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Electronic Data Interchange Agreements: Private Contracting Toward a Global Environment

*Amelia H. Boss**

I. INTRODUCTION

With the growth in the use of electronic communications technologies to communicate important business and trade information, the size of the earth, although it may remain at the present 7,900 miles in diameter, is rapidly shrinking. In a matter of seconds, commercial trade data can be exchanged between parties thousands of miles apart, leading to the establishment of new business relationships. In the emerging new global economy, data, information, goods, and services are being exchanged internationally. No longer are parties to a commercial transaction bound by artificial national boundaries with their accompanying sets of domestic legal rules.

Over the past few years, rule-making on the international scene — the drafting or crafting of several international codifications — has contributed to the evolution of a commercial code to govern international commercial transactions. The United Nations Convention on Contracts for the International Sale of Goods,¹ the U.N. Convention on International Bills of Exchange and Promissory Notes,² the UNIDROIT Con-

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¹ United Nations Convention on Contracts For the International Sale of Goods, U.N. Doc. A/CONF.97/18 (1980), reprinted in S. Treaty Doc. No. 98-9, 98th Cong., 1st Sess; 19 I.L.M. 671 (1980). As of June, 1992, thirty-four countries had become parties to the convention. The United States ratified the convention in 1986, and it became effective in the United States on January 1, 1988. The accompanying Convention on the Limitation Period in the International Sale of Goods, 13 I.L.M. 952 (1974) and its amending Protocol, 19 I.L.M. 696 (1980) were signed by the United States in 1990 and are awaiting action by the Senate.

² United Nations Convention on International Bills of Exchange and International Promissory Notes, U.N. Doc. A/43/820 (1988), approved by U.N. General Assembly Resolution 43/165 (Dec.

ventions on International Financial Leasing³ and International Factoring,⁴ the recently completed United Nations Model Law on International Credit Transfers⁵ and the pending completion of the United Nations Uniform Rules on Bank Guarantees and Letters of Credit⁶ combine to create an international commercial legal structure providing uniform rules to govern many aspects of international business transactions.⁷

These developments, though progressive, have failed to keep pace with the quickly changing face of international business transactions. This emerging international commercial law framework is still primarily oriented towards trade law of the past, a schema in which goods and money predominate. Yet a prerequisite for the formation of any contract (e.g., sale, financing, transport, insurance) is the movement or exchange of information. Today much of that information is being moved electronically.⁸ Indeed, the movement of that commercial information (as

1988), *reprinted in* 19 I.L.M. 170 (1989). The convention was signed by the United States in 1990, and is currently being prepared for submission to the Senate for its advice and consent.

³ UNIDROIT Convention on the International Leasing, 27 I.L.M. 931 (1988).

⁴ UNIDROIT Convention on International Factoring, 27 I.L.M. 943 (1988). Both the UNIDROIT conventions were approved by a diplomatic conference of fifty-five nations states in 1988. Final Act of the Diplomatic Conference for the Adoption of the Draft UNIDROIT Conventions on International Factoring and International Financial Leasing (done at Ottawa, May 28, 1988), in 27 I.L.M. 927 (1988). They were signed by the United States in 1990, and are being prepared for submission to the Senate for its advice and consent.

⁵ On May 15, 1992 the United Nations Commission on International Trade Law gave its final approval to the Model Law on International Credit Transfers, providing uniform rules for payments systems, including electronic funds transfers. For an earlier version of that work, see Report of the United Nations Commission on International Trade Law on the Work of its Twenty-Fourth Session (10 - 28 June, 1991), U.N. Doc. A/46/17 (Fall 1991).

⁶ See Report of the Working Group of the International Contract Practices on the Work of its Sixteenth Session (Vienna, 4 - 15 November 1991), U.N. Doc. A/CN.9/358 (February 12, 1992) (containing the redraft of approximately the first half of the proposed uniform law on letters of credit and bank guarantees). The second half was the subject of a Working Group meeting in April, 1992.

⁷ The emergence of such an international code has been recognized in a number of circles, including the United Nations. In May of 1992, the United Nations Commission on International Trade Law (UNCITRAL) held a week long Congress devoted to the current state and the future of commercial law unification. See *Outline of the Programme of the UNCITRAL Congress: Uniform Commercial Law in the 21st Century* (New York, 18-22 May 1992), U.N. Doc. A/CN.9/1992/INF.1 (1992). In 1992, the General Assembly adopted a resolution

Reaffirming its conviction that the progressive harmonization and unification of international trade law, in reducing or removing legal obstacles to the flow of international trade, especially those affecting the developing countries, would significantly contribute to universal economic cooperation among all States on a basis of equality, equity and common interest and to the elimination of discrimination in international trade and, thereby, to the well-being of all peoples.

Resolutions Adopted by the General Assembly at its Forty-Sixth Session, A/RES/46/56 (1992). See also Amelia H. Boss and Patricia B. Fry, *Divergent or Parallel Tracks: International and Domestic Codification of Commercial Law*, 47 BUS. LAW (1992) (forthcoming).

⁸ In the United States, a recent survey has shown that over 17.5 percent of all US firms were employing some sort of electronic data interchange in their business, and the number is now esti-

well as the movement of other types of trade related information) is quickly becoming an increasingly critical part of international trade.⁹ However, the legal systems which have developed to date, internationally as well as domestically, have not focused on that movement of information, the rules governing that movement, or the commercial attributes of information as property in its own right.

Companies are increasingly resorting to electronic communications technologies like electronic data interchange¹⁰ (EDI) because of the increased speed of transmission, reduction in error in commercial exchanges of data, reduced need for paper documents, elimination of repetitive computer input, reduced inventory needs, faster response to business demand, reduced time to market products, and significant overall cost reductions.¹¹ As information moves electronically in the form of symbols and codes (rather than words), distances, cultural and language barriers fade into the background as national borders become transparent and a "borderless world" emerges.¹²

The growth of international use of electronic communications technologies has introduced a new means of communication at the international level which has not yet found its way into the domestic laws of the world nations, much less into the international laws governing international trade. Only small advances have been made within the context of international law to respond to the increased presence and trend toward these technologies. An example is Article 11 of the Convention on the International Sale of Goods,¹³ which eliminates any requirement of a writing for the enforceability of a contract for the sale of goods.¹⁴ Simi-

mated to be twenty percent. About three percent of all trade documents are currently being exchanged electronically. Ned C. Hill and Dan Ferguson, *Electronic Trade in the US: 1991 Status*, Electronic Trader 14 (Jan. 1992).

⁹ One aspect of this increased importance of information is the growing attention being paid to intellectual property issues, which affect the transfer of information in any form. Those issues, while crucial ones in today's international marketplace, are beyond the scope of this paper.

¹⁰ "Electronic data interchange" or EDI is the computer-to-computer transmission of information in structured form or according to agreed message formats. See Accredited Standards Comm. X12, INFORMATION MANUAL 2 (1989).

¹¹ "ICC Policy Statement on the Development of Electronic Data Interchange in International Trade," International Chamber of Commerce, Working Party on Legal and Commercial Aspects of EDI, EDI Policy and Coordinating Committee, Doc. No. 460-10/Int. 33 Rev. (Oct. 1991).

¹² Ohmae, *THE BORDERLESS WORLD* (Harper Business, 1990). See also, Barents, Gasille & Mout, *TRUSTED THIRD PARTIES AND SIMILAR SERVICES*, a Report for the Commission of the European Communities DG XII (TEDIS Programme), p. 15 (1991) [hereinafter "TEDIS Trusted Third Parties Report"], citing Miller, Kim, et. al. *Factories of the Future* 48-53 (European Affairs 1991) (European companies moving towards a "borderless factory").

