes speedy transactions possible. It is instantaneous and rapid. This in turn made it adaptable to the shipping industry, replacing traditional paper shipping documents, particularly bills of lading. The transition from paper documents to electronic or computerized data is therefore not a simple task.

However, there are number of obstacles in the use of EDI with regard to electronic bills of lading. It is a general phenomenon that whenever there are new developments or business opportunities there is also a risk connected to it. EDI is a medium, which necessitates a lot of changes in the scope and functions of law.

(1) E-commerce is doing business on-line through computer networks. The Internet itself as a computer communications network dates back to the early 1960s. The scheme, which was named ARPANET, was intended to create a computer communications network composed of many computers and network communications that would be able to survive any nuclear attack. However as we know, during the early 1990s the Internet has been developed. The idea in the present form has been conceived during the 1989-92 period with the emergence of “World wide web” as a scientific data-sharing tool. The first commercial aspects of the Internet made its appearance in 1993, and web commerce came(into being) in 1995. Now the Internet forms a common internationally understood computer communicating system that businesses of any size as well as traders and consumers can log on and use. A global electronic market place has become the tune of free market and free traders. E-commerce is widely accepted because of its simplicity. Access to larger markets, minimization of taxes, and flexibility helped it to cross-geographical market boundaries. Moreover the less expensive telecommunication systems and IT technologies facilitated the advancement of e-commerce to a great extent.

When legislators and lawyers first faced with the electronic revolution there were dissenting opinions among them regarding the need for legislative innovations to make it adaptable to the growing needs of the economy. Some reckoned to the conservative view that the traditional rules can be applied to new developments as well, while others were of the opinion that “Cyberspace” requires “Cyber or any especial law”.

The important task is to secure the integrity and authenticity of the document in its electronic form without losing the confidence of the internationally established rules related to it. Electronic bills of lading will surely establish its place in the shipping industry in the near future.

This paper examines the implication of electronic bill of lading in the following structure:

Chapter I: Traditional Bills of Lading

Chapter II: The Evolution of Electronic Bills of Lading

Chapter III: Law Relating to Electronic Bills of Lading

Chapter IV: The “Functional Equivalence” To Paper Based Documents

Chapter I

Traditional Bills of Lading

In earlier times, transactions where the merchant traveled along with the ship the particulars of the goods were usually entered in a “book” or register, which was part of the shipping documents. However, when the merchant ceased to travel with the goods there arose the necessity of a separate document, which serves the purpose of a receipt of goods as well as the terms of the contract of carriage and delivery of goods.⁽²⁾ The introduction of marine insurance in the twelfth century also brought forth an additional degree of complexity into the practice of ocean carriage. The Bill of Lading originated around the fourteenth century as a non-negotiable receipt issued by a ship owner for consignment received to a merchant who did not intend to travel with his goods.⁽³⁾

The bill of lading has been the most outstanding document of the mercantile genius because it enables goods to be sold and bought while in transit where there is not only the transfer of property in the goods, but also the right to possession on arrival.

1.1 The definition of bills of lading

The bill of lading is a document evidencing the loading of goods on a ship.⁽⁴⁾ It contains stipulations as to the quantity of the goods as well as the condition in which they were received.⁽⁵⁾ The bill of Lading evidences the contract concluded for the shipment of goods between the shipper and the carrier. This document lays down the carrier’s duties and

(2) Awadh, A., *Marine Charterparties*, Cairo, 1987p.7.

(3) Wilson J.F, *Carriage of Goods by sea*, II ed. (Pitman, London) 1993 at. p. 123.

(4) It is to be noted that in some countries in the United States of America bill of lading is used in land transport as well, but in this paper we are dealing exclusively with ocean carriage.

(5) Wilson J.F, *Carriage of Goods by sea*, at p. 123 Supra. See also Hosni, A., *The International Carriage of Goods by Sea*, Alexandria, 1989, p. 55, Dwedar, H., *Maritime Law*, part 2, Alexandria, 1993, p. 40.

responsibilities on the goods shipped and for this reason it is indispensable in maritime trade. One of the basic principles in the maritime law is that goods can only be delivered to someone able to present an original bill of lading which is in fact like a memorandum or acknowledgement in writing signed by the master or captain of the ship that he has received in good order, on board of his ship or vessel therein named at the place therein mentioned, certain goods therein specified, which he promises to deliver in like good order (the damages of the sea exempted) at the place therein appointed for the delivery of the same to the consignee therein named or to persons assigned by him, he or they paying freight for the same.⁽⁶⁾ It can be considered as a written evidence of a contract for the carriage and delivery of the goods sent by sea for certain freight.⁽⁷⁾ The contract of affreightment is the contract of carriage and the bill of lading is the receipt for the goods stating the terms on which they are to be carried.⁽⁸⁾

Bills of lading are drawn either to order, when negotiated against a letter of credit, or to the name of the party to whom the goods are consigned. The order bills of lading give the consignee a direct claim to the goods as soon as he is in possession of signed “negotiable” bill of lading.⁽⁹⁾ By the use of the words “to the order of” a named party, the bill of lading acquires the characteristic feature of a document of title.⁽¹⁰⁾

Anyone who wishes to ship a consignment of goods abroad may approach the shipping line either by himself or through a forwarding agent, to reserve place on a vessel. Then the carrier will give instructions to shipper as to when and where the goods are to be delivered and having done so, a receipt is issued which shows the type and quantity of goods handed over and the condition in which the

(6) See for further details UNCTAD Report on Bills of Lading 1971, p.5-6.

(7) Article (3) paragraph 3, of the Hague Rules states what the bill of lading must contain. Besides stating the number of packages or pieces, quantity or weight of the goods, marks and their apparent order and condition, the carrier is not apparently required to indicate any other particulars in the bill of lading.

(8) Sassoon, C.I.F. and F.O.B. Contracts, IV ed. (Sweet & Maxwell, London) 1995, p. 113.

(9) UNCTAD Report on Bills of Lading 1971, at p.6 supra.

(10) Ibid.

carrier's agent received them.⁽¹¹⁾ From that point onwards generally the carrier will be in command of the goods and is therefore responsible for loading abroad. During this period of time the shipper will acquire a copy of the carrier's bill of lading form, which is obtainable directly from the carrier's agents. On the form he will enter details of the type and quantity of the goods shipped, together with any relevant marks, and inter alia will specify the port of destination and the name of consignee. The contract of carriage is usually stipulated in a bill of lading in cases where the goods of a shipper form only part of the cargo, which a ship is to carry. On receipt of the completed bill, the carrier's agent will check the cargo details against the tallies at the time of loading and, if correct, will acknowledge them if so requested. After calculating the freight and entering it on the bill, the master or his agent will sign the bill and release it to the shipper in return for the delivery of the mate's receipt or equivalent and payment of advance freight due.⁽¹²⁾ The shipper will then send off the bill directly to the consignee or convey it to a bank, where shipment forms part of an international sale deal involving a documentary credit. The principal purpose of the bill of lading is to enable the owner of the goods, to which it relates, to dispose of them rapidly although the goods are not in his hands but already in the custody of the carrier.⁽¹³⁾ To sum up it can be said that the bill of lading plays a predominant role in the maritime trade.

1.2 Functions of bills of lading

The functions of bill of lading are three fold. In English common law it is occasionally referred to as a key to the warehouse. The bill of lading is vital in international trade because it provides traders with three crucial facilities. It is a receipt for the goods shipped, a document of title, and it is an evidence of the contract of carriage.

(11) Article 182 of the Kuwaiti Commercial Maritime Act No.28 of 1980.

(12) Ibid.

(13) See C.M Schmitthoff, *The Export Trade*, 4th ed. (Stevens and Sons, London)1957, p.306.

1.2.1 The bill of lading as a receipt

Initially, the bill of lading was used as a mere bailment receipt where statement as to the quantity and quality of the goods shipped is mentioned upon receiving goods at the port of shipment. This entitles the buyer under the international sale contract to reject the goods if they are not in conformity with the terms of the contract. To say the bill of lading is a receipt is to identify its role in the evidential battle between the cargo-interest and the carrier in a short delivery or damage claim.⁽¹⁴⁾ It is necessary therefore that the shipper should include statements in the bill of lading in such a way as to reflect the conditions in which the goods are shipped.⁽¹⁵⁾ In the absence of such statements, when there is damage on discharge the burden of proving the condition in which the goods were shipped will be on the shoulders of the shipper or the consignee.

In common law, the position was that the ship owner could escape the liability even towards a bona-fide transferee for value as in the case *Grant v. Norway*.⁽¹⁶⁾ Article II Rule 4 of the Hague/Visby Rules largely circumvented the practical effects of this common law anomaly.

As the bill of lading carries on its face statements as to quantity and apparent condition of the goods on shipment, these statements raise a prima-facie presumption that the goods are shipped as stated between the shipper and the carrier, and it is considered to be conclusive between the carrier and third parties.⁽¹⁷⁾ Kuwaiti law indicates that the carrier can deliver against a receipt to the consignor after receiving and before shipping on board, this receipt shall be substituted by a bill of lading. The receipt shall have the same effect as the bill of lading if it complies with all the requirements of a valid bill of lading.⁽¹⁸⁾

(14) Debattista C, *Sale of Goods Carried by Sea*, II ed. (Butterworths, London) 1998, at p.111.

(15) Taha, M., *Maritime Law*, Alexandria, 2000, at p. 290.

(16) (1851) 10 C.B 665. Here the master signed a bill acknowledging the shipment of 12 bales of silk. But not even a single bale was loaded. The Court held that the plaintiffs, who were endorsees of the bill, had no remedy when the carrier established that no bales had been shipped.

(17) Article 183 of the Kuwaiti Merchant Shipping Act.

(18) Article 182 of the Kuwaiti commercial maritime Act. All the information as stated in the second paragraph of Article 176 should be included and should be endorsed with the word "freight".

1.2.2 The bill of lading as a document of title

The bill of lading is used in certain transactions as a document of title in international trade. Since the delivery of goods can be made only against the presentation of an original bill of lading, generally transfer of documents will mean the transfer of the right to take possession of the goods on discharge.⁽¹⁹⁾ This function, which draws a proprietary link between the trader and the goods in transit thus giving him specific rights over the goods while they are still under the possession of the carrier. This function facilitates the payment of price through banks.⁽²⁰⁾ It is suggested that where payment is made by documentary credit it is presumed that the property passes on tender of document because the bank needs to obtain from the seller a special property in the goods as a pledgee except if the seller has not before the shipment passed all the property to the buyer.⁽²¹⁾ The letter of credit mechanism serves as the ultimate if not the best security.⁽²²⁾ The mere possession of a document of title to goods apparently is not a clear-cut evidence of ownership than the possession of the goods themselves, since property passes in accordance with the contract of sale.⁽²³⁾ In a way it can be said that the seller's performance of his documentary obligation depends mainly on the tender of a negotiable bill of lading.⁽²⁴⁾ The bill of lading will cease to be a document of title only when the goods are delivered to the person having the right to demand their delivery from the carrier.

Under Kuwaiti law, the carrier must deliver the goods to the legitimate holder of the bill of lading or of the delivery order. Delivery orders shall be issued in the name of a designated person or to his order or to the holder and the negotiation of these delivery orders shall be in

(19) Hosni, A., *Maritime Sales*, 2d. ed., Alexandria, 1983, at p. 41. See also Qayed, M., *Maritime Contracts*, Cairo, 1996, at p. 196.

(20) *Debtista*, supra. At p. 15.

(21) Paul Todd, *Bill of lading and Banker's documentary Credits*, London, 1993. p. 78.

(22) Awadh, A., *Documentary Credits*, Cairo, 1989, at p. 124.

(23) Hosni, A., *Maritime Sales*, supra., at p. 45.

(24) Incoterms, CIF, A7: Appendix 2.a.

the same manner as that of the bill of lading, and must be signed by the carrier.⁽²⁵⁾

The use of the bill of lading as a document of title may nevertheless bring about problems for carriers and other parties who rely on this document.⁽²⁶⁾ There are also dissenting opinions regarding the use of bill of lading as a document of title,⁽²⁷⁾ according to one view the progress of bill of lading as a document of title is that neither the bill passes any proprietary right to the goods it covers nor it give it's transferee a good title to the goods, the transferee therefore would be denied of his right to sue or demand the delivery of the goods.⁽²⁸⁾ Several attempts have already been made to overcome the problems that arise from the use of the bill of lading as a document of title. The major problem is the late arrival of bill of lading at the port of discharge due to the delay created by the sale of goods in transit. In order to the bill of lading to function as a proper document of title only the holder of bill of lading will be entitled to demand delivery of goods. For the effective performance of this function the bill of lading should reach the receiver before the goods are delivered. Only bills of lading bearing explicit evidence of their transferability are recognized by mercantile custom as documents of title.⁽²⁹⁾ Shipping documents that do not call themselves bills of lading, or which explicitly describes as non-transferable are not documents of title under common law.⁽³⁰⁾ Negotiability on the other hand is a term by which a transferee may acquire a better title than that possessed by the transferor.

(25) Article 185 of the Kuwaiti commercial maritime Act.

(26) See for example *A/S Hansen- Tanges Recleri III v. Total Transport Corporation (The Sagona)* (1984) 1 Lloyd's Reports 194.

(27) In *Sewell v. Burdick* [(1884) 10 App Case 74] the house of lords held that the pledgee of goods, in this case a bank, did not acquire the property and therefore did not obtain the right of suit under the Act.

(28) *Bools M.D. The Bill of Lading, a document of title to goods an Anglo American comparison.* (LLP London) 1997, p.173.

(29) See *Benjamin, Sale of Goods*, paras 18-005; and *Official Assignee of Madras v Mercantile Bank of India Ltd* [1935]AC 53,60 and *Kum V Wahtat Bank Ltd* [1971]1 Lloyd's Report p 439.

(30) Way bills and straight bills will not be regarded as bill of lading under S. 1(2) of the English Carriage Of Goods by Sea Act 1924, since they lack the quality of transferability.

Traditionally, when bills of lading are issued there will be three to six sets of originals. But if there is no divergent agreement the endorsement of one bill in a set is sufficient to transfer the right to delivery of the goods covered by it. The subsequent endorsement of the remaining originals will have no effect. This has created acute problems for all those who transact with this document. As the bill of lading being a document of title it should be produced in order to obtain delivery of the goods at the port of discharge. Delays in transmitting bills of lading have repeatedly led to delayed delivery, demurrage fees and other related problems.

The bill of lading cannot be called a negotiable instrument, as there is no transfer of ownership. But Lord Phillimore, in *The Marlborough Hill* case,⁽³¹⁾ has commented, “If this document is a bill of lading, it is a negotiable instrument.” According to English law the bill of lading is not strictly a negotiable instrument because the endorsee of the bill of lading will not receive a better title than that of the original holder.

Under Kuwaiti law, the bill of lading shall be written in two original copies, a copy to be delivered to the consigner and the other to the carrier. The later copy shall be stamped “not negotiable”. The possessor of the original copy shall give the legitimate possessor the right to receive goods and dispose it thereof. Other similar copies of the original copy delivered to the consigner shall be non negotiable.⁽³²⁾ In case of negotiation of bill of lading by endorsement, it may be agreed upon restricting guarantee to the existence of commodities and validity of the carriage contract in time of endorsement transferring ownership, with pleas that he may adhere with against the previous holder of the bill. And the bill of lading may provide for banning of negotiation or waive thereof provided that this shall be prominent and clear.⁽³³⁾

1.2.3 The bill of lading as evidence of the carriage contract

The bill of lading is not a real contract but only an evidence of the contract. The bill of lading will obviously provide prima facie evidence of

(31) [1921] App. Cas. 444 at p.452.

(32) Article 177 of the Commercial maritime Act.

(33) Article 178 of the Commercial maritime Act.

the terms of the contract of carriage and in many cases it was found that it is difficult for the parties to challenge its accuracy to discharge the burden of proof. The shipper cannot escape from his liability by claiming he is not to be a party of the preparation of the bill of lading as he is given an opportunity to review the remaining terms of the documents. Where the shipper of goods is also the charterer of the vessel, the master issues a bill of lading still there, but in that case the bill will operate merely as a receipt of the goods shipped, but it does provide evidence of the contract of carriage since the terms of the contract of carriage are included in the charter party.

The position under Kuwaiti law is that the contract of carriage is evidenced only through the bill of lading.⁽³⁴⁾ The bill of lading is considered to be a proof in establishment of information included therein, among the carrier, the consignor and in respect of third parties. As already been stated, in relation between the carrier and the consignor, the contrary of information stated in the bill of lading may be proved, but in regard to third parties, the carrier may not prove the contrary while third parties may do.⁽³⁵⁾

(34) Article 176 of Kuwaiti Commercial Maritime. See Sarkhoh, Y., *Commentary on the Kuwaiti Maritime Law*, 1998, Kuwait, at p. 312.

(35) Article 183 of Kuwaiti Commercial Maritime Act.

Chapter II

The Evolution of Electronic Bills of Lading

The Internet and e-commerce has its impact on business whether it is business-to-business e-commerce or a commerce based on selling to the customer directly. It is more efficient, speedier and reliable medium for concluding business. Marketing through web sites has overcome many of the obstacles that accompany the traditional methods of direct marketing. Internet shopping bestow upon the seller and the buyer the opportunity of 'interactivity' without the actual human intervention.

Apart from selling and advertising the web open up newer and cheaper ways of satisfying the customers. Web-based customer service comprises of giving customers control over all aspects of the interaction with the company through the Internet. It allows products to be sold directly to the consumers without the interference of the middleman or the mediators. In on line trading it is easy to make price comparisons also. Thus it can be said that Internet trading is economical and post. Another major advantage is that entering into global trade is much more easier now. With the advantages of Internet, a website can be read anywhere in the world and anyone can be a universal dealer. In a way it can be perceived that the business is at the fingertip of the trader, just a click away. Here the customer himself can carry out the invoicing, shipping and payment. Moreover secure e-commerce techniques enable financial information to be exchanged in a safe manner. The exchange of credit card information can be protected by secure protocols such as SSL. However, the credit card companies have been working on a credit card specific protocol to enable widespread and secure purchasing through the Internet. SET (Secure Electronic Transactions) and other various secure protocols like FIX (Financial Information Exchange, OBI (Open buying Initiative), BIPS (Banking Internet Payment System), OFX (Open Financial Exchange), OTP (open Trading Protocol) have been designed to cater the sector specific requirements or to integrate payments.

When the entire trading economy is based on electronic means, and if the traders are adamant to use the conventional paper means, it will defeat the obvious advantages of computerization. Compared to the traditional means of paper invoices and purchase orders the electronic purchase orders and invoices are less expensive. In addition it makes possible to manufacture goods 'on demand' rather ahead of that demand.

As to the impact of computerization it is eminent in every sector of the world trade there is no wonder that there is corresponding changes in the shipping industry as well. In the shipping Industry EDI system has been used to replace the traditional paper shipping documents, particularly bill of lading.⁽³⁶⁾ In this context EDI systems usually consists of communications between the shipper's and the carrier's computer terminals or in certain cases an intermediary ("third party service") computer terminal.⁽³⁷⁾ The electronic documents have to be interchanged in a standard format where the computer processes the data to information, which are understandable to the receivers. The intricacies of adopting EDI in non-negotiable instruments like seaway bills are not that complex. The shipper gives electronic instructions to the carrier and the carrier issues an electronic seaway bill. Unlike other shipping documents the intricacies of replacing bills of lading by electronic messages is not an easy task. The electronic bills of lading gives rise to legal and technological problems. There is a dispute as to whether digital signature can be treated as manual signature or whether an electronic message is a "document" in the eyes of law. International treaties, cases and authoritative texts⁽³⁸⁾ usually refer to the electronic bills as being

(36) In the United States of America ANSIX12 cross industry standard(American National Standards Institute Accredited Standards Committee X12) is widely in use. The United Nations in co-operation with the International Standards organization has developed EDIFACT which consists of a set of internationally agreed standards directories and guidelines for the interchange of structured data and in particular that relating to trade in goods and services between independent computerized information system.

(37) The third party service is an intermediary that acts as a document-clearing house between shippers, carriers and buyers.

(38) For example Hague- Visby Rules [Rule 2]; The Maurice Desgagnes [1977] 1 Lloyd's Rep. 291, Scrutton on Charterparties and Bills of Lading, 20th ed. (Sweet & Maxwell, 1996).

signed and as “documents”. But the judges of the past were adamant that the documents should be in writing.⁽³⁹⁾ In considering whether electronic messages are equivalent to manually signed paper documents the practical approach would be to reflect on their function and consider their fundamental components. The function of a signature is not only to evidence the intention of the parties to be legally bound, but it also authenticates the document. There is a necessity to prove that it is originated by the carrier either for the purpose of the dealings with the bank or in the case of a dispute, for court verification as a piece of evidence. In the present situation there are systems already in use, which are based upon digital cryptography.⁽⁴⁰⁾ Electronic encryption ensures that the message is authentic so that the fraud is therefore reduced.

In order to introduce EDI into bills of lading and for this intersection to be extensively acknowledged the technical aspects of establishment of an electronic bill of lading as well as the legal problems should be dealt with. The vital problems correlate to negotiability and transferability of the document, which are the core of bills of lading.

The history illustrates that even in earlier days those documents having negotiability have been used in the transfer of goods as a medium of transfer.⁽⁴¹⁾ If the trader bears in mind that like other mediums EDI is yet another medium of transaction, it will produce assurance in bill of lading so that it will be accepted far and wide. The underlying agreements are called “interchange agreements”.⁽⁴²⁾ This agreed message format is the key to the EDI.

(39) *J.H. Tucker & Co. Ltd V Board of Trade*. [1995]1 W.L.R. 655,658. as per Vaisey J.

(40) The secret numerical cipher known only to the sender would not have been used to create the message. For a judge to test an electronic message the sender could give the judge a plain text message and the enciphered message and the judge could apply the public key. If the message in enciphered one is different from the plain text it is understood that there is forgery, Source.

(41) Chandler G.F. "Maritime Electronic Commerce for the Twenty-First Century" *Tulane Maritime Law Journal* [1998] Volume. III.at. p.469.

(42) For example when an acceptance message reaches the system of the traders or if they are using VAN (Value Added Network), when the acceptance message reaches that system. These interchange agreement are also liable for system breakdown as well as to the requirements as to the storage of messages.

If this new concept endure over the shortcomings it definitely establish its place in the maritime trade, which is to be determined over the passage of time.

2.1 Different approaches for a single purpose

The outbreak of containerization served as prelude to the use of Electronic Data Interchange in the world of shipping documentations. The containerized goods are often carried from one sister company to the other. The transactions will normally be short and the goods may not be sold while in transit. At this point of time there is no prerequisite for a document of title. So the time consuming bills of lading that require to be send to and presented at the discharge port was conveniently avoided and computerized seaway bill was used instead. Since seaway bill need not be produced before the delivery of the goods it was considered to be the best form of documentation for such mode of trade. For this reason, the use of computerized waybills became widely spread. In computerized seaway bills the initial booking information is given to the carrier by the shipper's computer. The carrier's computer issues the seaway bill and the computer also gives the delivery instructions. So that the use of paper documents become minimized.