¹³ See *supra* note 1.

¹⁴ This is, however, subject to the ability of any Contracting State to enter a special reservation pursuant to Article 96 that the provision of Article 11 allowing a sale contract "to be made in any

larly, some pieces of international legislation have sought to update traditional definitions of "document,"¹⁵ "writing,"¹⁶ "signature,"¹⁷ and "notice"¹⁸ and other requirements in a manner which facilitates the valid use of electronic teletransmission of information.¹⁹ In addition, the United Nations Commission on International Trade Law has undertaken the formulation of legal rules aimed at international electronic commerce which will remove many of the obstacles which currently exist to the full scale implementation of electronic trading.²⁰

Yet these are only the first steps. The present lack of rules to govern the use of electronic communication technologies such as EDI may cre-

form other than in writing, does not apply where any party has his place of business in that State." This has not been done by the United States.

¹⁵ See Inter-American Convention on Contracts For the International Carriage of Goods by Road, Articles 3 and 4, 29 I.L.M. 83 (1990) (document required, but if shipper agrees, bill of lading may be issued by any mechanical or electronic means that records the required information); United Nations Conference on Trade and Development, Convention on International Multimodal Transport of Goods, Article 5, 19 I.L.M. 938 (1980) (required document may be issued by any mechanical or other means of preserving a record; delivery of readable document required).

¹⁶ Some international conventions expand the definition of a writing to include telegram or telex. See United Nations Convention on Contracts For the International Sale of Goods, Article 13, 19 I.L.M. 671 (1980); United Nations Conference on Trade and Development, Convention on International Multimodal Transport of Goods, Article 1(10), 19 I.L.M. 938 (1980).

¹⁷ Some international conventions already recognize the possibility of electronic signatures. See Inter-American Convention on Contracts For International Carriage of Goods by Road, Article 5(1), 29 I.L.M. 83 (1990) (signature may be made by any mechanical or electronic means); United Nations Conference on Trade and Development, Convention on International Multimodal Transport of Goods, Article 5, 19 I.L.M. 938 (1980) (signature may be made by any other mechanical or electronic means); United Nations Convention on the Carriage of Goods by Sea [Hamburg Rules], Article 14(3), 17 I.L.M. 608, 617 (1978) (signature by any mechanical or electronic means, if not inconsistent with applicable law).

¹⁸ UNIDROIT Convention on International Factoring, Article 1(4), 27 I.L.M. 943, 944 (1988) ("notice in writing" includes telegrams, telex, and any other telecommunications capable of being reproduced in tangible form); Council of Europe, Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime, Article 25, 30 I.L.M. 150 (1991) (written requests may be by modern means of telecommunications, such as telefax).

¹⁹ For an in-depth discussion of those developments, see Judith Gliniecki & Ceda Ogada, *The Legal Acceptance of Electronic Documents, Writings, Signatures and Notices in International Transportation Conventions: A Challenge in the Age of Global Electronic Commerce*, 13 NW. J. INT'L L. & Bus. 117 (1992).

²⁰ See Report of the Working Group on International Payments on the Work of its Twenty-Fourth Session (Vienna, 27 January - 7 February 1992), A/CN.9/360 (1992) [hereinafter "UNCITRAL Working Group"]. UNCITRAL, at its meeting in May of 1992, endorsed the recommendations of the Working Group and authorized work devoted to the development of legal rules in the field of electronic commerce. This decision was a recognition that the earlier UNCITRAL recommendation, that governments review the legal requirement governing trade transaction to recognize developments in technology and the existence of electronic communications, did not have the desired effect of removing barriers to the implementation of electronic data interchange on the international level. See Official Records of the General Assembly, Fortieth Session, Supplement No. 17, ¶ 360, U.N. Doc. A/40/17 (1985); UNCITRAL Working Group, *supra*, at 16 (more detailed guidance needed than given in 1985 recommendation).

ate legal uncertainties as to the validity and enforceability of such transactions. In the absence of legislative, judicial, and administrative recognition, validation and regulation of electronic commerce, and the corresponding absence of industry-wide customs or standards to guide conduct, those engaging in international electronic commerce may consider themselves to be entering unexplored, uncharted and ungoverned areas.

The lack of rules theoretically could be addressed by private rulemaking.²¹ Parties may themselves address these legal uncertainties by entering into agreements governing their electronic trading.²² Given the important benefits²³ to be derived from private agreements governing electronic trading, it is ironic that some studies have shown that the ma-

²¹ Contract law has been conceptualized as giving individuals the "facilities for realizing their wishes, by conferring legal powers upon them to create, by certain specified procedures and subject to certain conditions, structures of rights and duties within the coercive framework of the law." H.L.A. HART, *THE CONCEPT OF LAW* 27 (1961). See also Llewellyn, *What Price Contract? — An Essay in Perspective*, 40 *YALE L.J.* 704, 731 (1931) (defining statutory law as including law created by contract). The United States Supreme Court has recognized the law making power granted to individuals by contracts which "enable individuals to order their personal and business affairs according to their particular needs and interests. Once arranged, those rights and obligations are binding under law. . . ." *Allied Structural Steel Co. v. Spannaus*, 438 U.S. 234, 245 (1978). See also Rosenfeld, *Contract and Justice: The Relation Between Contract Theory and Social Contract Theory*, 70 *IOWA L. REV.* 769 (1985) (private contract operates as private legislation).

²² Sports and business involving electronic commerce have been compared in the following manner:

Transacting business through the use of electronic data interchange ["EDI"] is like playing a new sport which has no specific rules governing the play. While we can analogize to rules governing other sports (in this case, paper-based transactions), those rules (which traditionally have come from legislation, court decisions, and regulation) may or may not work adequately. These pre-existing rules are not EDI specific, and applying the paper-based rules to electronic transactions may lead to inappropriate results. Moreover, the application of these rules is not certain. Lacking is a comprehensive, fair, even-handed set of standards to govern the play. To cease play because of the absence of needed standards or rules, however, would not be a practical or sound decision.

Amelia Boss, *The Proliferation of Model Interchange Agreements*, in *EDI WORLDWIDE, PROCEEDINGS OF THE THIRD INTERNATIONAL CONGRESS OF EDI USERS* (Brussels 1991) [hereinafter *Boss, Proliferation*].

²³ The potential benefits to be derived from any electronic data interchange agreement are significant. Agreement on the technical requirements in the exchange of information electronically is, of course, a practical necessity. Beyond the technical requirements, however, the single largest benefit of interchange agreements is removal of the legal uncertainty present in the existing legal framework and its application to transactions completed through the use of electronic data interchange. Parties can systematically analyze and provide for the appropriate allocation of risk, such as the risk of errors or omissions in the electronic transmission or the apportionment of liability for the acts of third parties. An interchange agreement allows the parties to specify procedures and safeguards desired to protect the system's security and integrity, and address ahead of time issues such as the extent of access to and use of data transmitted electronically and the confidentiality of that data. Parties can specify the terms and conditions applicable in the underlying commercial transaction, thereby eliminating the need to include them in the electronic transmissions and eliminating the uncertainties which may arise if they are not so specified. See Boss, *Proliferation*, *supra* note 22.

jority of EDI activity is carried out without the implementation of an interchange agreement.²⁴ Several explanations exist for such findings. First, companies implementing EDI have tended to do so with established trading partners where the need for contract formalities is perceived as minimal. Second, during the periods studied, little was known about the legal implications of the use of EDI. The importance of such agreements was generally unknown or unappreciated, and even parties who recognized the legal ramifications lacked guidance in how to address them. Moreover, the individuals in charge of EDI implementation have often been at levels of management traditionally unconcerned with legal issues. Third, the costs of negotiating and drafting such agreements, given the legal uncertainty surrounding EDI, arguably outweighed any benefits to be achieved in a settled trading relationship where disputes are often handled quietly and informally.