The Seaway bills can be said to be the most popular form of transport document in the modern shipping world, because their absence from shipping port does not delay the delivery of the goods. Their use also avoids the risk of fraud arising from the issue of multiple original negotiable bills.⁽⁴³⁾ The distinctive feature of Bills of Lading in being a document of title is that it represents the symbolic possession of the goods while in transit. But this feature is not present in seaway bills. Despite the fact that sea way bills has got a predominant position in sea carriage certain trades require a negotiable bill of lading, such as the sale of crude oil.⁽⁴⁴⁾

(43) See for details Faber D. "Electronic Bills of Lading", LMCLQ part 2, May [1996], at. p. 232.

(44) See Incoterms 2000 — The International Chamber of Commerce.

The swiftness and expediency of electronic communication have led to efforts to launch systems for electronic production of negotiable bills. But the incorporation of negotiability of paper bill of lading in electronic bills of lading is not an easy task. The full benefit of EDI can only be achieved by using a proper system, which integrates the users internal systems.⁽⁴⁵⁾ These can broadly be categorized into two types, the depository, and the notification to carrier systems.⁽⁴⁶⁾

2.1.1 The SEADOCS

The first attempt for an electronic bill of lading system was through SEADOCS.⁽⁴⁷⁾ This involves the deposit of a paper bill with a registry, which receives notification as the right to the possession of goods is changed by electronic means; the carrier can refer to the register to ensure that conveyance is made to the correct party.

This is envisioned through the use of a central registry (here the registry is a bank) through which all the parties to the bill of lading would communicate. This system was not an EDI system because the bank became the central registry, communicating by telex after receiving an original paper bill of lading. While the system and process was well envisaged, this model was never used for some very practical reasons related to the financial cost.

2.1.2 The CMI Rules

The second system, which is the type contemplated in the Rules for Electronic Bills of Lading produced by the Committee Maritime International (CMI) in 1990, is one based on the notification to the carrier. It is entirely electronic and does not require the existence of a

(45) Care should be taken not to get confused with the main infrastructure and the Internet. Internet can be used to get connected to each other universally in a world wide web but it does not provide standardized formats or data fields for international use.

(46) The initiative to devise these systems in a somewhat similar form was taken up initially by the automotive industries in Europe and U.S.A.

(47) A project of the international Association of Independent Tanker owners (INTERTANKO) and Chase Manhattan Bank. For more details see Robert P. Merges & Glenn H Reynolds, Towards a computerised system for Negotiating Ocean Bills of Lading, 6J.L.COM.23, 36 (1986). The CMI took up this concept under the title ELECTRODOCS.

paper bill of lading. Using electronic messages the carrier issues an electronic bill to the shipper, together with a private code or “key” possession of which entitles the holder to control the goods. This right of control is passed to other interests after notification by the shipper to the carrier, who cancels the original key and gives a new private key to the new person, entitled to control the goods. Here the key holder has the same right as a bill of lading holder. Neither type of schemes is currently in widespread use.⁽⁴⁸⁾

2.1.3 UNCITRAL Model law

United Nations Commission on International Trade law has prepared the Model law as adaptable to the legislations of various jurisdictions. There are several provisions in the Model law, which deal with the connotation of electronic commerce in coping with the carriage of goods by sea.

2.1.4 Bill of lading for Europe (Project Bolero)

A business consortium of shipping companies, banks and telecommunications companies (the Bolero association) with the aim of replacing paper shipping documents with an online computerized registry formed a project called Project Bolero. Bolero offers reliable means of communication for the whole business community for importers and exporters, for customs authorities, banks and clearance agents. They have embarked on a pilot scheme to try out the consequence of introducing an electronic form of Bill of lading. The Rule Book endowed with the provision that any requirement for writing is satisfied by digitally signed transmissions through the Bolero system. The Bolero Rule book amount to a contract between each user and the association. The project aims to address special legal issues that arise when paper negotiable documents are converted into electronic form. The use of EDI messages as against the traditional paper based documents is much more economical and time saving and also there is less scope for fraud and possibility of error. Traders having the capacity to access Bolero services

(48) See Faber D. “Electronic Bills of Lading” at p. 233, Supra.

providers will not find any delays in the clearance of goods and payments due to the document delay. Moreover, there will be a more efficient administration.

Bolero services are based on the exchange of central services known as the 'registry' and users. The users normally are carriers, shippers, freight forwarders and banks. They can send and receive messages from the central registry by means of a computer workstation. Moreover it is possible to send messages directly among themselves. The central registry contains details of shipping documents contained in a 'consignment record'. Access to these details validate and authenticate the message received, and automatically will generate messages to other users in response to the message received.

The Bolero Scheme does not by itself create a "bill of lading", but reproduce the traditional Bills of Lading in the following ways:

- By affording a receipt giving particulars of the goods, their condition and the date of receipt;
- Introducing the terms of the contract of carriage;
- By giving the holder an exclusive right to give instructions to the carrier and to designate the person entitled to possession and delivery;
- Providing a transferable right to demand delivery.

To protect the integrity and to prove the authenticity of electronic messages there are strong security controls and procedures. A notable security technique is the use of digital signature techniques. These authenticate the message sender and prevent modifications of transaction while goods are in transit.⁽⁴⁹⁾

2.1.5 The Australian Sea- Carriage Document Bill of 1996

The Australian Sea Carriage Document Bill of 1996 is the most recent effort to bring into effect the electronic Bill of Lading. This bill

(49) Bolero is further described in Cottrill, "Banking on Electronic Shipping", Chilton's "Distribution", May 1996, at 22; Nelson Bolero —"An Innovative Legal Concept". 6 Computers & L. 17 (June- July 1995); and Talmor, "Bolero Trade steps", Banker, Feb1995, at p.72

was presented before the Australian Federal Parliament in March 1995. The Standing Committee of Attorneys -General had also approved provisions in the draft model bill and agreed to implement legislations in each state as soon as practicable. Even before that, since 1992 onwards there have been proposals before the parliament to reform legislations relating to Bills of Lading and to eliminate legal problems connected to it.

2.2 Technicalities of creating electronic documents

To understand how electronic data can be used along with paper document or how digital signature will be equivalent to manual one, the technicalities of the documentation process should be examined. The electronic transfer of document is not something new. In an electronic bill of lading the first stage is that the document will be transferred to an 'electronic bill of lading', it will be transferred to segments and that segments will then be made up of data elements.

2.2.1 The use of cryptographic techniques

Even during ancient days several techniques like cryptography were used to conceal documents. In ancient Greece Spartan generals used a method for exchanging secret messages. This was successfully used for several years to conceal contents of documents.

Cryptography in the present days is the use of applied mathematics connected to transforming messages into seemingly unintelligible form and back again. For digital signatures two different keys are normally used, one for encryption and the other for decryption that is to change into unintelligible form and back again. The keys of a cryptosystem for digital signatures are termed the 'private key', which is known only to the signer and used to create the digital signature, and the 'public key' which is ordinarily more widely known and is used to verify the digital signature. The recipient must have the corresponding public key in order to verify that the digital signature is that of the signatory's.

The cost in implementing cryptographic methods includes software licensing, export filing process, overheads and professional training of

staff. The cost varies based on the level of security the parties requires. The level of security required in a document like bill of lading is much more higher when compared to ordinary documents.

2.2.2 The Electronic Data Inter-change (EDI)⁽⁵⁰⁾

The definition of EDI is taken from the definition adopted by the working party on Facilitation of International Trade Procedures (WP.4) of the Economic Commission for Europe, which is the United Nation's body responsible for the development of UN/EDIFACT technical standards.⁽⁵¹⁾ EDI is widely used in commercial transactions. EDI is the computer-to-computer transmission of business documents.⁽⁵²⁾ This is done through standardized computer language formats.⁽⁵³⁾ This is conducted by messages in formats agreed to by the parties ahead of the actual communications, which represent the trade agreements themselves. This agreed message format is the key to EDI. This may even comprises a stipulation as to when the sale contract is being successfully

(50) It is to be noted that small "edi" often refers to the exchange of almost all electronic media like fax, e-mail etc but "EDI" refers to a structured format for conducting exchange of documents in business transactions.

(51) As the process was considerably slow at higher levels, in an attempt to overcome this problem the responsibility for UN/EDIFACT is being transferred from (WP.4) to CEFACT. CEFACT is the New Center for electronic Trade, formed for open participation in electronic trade beyond the 55 members of the United Nations Economic Commission for Europe. (UN/ECE)

(52) Electronic Messaging services Task Force, The Commercial Use of Electronic Data Interchange — A Report and Model Trading Partner Agreement, 45 BUS.LAW.1645, 1650 (1990). This report is primarily concerned with EDI in sales context; however, certain observations made by the task force are pertinent to various applications of EDI in general.

(53) Ibid. Three prerequisites should be satisfied before EDI communications systems can function efficiently on an international level; "a syntax, which equates to grammar in normal language; common data elements equivalent to vocabulary; and standard messages which combine syntax and data elements into a structured business message similar in concept to the paper document." Under United Nations auspices, the Working Party on Facilitation of International Trade of the Economic Commission of Europe has been working and continues to work on standard technical standard EDI formats. This working party has produced the United Nations Rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT). Electronic Data Interchange- Preliminary Study of Legal Issues Related to the Formation of contracts by Electronic Means- Report of the Secretary General, United Nations Commission on International Trade Law, 23rd Sess., at p.8 UN Doc. A/CN.9/333 (1990).

concluded. This may be for example, when an acceptance message reaches that system. The interchange agreement is also likely to include requirements as to storage of messages and liability for systems breakdown as well as format of messages or a portrayal of the goods and price. As for more technical points, these may be in the interchange agreement or in a separate “user manual”.

This includes applications like inquiries, planning, ordering, purchasing, acknowledgements, pricing scheduling, status, and shipping, receiving invoices, payment and finance. The message, which makes up the sale contract, can activate the seller software into producing an automatically electronic invoice message, which on receipt by the buyer’s software can stimulate instructions to the buyer’s bank to pay the seller’s bank.

Various maritime projects have endeavored to make benefit of EDI. DISH,⁽⁵⁴⁾ was the first amongst these and was a joint venture between European shippers and carriers.⁽⁵⁵⁾ After trials, interest waned due to software problems and a lack of consensus among the carrier on how to proceed.⁽⁵⁶⁾ The DISH was followed by the short-lived EDISHIP in 1990, which was the consequence of the initiative of ten carriers.⁽⁵⁷⁾ Though there were numerous projects in this field during the period of 1990, perhaps because of lack of consistency in the development, it came to a halt and there was very limited use of EDI.

In an effort to make EDI available to broader group of businesses the American Bar Association (ABA) published the Model Form of Electronic Data Interchange Trading Partner Agreement in 1989. The Electronic Data Interchange Council of Canada adopted the Model Form of Electronic Data Interchange Trading Partner Agreement in 1990. Such Model Agreements have also been published in Australia,

(54) Data Interchange for Shipping which incorporate large shippers, carriers, banks and forwarders into a single network.

(55) Refer, Elizabeth Canna, “EDISHIP Goes live in January”, AM. SHIPPER, Dec.1990,at p 61

(56) Ibid.

(57) Ibid.

France, New Zealand, United Kingdom and in Europe (The European Model EDI Agreement).⁽⁵⁸⁾

During those early stages of EDI, an agreement was crucial though it was not used as agreements in its real sense. These agreements greatly helped to get the confidence of companies as a model or checklist in completing an Agreement to use EDI with a trading partner. The main problem of EDI has been the lack of international feature that a company operating in United States and Europe would need different software for each location. The UN/EDIFACT messaging has had the potential to overcome this isolation and create a means for global communication. The magnitude of changes due to the adoption of UN/EDIFACT cannot be underestimated.⁽⁵⁹⁾ It has felt that if the gigantic European and American automotive industries adopt such changes it could automatically influence other companies who reluctant to adopt these and this in turn bring about changes in other sectors of trade. The other initiative undertaken would include open EDI (under development) by the International Standards Organization (ISO) to try to eliminate the need for prior agreement between the parties to use EDI. The International Chamber of Commerce (ICC), as part of its Project E- 100, has created ETERMS,⁽⁶⁰⁾ which is a database that can be used to incorporate terms by reference. For example, the terms and conditions of a contract would be placed into the ETERMS database and could be incorporated by reference in the contract messages without actually having to include the full text of the terms and conditions in those messages.⁽⁶¹⁾ The recent development in the field is UNCITRAL Model Law and CMI Rules, which will be in detail in the following chapter.