There is every reason to believe that the situation has changed drastically since those studies were done. Most of these studies were done prior to the proliferation of model agreements. In reaction to this relative ignorance of the legal ramifications of EDI, the absence of external rules governing electronic commerce, as well as the need for parity between trading partners implementing EDI,²⁵ many organizations domestically and internationally have been developing model or standard interchange agreements which parties to electronic commerce can use to structure their transactions. The increased use of interchange agreements reflects growing recognition of the complexities and subtleties involved in electronic commerce, and the increased ability of the parties to resolve these matters contractually. In effect, these organizations have been evolving a legal structure for electronic commerce, a legal structure which may be adopted privately by contracting parties, but also a legal structure which may serve as a roadmap for other lawmaking institutions faced with developing a framework for electronic commerce.

This article examines the important contribution the development of these interchange agreements is making to the facilitation of electronic commerce in a global economy through the clarification of the commercial importance and legal efficacy of a vital business activity — the elec-

²⁴ *The Commercial Use of Electronic Data Interchange — A Report and Model Trading Partner Agreement*, 45 BUS. LAW. 1645 (1990) [hereinafter *ABA Report*]; Walden, *EDI and the Law*, in Edwards, Savage and Walden, *Information Technology and the Law* 239, 243 (2d ed. 1990).

²⁵ One study found that electronic data interchange was initially implemented by very large corporations with extremely large vendor portfolios, who in effect mandated the use of EDI as a condition to continued business. See *ABA Report*, *supra* note 24, n. 36. See *In re Groseth Int'l, Inc.*, 442 N.W.2d 229 (S.D. 1989) (franchise terminated for cause where franchisee refused to install electronic ordering device).

tronic exchange of information. Part II of this article examines the role of interchange agreements in clarifying the relationships of the parties to an international trade transaction. Part III examines the scope of some of the major model interchange agreements and the conceptual foundations of those agreements in an effort to clarify the appropriate goals to be accomplished by private rule-making between the parties. Part IV examines the treatment of selected issues by the various model interchange agreements, (i) in an attempt to explore the ability of interchange agreements, as opposed to other forms of rule-making, to deal with those issues, and (ii) to determine what implications might exist for other types of rulemaking. Part V examines the implications of interchange agreements for the future of international rule-making and other business activity.

II. ROLE OF INTERCHANGE AGREEMENTS

When two parties decide to exchange information electronically, they may do so directly, (e.g. by a dedicated teletransmission hook-up between their respective computers).²⁶ More often, however, the parties use the services of a third party (known as a third party service provider or value added network) who facilitates the transmission of the messages, providing such services as recordation, storage, security, translation of information, and reformatting. This third party service provider may be an affiliate or subsidiary of one of the trading partners, or a completely separate entity. The two parties may even use different third party providers, who in turn exchange information between themselves.

As a result, there may be a multiplicity of contractual relationships involved in the ultimate transfer of information. First, there is the relationship between the two parties — the trading partners or “users” of electronic services — which has two aspects: the relationship involving the decision to exchange information electronically, and the trading relationships which may arise from the informational exchange. Today, *interchange agreements* or *trading partner agreements*²⁷ are used to

²⁶ For examples of the uses of electronic communications technologies in commercial transactions, see Ritter, *Defining International Electronic Commerce*, 13 NW. J. INT'L L. & BUS. 3 (1992); Fry, *Practitioners Beware — What You Should Know About Electronic Sales Transactions*, in 1991 COMMERCIAL LAW ANNUAL 67. See also generally Michael S. Baum and Henry H. Perritt, Jr., *ELECTRONIC CONTRACTING, PUBLISHING AND EDI LAW* (1991); Benjamin Wright, *THE LAW OF ELECTRONIC COMMERCE: EDI, FAX, AND E-MAIL: TECHNOLOGY, PROOF AND LIABILITY* (199)

²⁷ The terms *trading partner agreement* and *interchange agreement* are generally used interchangeably, the former being the preferred American usage and the latter the international formulation. Arguably, however, the terms may reflect a difference in approach: the trading partner agreement referring to any agreement structuring the relationship between the trading partners, whether arising from the exchange of electronic information or not, and the interchange agreement

structure the electronic communications relationship between these two parties, and a number of model agreements have been proposed on national, sectoral, and regional levels. Second, the relationship between each user and its third party service provider may also be subject to agreement, essentially a *network* or *service agreement*. In the past, such agreements have generally been drafted by the providers themselves, with a minimum of involvement from the end users, and because of the competitive nature of the business, there is virtually no standardization. Third, the relationship between third party providers is generally governed by *interconnect agreements*.²⁸ To a great extent, the focus in the past has been on interchange agreements, and the structuring of the relationship between trading parties who communicate information electronically. Interestingly, no model service agreements or interconnect agreements have been proposed. This is undoubtedly a reflection of the underlying differences in economics and dynamics of those relationships. Nonetheless, in a global trading economy, the fact remains that in the absence of standardized rules governing the complete exchange of information electronically, all the parties involved in that exchange could benefit from contractual allocations of responsibilities and liabilities arising in that exchange.²⁹

The idea of a model interchange agreement was first raised at the international level by the Nordic Legal Community in the early 1980's.³⁰ That initial idea resulted in the adoption by the International Chamber

being restricted to the exchange of information electronically. In this paper, however, no such distinction between the terms is used.

Terminology aside, conceptual differences as to the appropriate use and function of interchange agreements is an important distinguishing characteristic, and explains the differences in the way the various interchange agreements treat (or refuse to treat) various issues. See *infra* Part III, Part IV *passim*.

²⁸ For a discussion of the commercial issues involved in interconnect agreements, see Ritter, *Private Trade Data Networks*, Transnational Data and Communications Report 15 (July/August 1991).

²⁹ The UNCITRAL Working Group noted that in practice the liability of third party providers was limited by their public status (many being state-owned or of special importance to the national economy) or by contractual provisions in the network or service agreement. UNCITRAL Working Group, *supra* note 20, at 29.

³⁰ The project was called UNCA (Uniform Rules for Communication Agreements), and the Nordic group NORDPRO developed and accepted it in 1985. Hans B. Thomsen, *Uncid and communication agreements*, chapter 8 in HANS B. THOMSEN & BERNARD S. WHEBLE, *TRADING WITH EDI: THE LEGAL ISSUES* 151, 153 (1989). One of the first references to the concept appears in a document of the United Nations Working Party on the Facilitation of International Trade Procedures ["W.P.4"], *Legal Aspect of Trade Data Interchange*, Progress Report Prepared by the Rapporteurs on Legal Questions (Project 3.2.2 of the Programme of Work), TRADE/WP.4/R.289 (23 February 1984). See also The Trade Facilitation Committee of the Nordic Council, *SPECIAL PAPER No 3, LEGAL ACCEPTANCE OF INTERNATIONAL TRADE DATA TRANSMITTED BY ELECTRONIC MEANS* (1983).

of Commerce (ICC) in 1987 of the Uniform Rules for Conduct for International Trade Data by Teletransmission (UNCID).³¹ The UNCID Rules are a small set of non-mandatory rules which EDI users, suppliers of network services, and others implementing electronic communications technologies may incorporate into any communications agreement.³²

Since the publication of the UNCID Rules, numerous model interchange agreements have been developed — by EDI user groups representing specific industries (such as Odette, representing the European automotive industry,³³ or the International Maritime Committee, representing the maritime industry³⁴), by electronic data interchange industry groups (such as electronic data interchange associations in the United Kingdom,³⁵ Australia,³⁶ Canada,³⁷ New Zealand³⁸ and South Africa³⁹),

³¹ International Chamber of Commerce, *Uniform Rules for Conduct for International Trade Data by Teletransmission (UNCID)* (ICC Publication No. 452, 1988) [hereinafter *UNCID Rules*]. The UNCID Rules were prepared by a special joint committee of the ICC in which the United Nations Economic Commission for Europe (ECE), the Customs Co-operation Council (CCC), the UNCTAD Special Programme on Trade Facilitation (FALPRO), the Organization for Economic Co-operation and Development (OECD), the International Organization for Standardization (ISO), the Commission of the EEC, the European Insurance Committee, the Organization for Data Exchange via Teletransmission in Europe (ODETTE) and the Secretariat of the United Nations Commission on International Trade Law (UNCITRAL) participated.

³² The original idea of a standard for communication agreements was abandoned as impracticable due to the differing requirements of various user groups. UNCID Rules, *supra* note 31, Introductory Note, reprinted in *Legal Aspects of Trade Data Interchange, Uniform Rules of Conduct for Interchange of Trade Data by Teletransmission*, TRADE/WP.4/R.483 (1987). The rules of conduct which were drafted were limited to the interchange of data and did not include the substance of the trade data messages transmitted. Rather, it was contemplated that parties would adopt communications agreements, based on the UNCID Rules, but covering other areas as well. *Id.*

³³ *Guidelines for Interchange Agreements*, prepared by the Organization for the Data Exchange through Teletransmission in Europe (Odette) (1990) [hereinafter *Odette Guidelines*].

³⁴ *CMI Rules for Electronic Bills of Lading*, adopted by the Comité Maritime International (International Maritime Committee or CMI) in June 1990, published in *Letter of Credit Update* 27-31 (April 1991) [hereinafter *CMI Rules*]. Published with introduction and explanatory notes by Jan Ramberg.

³⁵ *EDI Association Standard Electronic Data Interchange Agreement*, prepared by the EDI Association of the United Kingdom (2d ed. August 1990) (includes explanatory comments) [hereinafter *UK Interchange Agreement*].

³⁶ *Model Electronic Data Interchange Agreement and Commentary*, prepared by the Legal Subcommittee advising the EDI Council of Australia (version 1, October 1990) [hereinafter *Australia Interchange Agreement*]. After the preparation of this article, a second Australian agreement was published. *EDICA Model EDI Trading Agreement (Short Form)*, prepared by a Subcommittee of the Legal and Audit Committee of the EDI Council of Australia (1991).

³⁷ *Model Form of Electronic Data Interchange Trading Partner Agreement and Commentary*, prepared by the Legal and Audit Issues Committee of the EDI Council of Canada (Canada 1990) [hereinafter *Canada Interchange Agreement*].

³⁸ *Standard EDI Agreement*, prepared by the New Zealand Electronic Data Interchange Association (New Zealand, October 1990) [hereinafter *NZ Standard Agreement*].

³⁹ *Model Interchange Agreement*, prepared by the Organization for the Simplification of Interna-

by attorney groups (such as the American Bar Association⁴⁰), by governmental agencies,⁴¹ and by multinational organizations (such as the Commission of the European Communities through its TEDIS programme,⁴² the Customs Cooperation Council,⁴³ or the CMEA⁴⁴). These groups cover many areas of trade,⁴⁵ from sales⁴⁶ and services agreements,⁴⁷ to customs⁴⁸ and transport.⁴⁹

tional Trade Procedures in South Africa (March 1991) [draft] [hereinafter *South Africa Model Agreement*].

⁴⁰ *Model Electronic Data Interchange Trading Partner Agreement and Commentary*, prepared by the American Bar Association (June 1990), published along with *The Commercial Use of Electronic Data Interchange — A Report and Model Trading Partner Agreement*, in 45 BUS. LAW. 1645 (1990) [hereinafter *ABA Model Agreement*]. The author and Jeffrey B. Ritter served as co-reporters for the project.

⁴¹ *Standard Interchange Agreement*, prepared by the Ministry of Communication of the Province of Quebec (Canada, September 1990) [hereinafter *Quebec Standard Agreement*].

⁴² *TEDIS Programme European Model EDI Agreement*, prepared by the Commission of the European Communities, DG XIII - D (May 1991) [hereinafter referred to as *TEDIS European Agreement*]. The TEDIS [Trade Electronic Data Interchange Systems] Programme is carried out within the Directorate-General No. XIII (Telecommunications, Information Industries and Innovation) of the Commission. Council Decision No. 87/499/EEC-OJL 285, 8.10.1987.

⁴³ *Guideline Concerning Customs-Trader Interchange Agreements and EDI User Manuals*, Customs Cooperation Council document 35.910 (March 22 1990) [hereinafter *CCC Guidelines*].

⁴⁴ *Model Agreement on Transfer of Data in International Trade*, agreed upon by the Republic of Finland and CMEA Member States (1991) [hereinafter *FINPRO Model Agreement*].

⁴⁵ Although not explicitly stated in the agreements themselves, but rather in accompanying commentary or by implication for the terms used, the agreements apparently do not contemplate application to consumer transactions. See *ABA Model Agreement*, *supra* note 40, Recitals; *Australia Interchange Agreement*, *supra* note 36, Article 1 and Commentary (1)(b); *Canada Interchange Agreement*, *supra* note 37, Article 1.01 (definition of a contract as a "business relationship" would appear to exclude consumer transactions).

⁴⁶ *ABA Model Agreement*, *supra* note 40.

⁴⁷ *Australia Interchange Agreement*, *supra* note 37, clause 1, Commentary (1)(c) (supply of goods and/or services); *Canada Interchange Agreement*, *supra* note 37, Recitals (supply of products and/or services); *NZ Standard Agreement*, *supra* note 38, Introduction (supply of goods and/or services).

⁴⁸ The Customs Cooperation Council temporarily abandoned a project involving a standard agreement to regulate the interchange of information between customs departments and those making a customs declaration because of the wide disparity between countries' rules and regulations. Instead, it drafted a directive providing the member states with the necessary elements of interchange agreements. *CCC Guidelines*, *supra* note 43.

One national customs agreement is the New Zealand CEDI Interchange Agreement, whose purpose is to "facilitate the interchange of trade data effected by teletransmission within the Customs Electronic Data Interchange Service run by the New Zealand Customs Department — through the establishment of agreed rules of conduct between parties engaged in such transmission." Ironically, this interchange agreement does not contemplate the complete elimination of paper in the customs process, as it requires importers to "continue to lodge paper copies of goods declarations (Customs Entries), the details of which have been previously been transmitted electronically."

⁴⁹ *FINPRO Model Agreement*, *supra* note 44, 4.2 (trade in goods, transport and services); CMI Rules, *supra* note 34 (covers bills of lading).