(58) See 1994 J.O. (L338) 98-117(94/820/EC).

(59) The EDIFACT language is made up of a coded data register. All the printed forms as well as the words used in the trade are basically covered by this register. It also provides certain common syntax and formats the consequence of which is the production of recognizable shipping documents. The carrier could therefore send a computerized bill of lading according to the agreed standard (e.g. EDIFACT) and the shipper's computer will instantly recognize the document as a bill of lading and proceed to conduct computer operations on that document.

(60) See INTERNATIONAL CHAMBER OF COMMERCE, E-TERMS REPOSITORY GUIDE BOOK, and ICC Doc. No. E100/INT.3 (1996).

(61) See Faber D. "Electronic Bills of Lading" at p. 467 Supra.

2.2.3 Application of EDI in electronic bills of lading

To facilitate private and business transactions it is essential that the infrastructure should be trustworthy. Any technology could be worthwhile depending on its application. A secure e-commerce technology to a certain extent facilitates this trust. It is suggested that parties prior to the delivery should decide on who should bear the risk of fraud, whether the carrier or the merchants. The rest is up to legal and regulatory safeguards and on the reputations of individuals or commercials concerned. However, the CMI rules clearly states that the electronic Data Interchange (EDI) should conform to the standards of relevant UN/EDIFACT standards.

The Model law on electronic commerce states that, information shall not be denied legal effect, validity or enforcement solely on the ground that it is in the form of a data message.⁽⁶²⁾ Through the use of EDI, transactions can be made speedier compared to paper documents. So that the problem of the documents reaching the port after the goods can be resolved. As the information send through EDI is structured to an agreed format it is more accurate and if there is any change the information can be rejected. The document can also be verified through a private key or by digital signature. The chance of fraud is also less in digital information. Where the law requires information to be in writing that requirement is also met by data message if it is available for future references. In spite of these advantages EDI was not that widely spread because it is high-priced and poses some legal uncertainty.

The infrastructure as a whole that is intended to issue, manage and facilitate the use of digital certificates is called Public Key Infrastructure (PKI). The PKI consists of components like The Certificate Authority, Registration Authority and The Directory.⁽⁶³⁾

(62) Article 5 of the Model Law.

(63) See for details Robert Bond *Amicus Curiae*, Encryption — use and control in E — Commerce. Issue 32, Nov 2000. at p.7-8.

We are going to explain these components as the follows:

The Certificate Authority (C.A) undertakes all the certificate operations, which encompasses certificate issuance, renewal, revocation, suspension, and retirement on behalf of a community of certificate users. Its primary function is to give an undertaking for the electronic identity (instantiated in the public key) of any of its relying parties. These relying parties could be people, file servers, web-server or business applications, mobile software agents, or whatever is required to be able to communicate with confidentiality, integrity and authentication. Consequently, the key that CA uses for signing purposes should be regarded as the core of the infrastructure and should be strongly protected. If they were ever to be fall in the wrong hands, certificates could be forged easily.

The Regional Authority (R.A) is the trusted authority to which the C.A delegates some management function. These functions include registration of individuals or other entities for inclusion into the community of certificate users, requests for revocation, suspension or update. Commonly someone in the personnel department of a company uses R.A software. Unlike C.A., which is the central resource, R.A is usually located near to the community of certificate holders it serves. The R.A is also known as a Local Registration Authority.

The Directory associated with public Key Infrastructure is the place where the subscriber's digital certificates are published. It is somewhat similar to the telephone directory where telephone numbers of the subscribers are listed. The advantage is that directory services can be accessed by a standard mechanism that facilitates automatic access and processing in business software. This is called the lightweight Directory Access Protocol or LDAP. The Directory is also used to publish notifications of certificate revocations and suspensions and so it is possible to check out whether a particular certificate is valid or not.

Chapter III

Law relating to Electronic Bills of lading

In this chapter, we shall examine two legislative approaches in regard to electronic bills of lading and to evaluate whether these approaches meet the requirements of the traditional bills of lading. These are the UNCITRAL Model Law for Electronic Commerce and the Committee Maritime International Rules.

3.1. The UNCITRAL Model Law

The United Nation's Commission on International Trade law (uncitral) since its inception in 1968 prepared the essential pillars of the legal infrastructure of today's worldwide commerce. It has been formed for the progressive synchronization and unification of the International Trade law and to uphold the interests and commercial needs of the developing nations. The main purpose of the Model Law as summarized in the guide is to provide a legal guide to facilitate the electronic commerce among and within nations, to validate transactions entered into by means of new information technologies, to encourage and promote the implementation of new information technologies, and to promote the uniformity of law and to support commercial practice.

In order to formulate a model law facilitating the use of electronic commerce that is suitable to states with different legal, social, and economic system and for harmonious international trade relations, the United Nations Commission adopted the Model law on electronic Commerce.⁽⁶⁴⁾ Taking into consideration the legal value of computer records adopted by the commission at its eighteenth session and paragraph 5(b) of the General Assembly Resolution 40/71 of 11 December 1985, the Model Law on Electronic Commerce was accepted by the Commission at its twenty ninth session after considering the observations of governments and interested

(64) Resolution adopted by the General Assembly on the report of the sixth committee (A/51/628) on UNCITRAL MODEL LAW ON ELECTRONIC COMMERCE.

organizations.⁽⁶⁵⁾ In June 1996, UNCITRAL adopted the Model law considering the legal aspects of electronic data interchange and other related means of communication. In preparing and adopting the UNCITRAL Model Law on Electronic Commerce, the United Nations Commission on international Trade law (UNCITRAL) was mindful that the Model law would be a more effective tool for States modernizing their legislation if background and explanatory information would be provided to executive agencies and legislators to assist them in using the Model Law.⁽⁶⁶⁾ The Model Law is enunciated with the intention to solve the problems relating to electronic commerce such as writing, signing and evidential questions. The Model law applies to any kind of information in the form of a data message used in the context of commercial activities.⁽⁶⁷⁾ Data message means information send received, or stored by electronic, optical or similar means including but not limited to electronic Data Interchange (EDI), electronic mail, telegram, telex or telecopy.⁽⁶⁸⁾ Articles 6 and 7 clarify that if the data messages are susceptible for future use it can be considered as an alternative for an 'information in writing'. Similarly signature is also accepted where approval of the information contained in the data message is indicated.

It should be noted that Model law has no legal force of it's own unless they are enacted in the national law. For this reason a guide to the enactment is also provided by UNCITRAL. Yet there are two limitations to the application of the Model Law. Even though the Model Law was drafted without giving much importance to consumer protection laws, situations involving consumers are not excluded from the scope of the Model Law. The difficulty is that most of the countries have their own consumer protection laws that may govern certain aspects of the use of information system. Moreover it is rather difficult to find a universally accepted definition of consumer. The second difficulty is regarding the commercial nature of the transactions covered. The Model law confines itself to electronic messages "used in the context of commercial

(65) See Official records of the General Assembly, Fortieth session, Supplement No.17 (A/40/17), chap. VI, Sect. B.

(66) See UNCITRAL Model Law on electronic Commerce Article by Article Study, (1996) Para 1.

(67) Article 1, UNCITRAL Model Law on Electronic Commerce.

(68) Article 2 (a), UNCITRAL Model Law on Electronic Commerce.

activities”. This gives a wider interpretation and the Model Law may be made applicable to number of transactions, which is not actually related to international commerce. The Model Law is also being considered for use in areas beyond “commercial activities” such as in the public administrative sphere where governments implement electronic commerce for the delivery of government services and program. Under the Model law it is mentioned that there should not be any disparity in treatment between data messages and paper⁽⁶⁹⁾

It is obviously declared in the Model Law that, even though the Model law is used to smoothen the progress of electronic means of communication, it should not be construed in any way as imposing their use.⁽⁷⁰⁾ Subject to national laws, there is nothing that would prevent the contract parties from incorporating a facsimile message into their agreements.⁽⁷¹⁾ Ultimately, this will lead to a situation where they are accepted by law as part of international trade as a custom or usage.⁽⁷²⁾

(69) Article 5.

(70) Legislations implementing provisions of Model law has been adopted in Singapore (Electronic Transaction Act 1998), Illinois, U.S.A (Electronic Commerce Security Act 1998) The Republic of Korea (Basic Law on Electronic Commerce 1999) and Colombia (Law on Electronic Commerce, Digital Signatures and Certification Authorities, 1999). Draft legislation based on or influenced by Model Law is under consideration in a number of jurisdiction including: Australia (Electronic Transactions Bill, 1999) Canada (draft Uniform Electronic Commerce Act); Chile (draft Law on Electronic Documents) France (Project de loi portant adaptation du droit de la preuve aux technologies de L’information et relatif ‘a la signaturee’electronique); Hong Kong SAR (Electronic commerce Bill 1999); India (draft Electronic Commerce Act); Peru; the Philippines; and Slovenia (Electronic Commerce and Electronic Signature Act, 1999). The development of laws on electronic commerce, including possible adoption of the Model Law, is under consideration in a number of other countries including Brazil, Mexico, Morocco, New Zealand, Thailand and Tunisia. Other legislative endeavors includes, Uniform Electronic Transactions Act developed at the federal level of the United States by the National Conference of Commissioners on Uniform State Law (NCCUSL), have been influenced by the development of the Model Law and the principles on which it is based.

(71) clauses like: ‘For the purpose of any business relation arising out of or in connection with this contract or offer, the provisions of the UNCITRAL Model Law on Electronic Commerce shall apply’ should be considered.

Leif Gamertsfelder “Electronic Bills of Exchange: Will The Current Law Recognise Them,” 1998 UNSW Law Journal.

(72) R hill and I Walden, “The Draft UNCITRAL Model Law for Electronic Commerce: Issues and Solutions”, 1996 13(3) The computer lawyer 19.

3.2 The CMI rules for the Electronic Bill of Lading 1990

The Committee Maritime International (CMI) adopted Rules for Electronic Bills of Lading in Paris on June 1990.⁽⁷³⁾ These provide an effective set of rules, which might be considered as the base for the use of electronic Bills of lading.⁽⁷⁴⁾ They are supposed to function by incorporation into the contract of carriage. In order to make it applicable, the CMI Rules provide for a private registry system for electronic messages as bills of lading. This is different from a central registry system such as that set up by Project Bolero.⁽⁷⁵⁾ Under the CMI rules, each carrier has its own registry, which means that it is not forced to use technology or software compatible with a central registry or other “members”. The CMI rules are more flexible,⁽⁷⁶⁾ The Sea Docs system and Bolero are relatively closed.

The CMI rules are mainly activated by the carrier issuing to the shipper an electronic bill of lading using electronic messages together with a private code or ‘key’ tenure of which enables the holder to control the goods. Here the endorsement and registration is made possible by means of a private key.⁽⁷⁷⁾ The holder of private key has every right to demand delivery of goods as well as to transfer his rights to another person or can nominate or substitute the nominated consignee. This right of control is transferred to another person after announcement by the shipper to the carrier who cancels the original key and gives a new key to the new person entitled to the control of the goods. In this way the key holder has the same right as the paper bill of lading holder. At any time

(73) The international Maritime Committee office is in Belgium. It is composed of national associations of Maritime law from more than fifty countries.

(74) See for details Livermore J & Euarjai K, “Electronic Bills of Lading: a Progress Report”, 28 J. MAR.L & COM.55 (1997); Kelly R, comment, “The CMI charts a course on the sea of Electronic Data Interchange”: “Rules for Electronic Bills of Lading”, 16 TUL.MAR. LJ 349 (1992).