III. COVERAGE AND APPROACH OF INTERCHANGE AGREEMENTS

The model agreements have different characteristics. Most of the model agreements were drafted against a backdrop of domestic law.⁵⁰ The ABA Model Agreement, for example, was written against the backdrop of the American Uniform Commercial Code. The only “international agreements” to date are the TEDIS European Agreement⁵¹ and the FINPRO Model Agreement⁵², although each might better be described as regional rather than international.⁵³ It should be noted that some of the model agreements do not contemplate modifications,⁵⁴ while others encourage modification to accommodate the specific needs of the parties.⁵⁵ In part, this is due to differences in the legal and political climates in which the model agreements are proposed. Some of the agreements were written for a particular type of trade. The ABA Model Agreement, for example, was written specifically for the purchase and sale of goods,⁵⁶ but may easily be expanded to cover other types of transactions with care taken to assess the applicability of the specific provisions. Others cover services as well as sales.⁵⁷ Some agreements are quite general and were written to cover all types of electronic commerce; an example is the United Kingdom EDI Association Standard Electronic Data Interchange Agreement⁵⁸ and the TEDIS European Model EDI Agreement.⁵⁹ Due to their generality, they may not adequately address the specific issues nor contain the level of detail desirable in any particular trading relationship.⁶⁰

Many of these listed differences, e.g. the nature of the underlying

⁵⁰ Several of the agreements explicitly disclaim an intent to apply to international transactions, at least without review to determine needed modifications to accommodate international trade. See *ABA Model Agreement*, *supra* note 40, Recitals, Comment 1; *Australia Interchange Agreement*, *supra* note 40, clause 1, Commentary.

⁵¹ *TEDIS European Agreement*, *supra* note 42.

⁵² *FINPRO Model Agreement*, *supra* note 44.

⁵³ Some “international” agreements — for example, the *Odette Guidelines*, *supra* note 33, and the CMI Rules, *supra* note 34 — are limited to specific industries or issues.

⁵⁴ The UK Interchange Agreement for example, is intended to be executed without modification.

⁵⁵ The ABA Model Agreement, *supra* note 40, contains in its commentary “drafting considerations” to assist the user of the agreement in tailoring the agreement to the specific needs of the user.

⁵⁶ *ABA Model Agreement*, *supra* note 40, Recitals (the parties “desire to facilitate purchase and sale transactions.”) The Comment to the Recitals note that although the agreement is to be used in transactions involving goods as contemplated by Article 2 of the Uniform Commercial Code, it may also be used to develop suitable provisions for international use or use in the service sphere.

⁵⁷ See *supra* note 47.

⁵⁸ *UK Interchange Agreement*, *supra* note 35.

⁵⁹ *TEDIS European Agreement*, *supra* note 42.

⁶⁰ Alternatively, the parties may wish to consider entering into a master agreement governing the underlying commercial transaction.

trade transaction or the degree of generality of the agreement, are manifestation of a deeper conceptual distinction among the agreements. The important distinguishing characteristic is whether the agreement purports to deal (i) only with the agreement to communicate electronically (and not with the underlying trade transaction); (ii) with uniquely electronic issues (whether they arise in the trade transaction or the communications transaction); or (iii) with the communications transaction but also the underlying trade transaction to the extent that it is effected by the decision to trade information electronically. All agreements, at a minimum, cover issues implicated by the decision to trade electronically, such as the choice of standards. Although the U.K. Interchange Agreement does not go any further,⁶¹ virtually all other agreements recognize to varying degrees that the decision to trade electronically may affect the underlying relationship.

The UK Interchange Agreement⁶² is the classic example of an agreement purporting to deal with only the communications relationship.⁶³ In so doing, it deals with issues which are not uniquely "electronic issues," such as the confidentiality of the transmitted information⁶⁴ and the storage of data.⁶⁵ The decision to cover such issues, however, is an implicit recognition that the use of electronic means of communication may increase risks which exist in a paper-based system.⁶⁶ Moreover, coverage of such items as data storage, as well as the imposition of an obligation to accord electronic messages the same status as paper ones, is

⁶¹ The *Odette Guidelines*, *supra* note 33, while not technically a "model agreement" but merely guidelines, are limited to establishing communications standards.

⁶² *UK Interchange Agreement*, *supra* note 35. The *NZ Standard Agreement*, *supra* note 38, is derived from the UK Interchange Agreement, and takes a virtually identical approach.

⁶³ An example is the UK Interchange Agreement, which provides:

A fundamental principle is that the SIA [Standard Interchange Agreement] relates only to the interchange of data and not to the commercial contractual obligations between parties. The SIA is not itself a substitute for any individual contracts, express or implied, between trading partners, such as those for the supply and purchase of goods or services. Such underlying contracts and contractual relationships are assumed to exist, or to be brought into existence, just as they would if the exchange of information between the parties had been by means other than electronic.

UK Interchange Agreement, *supra* note 35, Explanatory Comment. See also *NZ Standard Agreement*, *supra* note 38, Explanatory Notes (agreement not intended to be substitute for, nor to interfere with, the normal commercial contract between the trading parties).

⁶⁴ The same information, sent in other forms, also raise confidentiality issues, although the risks in an electronic system may be greater than in a paper system. See *infra* Part IV.A(7).

⁶⁵ Again, paper messages, as with electronic messages, may be destroyed or modified. Although companies may routinely retain and store certain types of paper documents for legal, accounting, tax or other business reasons, trading partners do not routinely enter into agreements regarding the storage of those documents.

⁶⁶ For a fuller discussion of these points with respect to confidentiality and data storage, see *infra* Part IV.A(7).

recognition of the fact that the ability to adduce and introduce evidence of the electronic message may effect a party's ability to prove the underlying commercial transaction.

There are other agreements which, while purporting not to deal with the underlying transaction, nonetheless recognize more affirmatively the impact that the decision to communicate electronically may have on the underlying trade transaction. The Australia Interchange Agreement, although it is modeled on the UK Interchange Agreement, contains provisions which more explicitly reinforce the parties' ability to prove and enforce the underlying trade transaction.⁶⁷ To that extent, the Australian Interchange Agreement deals not only with the communications issues, but also with uniquely electronic issues such as the enforceability of electronic messages even though that issue will surface in the context of the underlying trade transaction.⁶⁸

Several agreements go further, and recognize that the decision to trade electronically may affect the underlying trade transaction in ways other than merely evidentiary. To that extent, these agreements deal not only with the communications arrangement, but with the related trade transactions as well. Several of the model interchange agreements, for example, do not address such issues as the formation of any underlying contract, its terms and conditions, and the liability of the parties. The theory is that these are not communications issues but rather part of the trading relationship between the parties. An alternative theory is that these issues exist even in a paper-based environment and are not unique to EDI. The fact remains, however, that the decision to trade electronically has an impact on these "trade relationship" issues. Either the use of electronic communications creates legal uncertainty as to the appropriate legal rules to be applied, or the use of electronic communications appears to increase or change risks which normally exist in a paper-based environment. Risk adverse business people might thus prefer to cover these issues directly in the interchange agreement, because of their assessment that the use of electronic communications technologies accentuates or increases the risks normally encountered in paper-based transactions.

There are current efforts underway to study these various model agreements and develop a complete and comprehensive model which will

⁶⁷ See, e.g. *Australia Interchange Agreement*, *supra* note 36, clauses 3.3 (defining writing, signed, original), 3.4 (governing evidentiary value of electronic message).

⁶⁸ Another example is the treatment of contract formation. While the Australia Interchange Agreement ostensibly does not cover the issue of contract formation, it does define "receipt" in clause 4, and then notes in the Commentary that "[i]t is important that the issue of contract formation be addressed — either by modification of this Agreement or in the Governing Agreement." *Australia Interchange Agreement*, *supra* 36, clause 4 and Commentary.

be easily adaptable to all EDI uses. The most noteworthy initiative is being undertaken by the Legal Rapporteurs of the Working Party on the Facilitation of International Trade Procedures within the United Nations Economic Commission for Europe.⁶⁹ Ultimately, however, any such effort will need to determine the appropriate theoretical construct underlying the agreement's parameters: whether to limit itself solely to the communications arrangement, to include other uniquely electronic issues, or to confront other ways in which the decision to communicate electronically alters the risks the parties face.