(75) Ibid p.12.

(76) Jocelyn D, “Canadian Perspectives on the Impact of the CMI Rules for Electronic Bills of Lading on the liability of the Carrier Towards the Endorsee” TLJ (1998)[Vol 26:107] at p.109.

(77) Rule 2 of CMI Rules.

prior to the delivery of the goods the holder of the private key can demand a paper bill of lading; the option is being given to the carrier.⁽⁷⁸⁾

The CMI Rules preserves the function of the bill of lading as a document of title to goods, which was earlier, attributed only to paper bill of lading, and which, as a result of this development will allow the electronic document to be negotiated. The CMI Rules could be used to cover the practicalities of the receipt function, evidence of the contract terms, and passing of the right of physical control. The process is detailed in Article 7b of the Rules:

7b. A transfer of the Right of Control and Transfer shall be effected: (i) by notification of the current holder to the carrier of its intention to transfer its Right of Control and Transfer to a proposed new Holder, and (ii) confirmation by the carrier of such notification message, whereupon (iii) the carrier shall transmit the information as referred to in article 4 (except for the private key) to the proposed new holder, where after (iv) the proposed new Holder shall advise the carrier of its acceptance of the right of control and Transfer, whereupon (v) the carrier shall cancel the current private key and issue a new private Key to the new Holder.

The CMI Rules provide a solution to legal requirements of writing and signature by providing that the carrier shipper and all subsequent parties using these procedures agree that even if the local or national law, custom or practice requires the contract of carriage to be evidenced in writing that requirement is satisfied by these procedures. By accepting these Rules⁽⁷⁹⁾ the parties agree to abide by the rules and not to raise the defense that the contract is not in writing.

CMI Rules provide a procedural frame work for the use of electronic bill of lading but this is neither conclusive nor it can be considered as a new set of substantive rules for the application of electronic bill of lading. It can be said that it provides a set of Rules where electronic bill of lading is used instead of paper bill of lading. The CMI proposals make no provision for authentication of electronic bills.

(78) See for details Faber D. "Electronic Bills of Lading" p. 237 Supra.

(79) Rule 11 of CMI Rules.

The Rules are also silent regarding the measures to be taken in the event of system failure.

3.3 A comparison between the provisions under the CMI Rules and the UNCITRAL Model Law.

In this section, we will comparatively discuss the provisions of CMI Rules and Model Law.

3.3.1 The Scope of application

It is apparently confirmed at the outset of the model Law that this law is applicable to any kind of information in the form of a data message, which comes on the perspective of international commerce.⁽⁸⁰⁾ The term commercial is given a wide interpretation encompassing all the issues arising from commercial interactions whether contractual or not. Therefore, as long as the scope of the Model law is not between the users of electronic commerce and public authorities, the Model law is not limited to commercial sphere.

However, in Rule 1 of the CMI, it is mentioned that the Rules shall be made applicable whenever the parties agree to do so. Thus the application of the Rules is left to the discretion of the parties.

Article 1 of Model Law refers to “commercial activities”. The distinction between civil and commercial activities is a matter that is not recognized by some countries. The said article also states that the law does not override any rule of law intended for the protection of consumer. The lacuna in this particular area of the Article is filled by an amendment in 1998 whereby Article 5 bis is included. Article 5 bis. was adopted by the Commission at its thirty-first session in 1998 taking into account an electronic atmosphere of electronic mail, digital certificates and other forms of electronic commerce where the users take the advantage of “extrinsic sources” of information, like data bases, code lists or glossaries instead of huge quantities of text. The incorporation of data message by reference is also vital to the use of public Key

(80) Article 1 of the Model Law.

certificates, because these certificates are usually concise documentations with rigidly set contents that are limited in size. An important aim of the provisions of this Article is to recognize that consumer protection or other national or international law of a mandatory nature should not be interfered with. By establishing the principle of non-discrimination, it is to be construed as making the domestic rules applicable to incorporation by reference in a paper based environment equally applicable to incorporation by reference for the purpose of electronic commerce.

Thus article 5 bis is not to be interpreted as creating a specific legal regime for incorporation by reference in an electronic environment but is to be construed as making the domestic rules applicable to incorporation by reference in a paper based environment equally applicable to incorporation by reference for the purposes of electronic commerce.⁽⁸¹⁾

The Model law is intended to be made applicable to international and domestic use of data messages. It is intended for use by enact a national law by states that might wish to limit the applicability of the model law to international cases. It indicates a possible test of internationality for use by those states as a possible criterion for distinguishing international cases from domestic ones. Distinguishing international trade from domestic trade might give rise to considerable problems in certain jurisdictions especially in federal states. The Model law should not be interpreted as encouraging enacting States to limit its applicability to international cases since this will not serve the purpose of the law. Moreover, as the Model Law contains a number of Articles⁽⁸²⁾ that allow a degree of flexibility to enact a national law by states to limit the scope of the specific aspects of the Model Law, a further narrowing of the scope of application to international trade should not be encouraged. The legal certainty to be provided by the Model Law is necessary for both domestic and international trade, and a duality of regimes governing the use of electronic means of recording and communication of data might create obstacles to the use of such means. It is recommended that the application of the law should be as wide as possible.

(81) UNCITRAL Model Law on Electronic Commerce(1996), Article - by — Article remarks para 42.

(82) Articles 6,7,8,11,12,15&17.

3.3.2 The need for definitions

The Model Law as well as CMI Rules⁽⁸³⁾ deals with the common definition, which comes across in this particularly new field of law. According to CMI Rules 'contract of carriage' means any agreement to carry goods wholly or partly by sea⁽⁸⁴⁾. The transmission in CMI Rules means one or more messages electronically send together as one unit of dispatch, which includes heading and terminating data. The holder is the possessor of the rights by virtue of the possession of a valid private key.⁽⁸⁵⁾

In providing a definition for the 'data message' the Model law specifically made clear that it is not limited to communication but is also intended to encompass computer- generated records that are not intended for communication. However, if found necessary in jurisdictions Article 6 should be added to avoid confusion and for further clarification, where "record" is given the characteristic element of "writing".⁽⁸⁶⁾ The reference "similar means" is intended to reflect the fact that the Model law was not intended only for application in the context of existing communication techniques but also to accommodate foreseeable technical developments. The word 'similar' in the Model Law connotes " functionally equivalent". The aim of the definition of the "data message" is to encompass all types of messages that are generated, stored, or communicated in essentially paperless form, which is not amended or revoked (revocation is possible only by another data message). The Model Law does not interrogate on whether it envelop circumstances where data structured in the form of an EDI message would be communicated by means that do not involve telecommunication system.⁽⁸⁷⁾ To avoid further complication and confusion it is clearly stated in the Guide to the Model Law that irrespective of whether digital

(83) Article 2 of the Model law and Rule 2 of CMI Rules

(84) 2 (a) of CMI Rules.

(85) 2 (g) of CMI Rules.

(86) UNCITRAL Model Law on Electronic Commerce Para 30 Supra.

(87) The case where magnetic disks containing EDI messages would be delivered to the addressee by courier.

data transferred manually is covered by the definition of "EDI", it should be regarded as covered by the definition of "data message" under the Model Law.

Under the Model Law, "Originator" is the person who generated the data message even if it is transmitted by another person and the "addressee" is the person with whom the "originator" intends to communicate by transmitting the data message. The definition of "originator" should cover not only the situation where the information is generated and communicated but also where it is generated and stored. Nevertheless, the addressee who stores a message transmitted by the originator is not by itself covered by the definition of "originator".⁽⁸⁸⁾

The purpose of inclusion of the definition of "originator" is to avoid any possibility of considering a recipient who merely stores a data message as an "originator". Moreover, the Model law does not dispense with the significance of the intermediaries in the field of electronic communications. The definition covers both professional and non-professional intermediaries i.e., any person who performs the function of the intermediary other than the "originator" and the "addressee". The main functions of the intermediary are transmitting, receiving, storing information and other services with respect to that data messages like formatting, translating, recording, authenticating, certifying and preserving data messages and providing security services for electronic transactions.⁽⁸⁹⁾

The definition of "information system" is proposed to cover the entire series of technical means used for transmitting, receiving and storing information. This includes a wide communication network to an electronic mailbox or even a Telecopy.

3.3.3 Procedural formalities

The CMI Rules provide that the Uniform Rules of Conduct for Interchange of Trade Data by Tele transmission 1987 (UNCID) shall

(88) Article 2 of the Model law and Rule 2 of CMI Rules.

(89) Article 2(e) of the Model law of Electronic Commerce (1996).

govern the conduct between the parties, provided they are not in conflict with the CMI Rules.⁽⁹⁰⁾ But the UNCID rules do not have any legal footing of its own and will be used only if the parties explicitly agree to do so.⁽⁹¹⁾ It is also indicated in the CMI rules that the document format for the contract of Carriage should conform to the UN Layout Key or compatible national standard for bills of lading. Unless otherwise agreed, the recipient of a transmission is not authorized to act on a transmission unless he has sent a confirmation.⁽⁹²⁾ It is to be noted that CMI Rules provide for a mechanism for the authenticity of the private key but the Model law does not make any such provision but only held that the transmission should be unique. Rule 4 deals with the form and content of the receipt message. The receipt message according to Rule 4 (b) shall include:

- i - The name of the shipper
- ii - The description of the goods, with any representations and reservations, in the same tenor as would be required if a paper bill of lading were issued.
- iii - The date and place of the receipt of the goods;
- iv - A reference to the carrier's terms and conditions of carriage and
- v - The Private Key to be used in subsequent Transmissions.

On the other hand Articles, 16 & 17, which are, classified as part 2 of Model law explicitly deal with both negotiable and non-negotiable transport documents and transfer of goods by means of transferable bills of lading. Article 17 deals specifically of the transport document. The main idea behind this Article is that the functions traditionally performed through the single transmission of paper bill of lading would require the transmission of more than one data message and would necessitate the acceptability of electronic commerce in this area. And it states that technical security devices providing guaranty of singularity is one of the

(90) Article 3 (a) of the CMI Rules.

(91) The UNCID rules were developed through amalgamation of several trade bodies including UNCITRAL with the intention to formulate rules for the conduct of parties using EDI or other electronic information interchange system.

(92) Article 3 (d) of CMI Rules.

essential features of such procedures. Moreover, it is also mentioned that the rules applicable to paper documents would automatically be applied to contracts of carriage evidenced by data messages.

3.3.4 International nature of the Model Law

Article 3 of the Model law states that:

“In the interpretation of this Law, regard is to be had to its international origin and to the need to promote uniformity in its application and the observance of good faith and if questions concerning matters governed by this law is not settled it should be settled in conformity with the general principles on which the law is based”.

Article 3 inspired by Article 7 of the United Nations Convention on Contracts for the International Sale of Goods is intended to provide guidance for interpretation of the Model Law by courts or other national or local authorities. Article 3 plays a pivotal role in the clarifications and development of the Model Law. While interpreting the Model law one should bear in mind the international origin of the law and the need to promote uniformity in its application and the observance of good faith.

The purpose of paragraph (1) of Article 3 is to draw the attention of courts and other national authorities to the fact that the provisions of the Model Law or the provisions of the instruments implementing the Model law, while enacted as a part of domestic legislation and therefore domestic in character, should be interpreted with reference to its international origin in order to ensure uniformity in the interpretation of Model Law in various countries.⁽⁹³⁾

Even during the time of inception of Model law, it was decided that solutions to the legal difficulties raised by the modern means of communication are to be sought within the contracts, thereby supporting party autonomy. The principle is embodied only with respect to the provisions of the Model Law contained in chapter II of part one and the reasons for such limitations are also stated. The provisions contained in chapter II of part one may, be regarded as an exception to well-established principles of legal transactions which are of mandatory nature reflecting

(93) UNCITRAL Model Law on Electronic Commerce(1996), Para 42.

decisions of public policy. The provisions contained in Chapter II of Part I should be regarded as stating the minimum acceptable form requirement and are, for that reason, to be regarded as mandatory, unless expressly stated otherwise”.⁽⁹⁴⁾ But this will not give autonomy for states to make ‘requirements’ stricter than those contained in the Model Law.

Whereas, Rule 5 of the CMI Rules declares that the terms and conditions preferred by the carrier shall form a part of the contract of carriage, which will be readily available to the parties on demand. In the event of any conflict or inconsistency between such terms and conditions, the CMI Rules shall prevail.

3.3.5 Data messages v. Paper documents

The fundamental principle of the Model Law embodied in Article 5 provides that there should not be any disparity of treatment between data messages and paper documents. This principle is aimed at finding a broad application and its scope is not limited to evidential purposes only. Article 5 indicates that the form in which certain information is presented or retained cannot be used as the only reason for which that information would be denied legal effectiveness, validity or enforceability. It is noticeably stated that Article 5 does not establish legal validity of any given data message and should not be inferred in any manner. In the preliminary study of UNCITRAL itself it was understood that the stricter application of the requirement of a written document in some of the jurisdictions restrain the acceptability of EDI. In order to avoid such a possibility Article 6 is included in the Model Law. Article 6 is proposed to characterize the fundamental standard to be met by a data message for it to meet the constraints, which may result either from statute, regulation or case laws that the information be contained in a “document”, or other paper- based instrument.⁽⁹⁵⁾

CMI rules provides that the information contained in the Rules so far as they are in accordance to the provisions of the Rule, shall have the same force and effect as if the receipt message were contained in a paper

(94) Guide to the Model Law on Electronic Commerce (1996) Para 44.

(95) Article 6 has no standing of its own and should be read with articles 7 & 8, which deliver the same structure. See, Guide to the Model law.

bill of lading.⁽⁹⁶⁾ But the CMI Rules do not make any reference to the authentication of the electronic documents. The digital signature is used instead of the signature in the traditional bill of lading.

However, the CMI Rules gives an option to the holder that at any time prior to the delivery of the goods to demand from the carrier a paper bill of lading.⁽⁹⁷⁾ This affects the very purpose of the Rule because it indirectly points to the fact that paper bill of lading is vital in a contract of carriage. The carrier shall not be obliged to deliver such a document at a place where there is no such facility and shall be obliged only to make it available at the nearest location and shall not be responsible for the delay which may occur due to the exercise of this option.

National laws always prefer paper-based documents for many reasons. For instance, it provides a permanent record of transactions that can be used for subsequent reference. Manual signature is used whereby authentication of the document is made possible.⁽⁹⁸⁾

There would not be any disparities or disputes regarding the form required by public authorities or courts and it furnishes provisions for successive audit for accounting, tax or regulatory purposes. It guarantees tangible evidence to prove the intention of the parties to bind themselves, the document would be legible without giving much chances for fraud or alterations,.

In the Model law, a “functional approach” has been taken without giving a too wide perception on the functions performed by writing. But it was held that while creating a functional “approach” care should be given to notions distinct from writing like signature, “authenticated legal act” and “original”.⁽⁹⁹⁾

(96) Rule 4 Æ of CMI Rules.

(97) Rule 10 of the CMI Rules.

(98) See Guide to Model Law.

(99) Mr. Justice Hoffman in *Huddleston V Control Risks* [1987] 2 All ER 1035 held that for the purpose of the High Court rules ‘a written instrument or any other object carrying information such as a photograph, tape recording or computer disk can be. A “document”. And the Copyright (Computer Software) Amendment Act 1985 provides for the application of the 1956 copyright Act to a computer program in the same way as it applies in relation to a literary work. This shows that there was a serious attempt to overcome the problems faced due to the technological development in the field of computer documents.

In a paper based documentation there is a chance for fraudulent written document For instance, in certain national laws, a written document which is neither dated nor signed, and if the author is not identified or is identified simply by a letterhead would be considered as a writing although it might be of little evidential value in the absence of other evidence like testimony regarding the authorship of the document. Furthermore, the concept of inalterability is also not effectively protected as a conclusive prerequisite because even a written document in pencil can be considered as “writing” under certain legal definitions.

To be precise, even though reliability of the data and protection against fraud are dealt with in a paper-based documentation, there are chances for considering a fraudulent document as “writing”. And notions like “the intent of the parties to bind them” and “evidence” is expressions, which are more related to consistency and authentication of the data and it will not come under the definition of “writing”.

The Model Law allows the states to specifically exclude certain situations in the legislation depending on the purpose of legal requirement.⁽¹⁰⁰⁾ Such as, formalities required pursuant to international Conventions,⁽¹⁰¹⁾ prerequisites for warnings to be delivered on certain category of products and other types of circumstances and sphere of law that are beyond the power of the state legislations to transform by means of a statute⁽¹⁰²⁾.

Paragraph (3) of Article 7 affirm that matters of specific exclusion should be left to the discretion of the State legislations. As different states have diverse national conditions and circumstances this would be a preferable solution. However, it is to be noted that this should not affect the very purpose of the Law.⁽¹⁰³⁾ Many prohibitions from the scope of Article 6 to 8 would create unwanted obstructions to the advancement of modern communications systems.

(100) UNCITRAL Model Law on Electronic Commerce(1996), at Para 51

(101) For e.g. the requirement that the cheque be in writing pursuant to the Convention providing a Uniform Law for Cheques, Geneva, 1931.

(102) UNCITRAL Model Law on Electronic Commerce(1996), Supra.

(103) UNCITRAL Model Law on Electronic Commerce(1996), at para 52.

Article 7 is based on the recognition of the functions of a signature in a paper-based environment.⁽¹⁰⁴⁾ Article 7 adopts a comprehensive attitude. It makes clear that digital signatures could fulfill the two functions of manual signature, the authentication and integrity. In Article 7 there is no distinction as to the situation where there is a prior agreement for acceptance of contract containing provisions of electronic Bills of Lading and where there is no such formal agreement. The agreement between the “originator” and the addressee” of a data message is to be interpreted as covering not only bilateral or multilateral agreement concluded directly between the parties but also agreements involving intermediaries.⁽¹⁰⁵⁾ However, Para 3 of the provision contains exceptions, which entitles various jurisdictions to provide different requirements regarding signatures.

The mechanism for authentication under CMI Rules, which is based on the Private key, is a unique one to each successive holder and is not transferable by the holder, so that the security of the transfer is maintained.⁽¹⁰⁶⁾ The holder may transfer the right of possession through the carrier. It is also made clear that the private key must be separate and distinct from any means used to identify the contract of carriage and any security password or identification used to access the computer network. The carrier is obliged only to send a confirmation of an electronic message to the last holder to whom it issued a private key. The carrier shall deliver goods to the consignee only upon the production of a private key in accordance to the provision mentioned above and such delivery will automatically cancel the private key.⁽¹⁰⁷⁾ Moreover, the carrier is released from liability for miss-delivery if he exercises considerable care. So that it can be said that all the requirements of manual signature are met to a certain extent, by the private key under the CMI Rules.

(104) Ibid at para 53.

(105) Id at para 60.

(106) Rule8.

(107) Rule 9 (b).

3.3.6 Acceptability of a document as evidence

The adoption of provisions as those in Article 8 & 9 of the Model Law provides that electronic bills can be adduced as evidence in courts. The objective of article 9 is to institute and establish both the acceptability of data messages as evidence in legal proceedings and their evidential significance. This confirms the general principle stated in Article 4 and is required to make it expressly applicable to admissibility of evidence, an area in which particularly complex issues might arise in certain jurisdictions. With respect to acceptability, paragraph (1) of the said Article indicates that data messages should not be denied admissibility as evidence in legal proceedings on the sole ground that they are in electronic form. And in regard to the evaluation of the evidential significance of a data message: paragraph (2) imparts useful guidance as to how the evidential value of data messages should be considered for example, it is stated that the reliability can be judged based on whether they were created, stored or communicated in a dependable mode.⁽¹⁰⁸⁾

The CMI Rules on the other hand states that any law which requires the contract of carriage to be evidenced by writing and signed is satisfied by the transmitted and confirmed electronic data residing on computer data storage media displayable in human language on a video screen or as a computer print out.⁽¹⁰⁹⁾ Once the parties agree to abide by it they cannot later raise the defense that the contract is not in writing. One of the main impediments in the wide acceptance of the Model Law is the requirement of presentation of original documents. “Original” is defined as the medium on which information was fixed for the first time. Article 8 is useful in clarifying the notion of “writing” and “original” in particular in view of their importance for purposes of evidence.⁽¹¹⁰⁾ Article 8 is pertinent to documents of title and negotiable instruments in which the notion of uniqueness of an original is particularly relevant. But the

(108) Ibid at Para 70-71.

(109) Rule 11 of CMI Rules.

(110) UNCITRAL Model Law on Electronic Commerce (1996) Para 62.

Model Law is not intended to be made applicable only to documents of title and negotiable instruments. There are various technical means by which the contents of data message can be confirmed to their “originality”. Article 8 should be regarded as the minimum acceptable form requirement to be met by a data message for it to be regarded as the functional equivalent of an “original”. This should be made mandatory in the same sense, as the provisions of the use of paper based original documents are mandatory. But the requirement in Article 8 which states, that the data message should be “minimum acceptable” should not be interpreted as to enable states to establish requirements stricter than those contained in the Model Law.

Article 8 emphasizes the importance of the integrity of the information for its originality and sets out the criteria to be taken into account while assessing the integrity. It connects the concept of “originality” to a method of authentication and puts the focus on the method of authentication to be followed. It states the minimum acceptable form requirement to be met by a data message for it to be regarded as the functional equivalent of the original. In regards to the words “the time when it was generated in its final form” in paragraph (1) (a), it can be understood that the provision is intended to include the situation where information was first composed as a document and later transformed into a computer document. So long as the data message remains complete and unaltered, necessary additions to that data message would not affect its "originality".⁽¹¹¹⁾

As in other articles of chapter II of part one, the words "the law" in the commencing phrase of article 8 are to be understood as including not only statutory or regulatory law but also judicially created law and other procedural law. On the other hand, the definition of "law" in the Model Law does not include any other statutes or law that is not recognized by the state as law of the state.

It is with the intention to enhance the acceptability of the Model Law Paragraph (4) was included. As in Article 6&7 it states that

(111) Ibid at Para 66.

stipulation of exclusion from the provisions of the law is left to the discretion of the state legislations so that enactment of law in accordance to the national circumstances of each country is made possible. Paragraph 4 of Article 8 does not establish blanket exceptions. It is implicit, that the Model law, which involves fundamental principles, is enacted with the intention of general application and exclusion of its application as provided in Article 6 to 8, should not hamper the basic functions of the Model Law and should not be in a way to obstruct the electronic means of communications.⁽¹¹²⁾

3.3.7 Procedures associated with the storage of data and contract of carriage

Another area, which might create obstacles to the development of electronic commerce, is the difficulty that arises in the storage of data for further use, like taxation and accounting. This difficulty is, to a certain extent, made good by Article 10. It emphasizes that the message does not need to be retained unaltered as long as the information stored accurately reflects the data message as it was sent. It would not be practical to require that information be stored unaltered, since usually messages are decoded, compressed or converted in order to be stored. The use of the word “accessible” is intended to imply that the information in the form of computer data should be readable and interpretable, and the software that might be necessary to render such information should be retained.