IV. SELECTED ISSUES COVERED IN INTERCHANGE AGREEMENTS⁷⁰

Even though the different model interchange agreements for the implementation of EDI reflect different conceptions, a variety of needs, and differences between EDI users, those differences affect primarily what issues are covered, rather than how those issues are covered. Apart from coverage issues, all the model agreements share certain important characteristics, the differences between them being relatively subtle. What follows is a discussion of the treatment of major points covered by these interchange agreements.

These major points may be roughly divided into two categories: the business issues that need to be made in structuring the communications relationship and the legal issues that are ordinarily addressed by the communications agreement. Admittedly, there is overlap between these two categories. Nonetheless, for purposes of discussion, this dichotomy is used.⁷¹

⁶⁹ See *Legal Aspects of Trade Data Interchange*, Proposed Programme of Work Relating to Legal Issues Transmitted by the Ad Hoc Team on Legal Issues, U.N. ESCOR, 43rd Sess., Item 4.1, at 7, TRADE/WP.4/R.697 (1990). The Legal Rapporteurs project completion of the project by 1995.

There had been earlier indications that UNCITRAL might also undertake the development of a model interchange agreement, see *Report of the United Nations Commission on International Trade Law on the Work of its twenty-third session*, U.N. GAOR, 45th Sess., Supp. No. 17, ¶¶ 38-40, U.N. Doc. A/45/17; *Electronic Data Interchange, Report of the Secretary-General*, U.N. Commission on International Trade Law, 24th Sess., U.N. Doc. A/CN.9/350 (1991). However, the present proposal for UNCITRAL action is the development of model rules. See UNCITRAL Working Group, *supra* note 20.

⁷⁰ Not all issues covered by proposed interchange agreements are discussed here, nor are the selected issues discussed exhaustively. Rather, the discussion is an attempt to focus on the implications of these model agreements for future rulemaking on the international level.

Although the model agreements discussed are presently not available in any consolidated version, the author and Jeffrey B. Ritter are currently producing a compilation of these documents, accompanied by extensive commentary, to be published by the International Chamber of Commerce.

⁷¹ See also, *ABA Report*, *supra* note 24 (distinguishing between legal issues and commercial issues).

A. Business Issues

1. Technical Requirements

In order to communicate through the use of electronic data interchange, the parties must reach agreement on such technical issues as the formats in which the data will be sent, the standards and possible implementation guidelines to be used,⁷² the use of third party providers,⁷³ and the development and maintenance of appropriate computer and communications systems.⁷⁴ Virtually all of the proposed model agreements cover such issues. Some address these issues in a separate user's manual which is incorporated by reference into the interchange agreement;⁷⁵ others cover the technical aspects of electronic commerce in an appendix⁷⁶ or in the agreement itself.⁷⁷ Although these decisions are essentially business decisions, in the absence of agreement on such requirements, electronic communication is impossible.

The important distinction between the interchange agreements is not the location of the technical requirements that are covered, but the specificity and flexibility of the related provisions. One crucial issue not addressed in many of the interchange agreements is how the parties will accommodate changes in messages, transactions sets, or other technical requirements after the execution of the interchange agreement. Modifi-

⁷² In the international arena, many of the model agreement specifically require the use of EDIFACT standards, standards being developed under the auspices of the United Nations Economic Commission for Europe Working Party on the Facilitation of International Trade Procedures. See, e.g., *FINPRO Model Agreement*, *supra* note 44; *TEDIS European Agreement*, *supra* note 42. This reflects the commitment of such entities as the European Community to these international standards as the standards of choice.

⁷³ Parties need to decide at the outset of the transaction whether they will be exchanging information directly or whether they will be using the services of third party providers. Advance determination of the services to be used is necessary to assure compatibility of systems and the existence of interconnect arrangements between providers. If party A is using carrier ABC, and party B is using carrier DEF, the parties need assurances that ABC and DEF have the capability of exchanging data.

In addition to assuring the technical viability of the proposed communications connections, the parties may also need to consider apportionment of the costs and risks involved in the use of third party service providers. See *infra* Part IV.A(3).

⁷⁴ Thus, for example, the ABA model agreement provides in § 1.3 that "each party, at its own expense, shall provide and maintain the [necessary] equipment, software, services and testing . . ." *ABA Model Agreement*, *supra* note 40, § 1.3. *Australia Interchange Agreement*, *supra* 36, clause 6.1; *Canada Interchange Agreement*, *supra* note 37, § 3.01.

⁷⁵ *Australia Interchange Agreement*, *supra* 36 (EDI Communications Manual); *Canada Interchange Agreement*, *supra* note 37 (Communications Manual); *NZ Standard Agreement*, *supra* note 38 (User Manual); *TEDIS European Agreement*, *supra* note 42 (Technical Annex).

⁷⁶ An example is the *ABA Model Agreement*, *supra* note 40, Appendix.

⁷⁷ The *FINPRO* agreement, for example, in addition to providing for an annex, provides in the text that the parties will adhere to EDIFACT standards. *FINPRO Model Agreement*, *supra* note 44, §§ 5.2, 5.3.

cation may become necessary in light of changes in technology, the development of new messages and formats, or changes in needs. In the FINPRO Model Agreement for example,⁷⁸ the parties agree to adhere to EDIFACT standards and messages. No provision is made, however, for which versions of the EDIFACT standards and messages are to be used: those in effect at the time of the execution of the interchange agreement, or those to be developed in the future. If the latter was contemplated, guidance is lacking as to when the parties must adopt the new standards, and whether messages sent under the old will nonetheless be considered valid and effective. By contrast, the TEDIS agreement requires transmission of EDI messages in accordance with the updated version of the UN/EDIFACT standards.⁷⁹ The ABA Model Agreement calls for a specification of the version release chosen by the parties, and suggests the "then current and one prior version."⁸⁰ Furthermore, under the general updating requirement of the agreement,⁸¹ each party must maintain software necessary to effectively receive the new message release.

The ABA Model Agreement has a further unique feature. In optional language, it recognizes that the parties may begin to regularly transmit transaction sets which are not set forth in the interchange agreement or its appendices.⁸² The commentary suggests that parties who wish to retain tight control over transmissions not adopt this optional language, but that those desiring flexibility will retain it.⁸³ A somewhat different approach is to provide that any message not previously agreed to shall have no force and effect unless acted upon by the recipient.⁸⁴ This variant, like the ABA optional language, recognizes that under certain circumstances the parties may act in a manner not specified in the agreement, and that to deny such actions legal force and effect may operate in an inequitable and unjust manner.

These provisions make it clear that an interchange agreement must confront the problems of changing technology as well as the possibility that parties may act in a manner which is not in strict conformity with the strictures of the agreement.

2. *Acknowledgement or verification*

One arguably technical area where the model interchange agree-

⁷⁸ *FINPRO Model Agreement*, *supra* note 44, § 5.2. (alternative provisions).

⁷⁹ *TEDIS European Agreement*, *supra* note 42, 3.1.

⁸⁰ *ABA Model Agreement*, *supra* note 40, Appendix.

⁸¹ *ABA Model Agreement*, *supra* note 40, § 1.3.

⁸² *ABA Model Agreement*, *supra* note 40, § 1.1.

⁸³ *ABA Model Agreement*, *supra* note 40, § 1.1, Comment 7.

⁸⁴ *E.g., Australia Interchange Agreement*, *supra* note 36, clause 2.1.

ments differ involves the required use and effect of acknowledgements or verifications of message receipt. EDI technology has developed devices by which the sender of a message can be notified almost immediately that its message has been received, and received without defects (such as omissions or errors in format or syntax). Given that the technology exists, should there be a requirement that parties use that technology as part of their systems operation?