The retention of the transmittal information as per Subparagraph (c) of Article 10 associated with the data message creates a standard that is higher than most standards existing under national laws as to the storage of paper-based communications. However, it should not be understood as imposing an obligation to retain transmittal information. While some transmittal information is important and has to be stored, other transmittal information can be exempted without the integrity of the data message being compromised. That is the reason why subparagraph (c) establishes a distinction between those elements of transmittal information that are important for the identification of and

(112) Ibid at Para 67-69.

the very few elements of transmittal information covered by paragraph (2), for example communication protocols, which are of no value with regard to the data message, and which typically would automatically be stripped out of an incoming data message by the receiving computer before the data message actually entered the information system of the addressee. Paragraph (3) provides that in meeting its obligations under paragraph (1), an addressee or originator may use the services of any third party, not just an intermediary.⁽¹¹³⁾ This is meant to prevent bad practice or deliberate misconduct.

A similar facility is also provided under the CMI Rules⁽¹¹⁴⁾. The Holder under these Rules may at any time demand the issuance of a print out of the receipt message except the private key, which is mentioned as 'non-negotiable copy'. Moreover the issuance of such a key neither cancels the private key nor terminates the procedures for EDI.

Article 11 of the Model Law deals with formation and validity of contracts. But this does not mean that Article 11 intervene with the formation of a contract. It rather aims to smoothen the path of electronic commerce, by improving the legal certainty as to the formation of a contract through electronic means. It not only deals with the issue of contracts but also the way offer and acceptance is made. Provision in paragraph (1) of Article 11 is considered in most of the countries as inclusive of provision which stipulates that offer and acceptance can be made through any modes of communication including data message. But in view of the uncertainties, which prevail in a considerable number of countries as to whether a contract can validly be concluded by electronic means, mainly, where there is no paper-based document and no immediate human intervention the requirement of specific provision has significance.

However, CMI Rules are silent in this context. The reason stems from the fact that the Rules deal with a particular area in electronic commerce that is related to the electronic Bills of Lading. The contract of carriage, which the Bills of Lading evidences are normally concluded

(113) UNCITRAL Model Law on Electronic Commerce (1996), at Para 72-75 Supra.

(114) Rule 10 (e).

before the issuance of the Bills of Lading. Therefore there is no necessity for the Rules to provide any provisions in this regard and it is beyond its scope.

Paragraph (1) highlights, in the context of contract creation, a principle already embodied in other articles of the Model Law, such as articles 5, 9 and 13, all of which ascertain the legal effectiveness of data messages. The impact of paragraph (1) is that it reinstates what is provided in articles 9 and 13 and makes clear that electronic messages may have legal value as evidence and produce a number of effects, including those provided in articles 9 and 13 but does not necessarily mean that they can be used for the purpose of concluding valid contracts. Paragraph (1) covers not only cases in which both the offer and the acceptance are communicated by electronic means but also cases in which only the offer or only the acceptance is communicated electronically.

There is no specific provision in the Model Law excludes the interference of the national law in the contract formulation. Some authors are of the opinion that such provisions restrict the universal applicability of the Model Law, and it must be amended to be more flexible by making provisions for acceptance of electronic communication as paper based document must. Article 11 should not be interpreted as restricting the autonomy of parties with respect to parties not involved in the use of electronic communication. This is made in such a way as not to contradict the provisions contained in Article 4, which says that, “Unless otherwise agreed by the parties”, electronic bill of lading would not be made possible.

In order to avoid conflict with the national laws of certain countries, which prescribe certain obligations and formalities with regard to the formulation of contracts, like notarization and other “requirements for writing” paragraph (2) provides that the State legislation can exclude the application of paragraph (1) in certain instances to be specified in the legislation enacting the Model Law.⁽¹¹⁵⁾

(115) UNCITRAL Model Law on Electronic Commerce (1996), at para 76-80 Supra.

Article 12 was included at a later stage in the formulation of the Model Law. This Article was included with the intention to fill up the lacunae in Article 11, where this Article emphasizes the provisions to be considered in the formulation of a contract but does not contain specifications as to the performance of contractual obligations (e.g., notice of defective goods, an offer to pay, notice of place where a contract would be performed, recognition of debt...etc). In most of the countries appropriate legislations as to the application of electronic communication is not available even though the electronic communication is widely accepted as a mode of trade, so, it was felt that the Model law should contain specific illustrations as to those principles. The contract formulation is only one of the requirements. It is also required that legal authenticity of unilateral manifestations of will, in addition to other notices or statements that may be issued in the form of data messages, needs to be mentioned.

One should bear in mind that the objectives of articles 11 and 12 are not to impose the use of electronic means of communication but to validate such use, subject to contrary agreement by the parties. Thus, article 12 should not be used as a foolproof to impose on the addressee the legal consequences of a message, if the use of a non-paper-based method for its transmission comes as a surprise to the addressee.⁽¹¹⁶⁾

Article 13 has its origin in article 5 of the UNCITRAL Model Law on International Credit Transfers, which defines the obligations of the sender of a payment order.⁽¹¹⁷⁾ Article 13 is set to operate wherever there is an uncertainty as to whether a data message was in fact sent by the one who is assigned as being the originator. In manually created document there is chances of forgery of signature. Likewise, in an electronic environment, an unauthorized person may have sent the message but the authentication by code; encryption or the like would be perfect. The purpose of article 13 is not to allocate responsibility. It deals rather with acknowledgment of data messages by establishing a presumption that

(116) Ibid at para. 82.

(117) Ibid at para. 83.

under certain circumstances a data message would be considered as a message of the originator, and goes on to qualify that presumption in case the addressee knew or ought to have known that the data message was not that of the originator.

Paragraph (1) Points out the principle that an originator is obliged by a data message “if it has effectively sent that message”. Paragraph (2) deals with the situation “where the message was sent by a person other than the originator who had the authority to act on behalf of the originator”. It is clearly stated in the Model Law that Paragraph (2) is not intended to displace the domestic law of agency.⁽¹¹⁸⁾ It is also stated that such disputes are to be considered by the Laws of each domestic states. According to paragraph 3 there are two kinds of situations where the data message accepted as that of the original i.e., the situations where there is a proper authentication procedure as previously agreed to by the parties or where it is made by authorized persons acting on behalf of the originator. It is enunciated in the guide to the enactment of the Model law paragraph (3) read in conjunction with paragraph (4)(a) that a data message is accepted as made by the originator till the notice showing that it is not sent by the originator or till the point of time “when it knew or should have known that the data message was not that of the originator”.

The effect of paragraph (3)(b), read in conjunction with paragraph (4)(b), is that the originator or the addressee, as the case may be, is responsible for any unauthorized data message that can be shown to have been sent as a result of the negligence of that party.⁽¹¹⁹⁾ However, paragraph (4) is not set to establish that receipt of a notice under subparagraph (a) would nullify the original message retroactively. It is mentioned in the guide to the Model Law that paragraph (4) should not be read as allowing the originator to avoid being bound by the data message by sending notice to the addressee under subparagraph (a), in a case where the message had, in fact, been sent by the originator and the addressee properly agreed. Moreover, it is stated that if the addressee can

(118) Ibid at para. 84.

(119) Ibid at para 87.

prove that the message is that of the originator, paragraph (1) would apply and not paragraph (4)(a). In addition, paragraph (5) is intended to deal with errors in the content of the message arising from errors in transmission. Paragraph 6 deals with precaution to be taken by the addressee to avoid erroneous duplication.

Considering the commercial value of a system of acknowledgement of receipt and the widespread use of such systems in the context of electronic commerce, the need that the Model Law should address a number of legal issues arise from the use of acknowledgement procedures.

The provisions of article 14 are based on the assumption that acknowledgement procedures are to be used at the discretion of the originator. Article 14 is not intended to deal with the legal consequences that may flow from sending an acknowledgement of receipt, apart from establishing receipt of the data message. For example, where an originator sends an offer in a data message and requests acknowledgement of receipt, the acknowledgement of receipt simply evidences that the offer has been received. Whether or not sending that acknowledgement amounted to accepting the offer is not dealt with by the Model Law but by contract law outside the Model Law.

Article 15 is based on the principle that for the undertaking of many existing rules of law, it is important to determine the time and place of delivery of information. In electronic trade this may not be always practical. It is based on the principle that the place where the business has taken place should be the criteria and not the place where the information system is situated.

Article 15 is indented to supplement the rules on dispatch⁽¹²⁰⁾ of electronic messages and not to disclaim them. It states that the mere fact that the data message reached the information system but failed to enter it does not mean that it will not be treated as dispatched. So, the addressee is escaped from the obligation to keep its information system functioning all the time by way of a general provision.

(120) Refers to the commencement of the electronic transmission of the data message.

Chapter IV

The “Functional Equivalence” To Paper Based Documents In Electronic Bill of Lading

This chapter will focus on whether the main requirements for a paper bill of lading are met by the electronic bills of lading. EDI cannot be regarded as an equivalent of a paper document, both in nature and in legal aspects. Therefore, the model law has introduced a new approach known as the 'functional equivalence approach'. This is based on an analysis of the functions of paper-based requirements and determining how those functions could be fulfilled through EDI. The main issues related to EDI which have been conversed internationally are:

- Legal acknowledgment of data messages;
- The 'document' requirement in writing;
- Acceptance of electronic signature;
- 'Document of title' and negotiability;
- As a receipt;
- As a contract.

The present trend is that in the civil law and common law system computerized records are generally admissible as evidence. In the absence of an original document a data message or a computer print out could be considered as the best available evidence. But if there is an original document it will be considered only as hearsay evidence. Article 5 of the Model Law clearly enunciates that there should not be any disparity of treatment between data messages and paper documents through its statement “information shall not be denied legal effectiveness, validity or enforceability” solely on the ground that it is not written. However Article 5 should not be treated as establishing the legal validity of any given data message or of any information contained therein. Article 8 emphasizes the importance of the integrity of information for its

originality. Paragraph 3(a) of Article 8 sets forth the criteria for assessing integrity. As long as the contents of the data message remain complete and unaltered necessary additions and alterations can be made without affecting the “originality” of the document. Thus when an electronic certificate is added to the end of an “original” data message to attest the “originality” of that data message, or when data is added by a computer system at the start and finish of a data message in order to transmit it, such additions would be considered as if they were a supplemental piece of paper with an “original” piece of paper, or the envelope and stamp used to send that “original” piece of paper.⁽¹²¹⁾

4.1 The requirement of a written document

Laws of many jurisdictions contain provisions requiring written documents. The contract of carriage itself is defined by the Carriage of Goods by Sea Act of 1924 as ‘a contract of carriage covered by a bill of lading or other similar document of title.....’ There is no universally accepted statutory definition of a document. The indispensable feature seems to be that it is “something which affords information”.⁽¹²²⁾

As already mentioned, English Courts through its decisions have made it clear that the database of a computer is a document for the purpose of High Court rules. But this may not satisfy the requirement of ‘writing’. The Interpretation Act 1978 (U.K) “includes typing, printing, lithography, photography and other modes of representing or reproducing words in visible form”. The commercial maritime Act of Kuwait specified that the bill of lading should be clearly written in two original copies both in Arabic and in any other international language.⁽¹²³⁾ In this point of view electronic message is not a document. But there is also a dissenting opinion that electronic communication being the most common means of communication in the present day world, the word

(121) UNCITRAL Model Law on Electronic Commerce (1996), p.40 Supra.

(122) Hill V R [1945] 2 K.B. 329, 333, per Humphreys, J.

(123) Article 176, 177. Decree By law No.28 for the Year 1980 promulgating Merchant shipping Act of Kuwait.

'document' should be more generously construed, to include electronic data as well.⁽¹²⁴⁾

The English judges and English statutes do recognize other means of conveying information than written documents. There are numerous examples for this, *Vinelott; J. in Derby & Co. V Weldon (No. 9)*⁽¹²⁵⁾ held that the database of a computer on line system or which is recorded in the backup file is a document for the purpose of the High Court rule governance. In *Grant v. Southwestern & Country Properties Ltd*⁽¹²⁶⁾ Walton J., while considering whether a tape recording could be a document, held that:

“the mere interposition of necessity of an instrument for deciphering the information cannot make any difference in principle”.