Some agreements require acknowledgement or verification of message receipt, although they differ in what type of acknowledgement must be given.⁸⁵ Acknowledgement can be detailed (a functional acknowledgement is an example)⁸⁶ or can repeat the data from certain fields in the original message which is being acknowledged. Alternatively, a cursory acknowledgement merely informs the sender that the message has been received, describing it by message type without further descriptive data.⁸⁷ Other agreements allow the parties to specify for each message whether acknowledgement is required.⁸⁸

Initially, the decision of whether or not to address acknowledgement and verification at all is a business issue. While effective verification practices increase the ability to detect and resolve transmission errors early on in the transaction, thus reducing risk for both parties, there is an obvious cost attached to such a requirement.

This business issue also has legal ramifications. The requirement of verification may (a) affect the efficacy of the original message in the event of non-acknowledgement; (b) place obligations on each party if no acknowledgement is sent; or (c) affect the allocation of the risk of error. If acknowledgment is required, and can be given efficiently and inexpensively, a sender of a message who does not receive any verification will then know or should know that a possibility exists that the message was not received. Hence, the resolution of the issue of liability for erroneous

⁸⁵ *ABA Model Agreement*, *supra* note 40, § 2.2 (functional acknowledgement required unless otherwise specified); *Australia Interchange Agreement*, *supra* note 36, clause 4.1(3) (acknowledgement required before message is deemed received); *Canada Interchange Agreement*, *supra* note 37, § 4.03 Comment (prompt acknowledgement required, but choice left to parties to decide whether it may be cursory or detailed).

⁸⁶ A functional acknowledgement is a transaction set or message, in a predefined or fixed format, which confirms that the message has been received, and that all the required portions of the document (e.g. name, address, item) were present and correct. It does not, however, confirm the substantive content of the original message.

⁸⁷ See *Canada Interchange Agreement*, *supra* note 37, § 4.03, Comment.

⁸⁸ *FINPRO Model Agreement*, *supra* note 44, § 10; *NZ Standard Agreement*, *supra* note 38, § 6; *TEDIS European Agreement*, *supra* note 42, 4.1; *UK Interchange Agreement*, *supra* note 35, § 6; *UNCID Rules*, *supra* note 31, 7.

messages may be affected by whether an obligation exists to acknowledge the receipt of messages.

The treatment of the effect of an acknowledgement (or the effect of failure to acknowledge) differs among the agreements. Some place an obligation on parties to acknowledge receipt but fail to specify the consequences of failure to acknowledge.⁸⁹ Others specify that no message is deemed received until an acknowledgement is sent,⁹⁰ or that the original message may not be acted upon until a required verification is sent.⁹¹ In each of these cases, the original message is deprived of legal effect. At the other end of the scale, the ABA model makes a functional acknowledgement conclusive evidence of a message's receipt,⁹² but the absence of an acknowledgement does not effect the legal significance of the original message.⁹³

From a practical perspective, the decision of an EDI user as to whether to require verification demands consideration of the benefits to be derived from the use of acknowledgement requirements in light of the costs involved, and factors such as the importance of certainty in the transaction, the significance of the messages conveyed, and the potential difficulties in proving the electronic transaction should a dispute arise. From a law making perspective, however, the ability of EDI users to provide quick, efficient, and reliable verification of message receipt may impact the legal rules chosen to govern the parties' transaction.

3. *Third Parties*

Persons transmitting electronic messages may choose to use the services of third party service providers, also known as value added networks (VANS). Such service providers, in addition to providing telecommunications connections between the parties, may provide services such

⁸⁹ *Canada Interchange Agreement*, *supra* note 37, § 4.03; *FINPRO Model Agreement*, *supra* note 44, § 10 (obligation if acknowledgement requested by sender); *NZ Standard Agreement*, *supra* note 38, §§ 6.1 - 6.2 (obligation impose only when acknowledgement requested); *UK Interchange Agreement*, *supra* note 35, §§ 6.1 - 6.2 (obligation imposed only when acknowledgement specifically requested). The failure to specify the consequences of non-acknowledgment may be due to the fact that under these agreements, acknowledgement is generally *not* required.

⁹⁰ *Australia Interchange Agreement*, *supra* note 36, clause 4.1(3).

⁹¹ *TEDIS European Agreement*, *supra* note 42, § 4.1; *UNCID*, *supra* note 31, § 7(a).

⁹² *ABA Model Agreement*, *supra* note 40, § 2.2.

⁹³ *ABA Model Agreement*, *supra* note 40, § 2.1 and § 2.2, Comment 4. The accompanying report notes that the person failing to acknowledge may be liable to the originating party, but that the originating party who fails to receive an acknowledgement may have a corresponding duty to mitigate damages, which may include an obligation to make inquiries. Conditioning the legal effectiveness of a message upon verification was rejected because of the power it gave to the receiving party to deprive a communication of legal effectiveness by failing to return a functional acknowledgement. *ABA Report*, *supra* note 24, at 1670.

as format and standard translation, message tracing and other audit functions, electronic mailbox services (receipt, storage, transmission, retrieval), record retention and storage, security enhancement, implementation training and consultation, database development, and conversion to and from paper, voice or other media. Although an agreement between the sender and receiver of the message could not bind the third party provider,⁹⁴ it does provide a vehicle for the parties to agree upon the use of a third party provider, the costs involved, the requirement of notice in the event of any change in third party providers,⁹⁵ and the allocation of risk in the event of any non-feasance or malfeasance by the provider.⁹⁶ Although several of the agreements proceed on the notion that the person who utilizes a third party provider to send a specific message bears the risk of error or omission,⁹⁷ this solution may not be appropriate in situations where the third party provider is a subsidiary or related entity to one of the parties.⁹⁸

⁹⁴ Thus, for example, the interchange agreement cannot provide that the third party service provider will be liable for damages in the event of any error or omission: those issues must be treated in the service agreement with the provider. See *supra* notes 27-28 and accompanying text. It should be noted that in many instances, third party service providers disclaim any liability to the parties in the event of errors or omissions, and to that extent the parties may desire to apportion any loss between themselves. Thus, the liability of third party service providers is an important issue on the international level. The Commission of the European Communities has called for the preparation of a report on the liability of public and private electronic data interchange networks as the foundation for harmonization of law within the Community. *TEDIS Programme 1988-89 Activity Report*, Commission of the European Communities, COM (90) 361 at Annex E. See also PROBLEMS OF LIABILITY CONNECTED WITH TRANSBORDER DATA FLOWS, OECD Doc. No. DSTI/ICCP 82.23 July 12, 1983; LIABILITY ISSUES RELATED TO TRANSBORDER DATA FLOWS, OECD Doc. No. DSTI/ICCP 83.31 (June 28, 1983); Andre R. Bertrand, *Liability Issues in Database Services: The European Perspective*, INTERNATIONAL COMPARATIVE LAW ADVISOR, Oct. 1988, at 7; Simon Chalton, *Liability in the Information Age: A European Perspective*, INTERNATIONAL COMPARATIVE LAW ADVISOR, Feb. 1989, at 6. The United Nations Commission on International Trade Law has identified the issue of network liability as an area where international rules is needed. UNCITRAL Working Group, *supra* note 20, ¶¶ 104-118.

⁹⁵ This, of course, is necessary to assure continuity of communications.