This means that a message is deciphered as a document even though there is no printer or instrument to decipher the information. Due to the influence and insistence of companies several dominant systems and projects were made for a uniform standard of trade in a paper less atmosphere earning discovery of documents so long as the information can be retrieved and converted into a readable form. The Civil Evidence Act of 1968, S.10 (dealing with the admissibility of hearsay evidence) defines 'document' as including “any disc, tape, sound track or other device in which sound or other data (not being visual images) are embodied so as to be capable (with or without the aid of some other equipment) of being reproduced there from”⁽¹²⁷⁾ and the Copyright (Computer Software) Amendment Act 1985 provides for the application of the Copy Right Act of 1956 to a computer program in the same way as it applies in relation to a literary work.⁽¹²⁸⁾ These examples are pointing to the fact that English law accepts modern means of technology as paper documents. This a welcoming approach which can be followed in other

(124) *Vaisey, J., in Tucker & Co ltd V Board of Trade* [1995] 1 W.L.R. 655, 658, stated that he was interpreting the word “ document” in the ordinary sense in which the businessman uses it”; at the time of the case this would only have meant materialized documents.

(125) [1991]WLR 653.

(126) [1975] Ch. 185.

(127) Under the Civil Evidence Act 1995, 'document' means anything on which information of any description is recorded. This statute will repeal part 1 of the 1968 Act, which contains the definition of the 'document' set out in the text.

(128) This is re-enacted in the Copyrights Designs and Patents act 1988.

countries, where the civil code is not that flexible enough to include data message as a document of evidence. In the Carriage of Goods by Sea Act 1992, there is express provision for regulations to be brought in to extent the application of its provisions to cases where telecommunications systems are used. However they will not redress all the problems arising from failure to recognize electronic bills of lading as bills of lading. The problems are firstly the banks would not accept them as security; Secondly, it would not be possible to transfer property in the goods using an electronic bill; and the third potential problem would concern the incorporation into the contract of carriage of internationally recognized rules governing the rights and liabilities of the parties.⁽¹²⁹⁾

The Model Law, CMI Rules, and Bolero project (etc..) expressly gives the electronic transmission the same legal status as in 'writing'. So long as the data message is accessible for future use or subsequent reference it is admissible.⁽¹³⁰⁾

4.2 Signature and other authentications

The Manual signature is universally accepted both in international as well as domestic laws as the most common form of authentication.⁽¹³¹⁾ The law requires a signature to be a personal act of authentication. This is very significant in a transaction because it is an evidence to prove the intention of the parties to be legally bound. Where the signature is a computer generated one it need not satisfy this requirement. However if a person uses the "penop" system or smart card⁽¹³²⁾ system such act is considered to be sufficiently personal to meet the requirements. However in the case of corporate bodies electronic signature may not be ample enough to meet the requirements, here there is the need of authentication of documents by using seal.

(129) See Faber D. "Electronic Bills of Lading" at p. 236 Supra.

(130) Article 5 of Model Law on Electronic Commerce.

(131) Goodman V Eban [1954] 1 q.b 550. And see First post homes ltd V Johnson [1995] 1 WLR 1567.pet.dis. [1996] 1 W.L.R. 67

(132) Under the penop system a person signs the computer screen, software then encrypts the signature and other data relevant to it like date and time of signing, and this information will then be stored and transmitted by electronic impulses in the same way as computer generated information. The smart card contains a portable microchip which stores the owner's code and would be swiped through a reader to encode messages.

The use of biometrics, which is of recent origin to replace the traditional signature, is also a practical measure. Biometric features are unique to each individual and would therefore provide a maximum level of authentication. These systems would include, but are not restricted to, palm and finger printing, voice recognition and retinal scanning.

The digital signature or electronic signature is a type of signature, uniquely associated with a signatory and which is applied digitally to or associated with an electronic communication, both to “sign” the communication in the conventional sense and to guarantee that the document representing the communication has not been tampered with. Electronic signatures are not only valuable antifraud devices, but when backed by a qualified certificate, may convey other information about the signatory such as address, or other creditworthiness and any credit limits on transactions for which the electronic signature is used. Here the art of cryptography⁽¹³³⁾ is used. There are two divisions in cryptography i.e. Symmetric or secret Key cryptography and asymmetric or public key cryptography. The main difference between the two types is that the former uses the same single key for both the encryption⁽¹³⁴⁾ and decryption operations.

The Electronic signature technology can be useful in electronic bill of lading in many ways, for instance:

- By using public keys cryptography, which provides a mathematical scheme for arranging computer data;
- By using secret digital codes, similar to PIN numbers⁽¹³⁵⁾ used in automatic teller machines;
- By using Biometrics.

(133) Secret writing or the science of codes and ciphers.

(134) The process of turning normal text into a coded version.

(135) Personal identification Number: shipper would be issued with a PIN card which contains his own personal PIN. This number is unique to this PIN card. The shipper would then insert his PIN card into the computer and enter his number to send the message. The PIN would then be part of the message. The carrier can then verify the validity of the PIN against that on the card. However, there appears to be some doubt about the level of security of such a PIN system. It has been suggested that security could be increased by using PINs which are regularly changed in conjunction with SMART cards which would have a built-in 'chip' or integrated circuit. This system is in use for a long time in the banking industry.

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- By using digital signature;
 - By using specific computer software, where a person signs the computer screen and the software encrypts the signature⁽¹³⁶⁾.

It is a general rule that bill of lading is required to be signed by the carrier or the person authorized by him. In the commercial maritime Act of Kuwait also the signature is a prerequisite for the bill of lading.⁽¹³⁷⁾ According to Article 7 of Model Law there is no requirement as to a specific technique of signature, any electronic signature can be introduced even in future as appropriate without changing the law. Article 7 provides that,

'Where the law requires a signature of a person, that requirement is met in relation to a data message if: A method is used to identify that person and to indicate that person's approval of the information contained in the data message: And 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 the relevant agreement.

An advanced electronic signature meets the following requirements.

- It is uniquely linked to the signatory.
- It is capable of identifying the signatory.
- The signatory can keep that under his sole control and it is so interlinked with the concerned data in such a way that any subsequent change of the data is detectable.
- It can be said that the electronic signature not only serves the identification of the signatory but also gets an advantage over the conventional means by guaranteeing the integrity of the document by not allowing the document to be tampered after the signature being applied.

(136) Penop system or smart card system.

(137) Article 176 pronounce that the bill of lading must be dated and signed by the carrier or his deputy.

4.3 Electronic Bill of Lading as a receipt

Prior to the passage of Carriage of Goods by Sea Act of 1992 the question whether a particular claimant has a right to demand delivery of the goods was depending on whether he has possession of document of title under common law.⁽¹³⁸⁾ The UNCITRAL Model Law addresses certain issues regarding the use of electronic Bill of Lading as a receipt. Article 14 states the use of acknowledgement of receipt as a system widely used in electronic commerce; and Article 15 deals with the time and place of dispatch and receipt of data messages.

It should be noted that the notion of “acknowledgement” is sometimes used to cover a variety of procedures, ranging from mere acknowledgement of receipt of an unspecified message to an expression

(138) Carriage of Goods by Sea Act 1992 This Act, which replaced Bill of Lading Act 1855, is applicable to any bills of lading, seaway bills and ship's delivery order issued after 16 September 1992. It does include received for shipment bill of lading but do not include a bill of lading, which is incapable of transfer either by endorsement or as a bearer bill without endorsement. Carriage of Goods by sea Act 2(a) & (b). [See for details Statutes & Conventions on International Trade Law, Dr. Indira Carr & Professor Richard Kidner II ed., London,1995].

Non-transferable Bills of lading would probably fall within the definition of seaway bills. There are different methods by which said Act can be made applicable to Electronic Data Interchange. It says that regulations can be used for this purpose. The Act comments that the secretary of a state through regulations may make provisions for the application of this Act to cases where a telecommunication system or any other information technology is used for effecting transactions corresponding to the issue, endorsement, delivery, transfer or any act in relation to such a document [15(a)(b)(c)] In 5(1) (b) (2) it is made clear that 'information technology' includes any computer or other technology by means of which information or other matter may be recorded or communicated without being reduced to documentary form and 'telecommunications system' has the same meaning as in the Telecommunications Act 1984. The simple method used in the Copyright (Computer Software) Amendment Act might be adopted with a quoting that “ this Act shall apply in relation to the electronic communication of information as it applies in relation to paper documents”. Alternatively such regulations could actually redefine the words found in the Act. Such redefinitions can be done in two ways. First, a set of Rules such as those devised by CMI could be scheduled to the regulations and redefinitions on the basis of the procedure set out in the CMI Rules. It may not be always practical to apply this universally especially where banks or independent registry is concerned. It should be noted that the definition in the CMI Rules should refer to the exact key or its equivalent otherwise there is chances for the messages to be send to someone who does not accept it or is not given a private key. Moulding up a definition encompassing all these provisions is rather impractical.

of agreement with the content of a specific data message.⁽¹³⁹⁾ It is not uncommon for users of electronic commerce to communicate from one State to another without knowing the location of information systems through which the communications is operated. Furthermore, the location of certain communication systems may change without the parties being aware of the change. The Model law is intended to reflect the fact that the location of the information systems is irrelevant and sets forth a more objective criterion, namely, the place of business of the parties.⁽¹⁴⁰⁾

4.4 Transferability and negotiability

A major function of Bill of Lading is that it is a negotiable document. The Transfer of rights by computer while goods are in transit occurs mostly within closed or limited access network systems and within narrowly defined sectors. The question considered in the context of electronic bill of lading is whether negotiability and transferability of rights in goods can be accommodated in electronic bills. If an appropriate international framework for electronic bill of lading can be enunciated, trade in goods across the world could be facilitated more efficiently and cost effectively. Such a framework could be developed based on the recent international experience (e.g. Bolero, s.8.5 of the Bolero Rule book attempts to do the same.) and existing UNCITRAL work including its Model Law Article 17 on electronic transport documents. There is scope of legislative developments in this field. Rule 7(d) of the CMI rules also deals with such a provision. It says that the transfer of Right of Control and Transfer in the manner described above shall have the same effect as the transfer of such rights under a paper bill of lading.

The UNCITRAL working group has not yet completed its study on this problem. This will include a number of proposals and recommendations by countries and international organizations.

(139) UNCITRAL Model Law on Electronic Commerce, Guide to enactment 1996, Article 14, p.49.

(140) Ibid Article 15, p. 52.

4.5 Electronic bill of lading as a contract

There are legislations which expressly or impliedly emphasis on contract to be in writing. The Bill of lading is such a contract, which the law requires to be in writing. The validity of a document is based on the observance of the legal requirements. But the various judgments show that the court is following a liberal approach towards this problem. Many of the problems posed by EDI can be overcome by a proper interchange agreement. In most of the countries EDI agreements makes provision that the message shall be regarded as accepted upon the automatic confirmation of receipt by the sender's communication equipment. So that the message will have legal binding on confirmation.

Conclusion

There is no doubt that there will be considerable developments in the field of EDI and Internet in the coming years. However, due to technical and legal problems associated with it is not clear whether Internet trade can be conducted in the same magnitude. These problems are needed to be tackled for the effective use of EDI messages in Electronic Bills of Lading. If the technical problems like the authentication and security are solved and legal recognition is assured then the success of EDI in worldwide trade is definite.

The implementation of Model Law and CMI Rules would enhance confidence in electronic bills of lading. The advantages resulted due to the adoption of Model law in the local legislations of certain countries will be an added incentive for the adaptation of the law in the remaining countries. Kuwait being adaptive to the latest technologies of world in a fast pace should certainly consider to the needs of implementation of new law in the field of electronic bills of lading. There is no doubt that the functions of traditional bill of lading can be made applicable in the electronic bill of lading, but the legislators and organizations should concentrate not only on replacing traditional bill of lading with electronic bill of lading, but in making electronic bill of lading superior to traditional bill of lading.

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