⁹⁶ *ABA Model Agreement*, *supra* note 40, § 1.2 (allowing designation of third party provider, allocation of costs for provider, and allocating risk in even or error or omission by provider); *Australia Interchange Agreement*, *supra* note 36, clause 5 (designation, cost, risk); *NZ Standard Agreement*, *supra* note 38, § 8 (third party provider deemed agent of instructing party and liable for errors); *TEDIS Model Agreement*, *supra* note 42, 3.3 (designation) and § 8.1 - § 8.3 (risk, responsibility to ensure security); *UK Interchange Agreement*, *supra* note 35, § 8 (risk and responsibility).

⁹⁷ Under an optional provision in the ABA Model Agreement and a parallel provision in the Australian Interchange Agreement, while each party is liable for the acts and omissions of its own provider, if both parties use the same provider, the originating party bears the responsibility with respect to that document. *ABA Model Agreement*, *supra* note 40, § 1.2.3; *Australia Interchange Agreement*, *supra* note 36, clause 5.3.

⁹⁸ In such a situation, the trading partner who is unrelated to the provider may not want to take the risks associated with the conduct of the other trading partner's subsidiary. See ABA Report, *supra* note 24, at n. 256. Under the TEDIS European Agreement, a party who instructs any other

Ultimately, the increasing reliance of international commerce on third party providers, the importance of the role third party providers play in the global economy (their role being almost quasi-public and potentially in the nature of a monopoly), and the relative inability of the users to allocate risk arising from errors by third party providers, may require independent scrutiny by lawmaking bodies.⁹⁹

4. *Record Storage and Audit Trails*

Decisions about how and how long to keep business records are not unique to the electronic environment. Businesses are routinely faced with record retention issues and the corresponding tax, audit and accounting questions. The ease with which electronic messages may be created and deleted exacerbates the difficulties surrounding record retention policies, particularly when questions arise concerning the message, whether it be in litigation between the parties or in proving the transaction for regulatory or other purposes (e.g. taxing purposes).

Despite the lack of uniqueness of record retention issues, several of the model agreements have detailed requirements for the maintenance of a "transaction log" or "trade data log" containing complete records of all EDI messages transmitted between the parties.¹⁰⁰ Included are requirements for "authorized persons" who can "certify the accuracy and completeness of the Transaction log,"¹⁰¹ requirements for periodic compilation of a permanent transaction log,¹⁰² maintenance of records both sent and received in their original format,¹⁰³ chronological maintenance of records,¹⁰⁴ exchange of logs with an opportunity afforded the other party to object to its contents,¹⁰⁵ and maintenance of the log for a speci-

party to use the services of a specific provider is liable to that party of the provider's acts, failures or omissions. *TEDIS European Agreement*, *supra* note 42, Article 8.2.

⁹⁹ See UNCITRAL Working Group, *supra* note 20, 104-108, for a discussion of the need for liability rules governing third party providers on the international level. See also *supra* note 94.

¹⁰⁰ See *Australia Interchange Agreement*, *supra* note 36, Clause 8 (Records and Audit Procedures); *Canada Interchange Agreement*, *supra* note 37, § 7.01 - § 7.04; *FINPRO Model Agreement*, *supra* note 44, § 6.1; *NZ Standard Agreement*, *supra* note 38, § 7.1. - § 7.5; *TEDIS European Agreement*, *supra* note 42, § 7.1 - § 7.3; *UK Interchange Agreement*, *supra* note 35, § 7.1 - § 7.5.

¹⁰¹ *Australia Interchange Agreement*, *supra* note 36, clause 8.1; *Canada Interchange Agreement*, *supra* note 37, 7.01; *NZ Standard Agreement*, *supra* note 38, § 7.5; *UK Interchange Agreement*, *supra* note 35, § 7.5.

¹⁰² *Canada Interchange Agreement*, *supra* note 37, § 7.02.

¹⁰³ *UK Interchange Agreement*, *supra* note 35, § 7.1 (messages sent and received shall be maintained without modification); *UNCID Rules*, *supra* note 31, Article 10(a).

¹⁰⁴ *TEDIS European Agreement*, *supra* note 42, 7.1.

¹⁰⁵ *Australia Interchange Agreement*, *supra* note 36, Clause 8.3; *Canada Interchange Agreement*, *supra* note 37, § 7.03 (optional provision).

fied period of time.¹⁰⁶ Under several versions, the data must be stored in a form which is retrievable and readable.¹⁰⁷ A few of the model agreements contemplate use of third party providers for data storage.¹⁰⁸

Again, the decision as to what types of record-keeping will be required is in many respects a business question. Given the mutable and intangible characteristics of electronic communications, agreement on such issues is also advisable as a matter of risk allocation.

The decision as to record keeping does have legal ramifications, as is demonstrated by the agreements which provide that the data log may be allowed into evidence as *prima facie* or conclusive evidence of its contents.¹⁰⁹ Even in the absence of such an agreement, however, the presence of a data log will serve to demonstrate the authenticity and reliability of the data which is a prerequisite for its admissibility in many legal regimes.

As was discussed earlier, even those agreements that purport to deal with only the communications aspect of the trading relationship require data logs and audit trails.¹¹⁰ This is one of those areas where, while record keeping issues are not unique, the record keeping issues are arguably exacerbated by the use of electronic communications. Ironically, the ABA Model Agreement, which does not hesitate to deal with issues arising in the underlying trade transaction, does not contain any record keeping requirements.¹¹¹ In an effort to achieve legal certainty regarding electronic trading, the key is for the parties to an interchange agreement to determine what kinds of data logs or other electronic record keeping requirements are necessary to assure the legal validity and enforceability

¹⁰⁶ *Australia Interchange Agreement*, *supra* note 36, clause 8.4; *FINPRO Model Agreement*, *supra* note 44, § 6.1 - 6.2 (parties will agree on duration of record retention depending upon legislation of nation in which records are kept). Under the New Zealand agreement, in the absence of an agreement on a period for storage, each party may maintain the log for such period as it deems appropriate. *NZ Standard Agreement*, *supra* note 38, 7.2. By contrast, the TEDIS European Agreement requires the parties to maintain the data log unaltered and securely for "not less than the period required" by applicable national law. TEDIS European Agreement, *supra* note 42, 7.2. The UNCID rules require that records be retained for a minimum of three years. *UNCID Rules*, *supra* note 31, Article 10.

¹⁰⁷ *NZ Standard Agreement*, *supra* note 38, § 7.3 (readily retrievable and presented in a pre-agreed format); *UNCID Rules*, *supra* note 31, Article 9 (b); *UK Interchange Agreement*, *supra* note 35, 7.3; TEDIS European Agreement, *supra* note 42, 7.3 (readily accessible, reproducible in readable form, and can be printed).

¹⁰⁸ *NZ Standard Agreement*, *supra* note 38, 7.5 (agreement to third party); *UNCID Rules*, *supra* note 31, Article 10 (agreement to third party); *UK Interchange Agreement*, *supra* note 35, 7.5 (agreement to third party).

¹⁰⁹ *Australia Interchange Agreement*, *supra* note 36, clause 8.3 (conclusive); *Canada Interchange Agreement*, *supra* note 37, 7.03 (*prima facie*).

¹¹⁰ See *UK Interchange Agreement*, *supra* note 35; *NZ Standard Agreement*, *supra* note 38.

¹¹¹ See *ABA Model Agreement*, *supra* note 40.

of the electronic message and the underlying trade transaction and to assure compliance with all relevant legislative, judicial or administrative requirements.

5. *Authentication*

Standards for how a message should be authenticated serve both legal and non-legal objectives. Authentication requirements serve important business functions — assuring the source and integrity of information or messages upon which a company will rely. Some authentication methods (e.g. cryptography) may have a monetary and transactional cost attached, and these costs should be weighed against the presumed benefits in choosing the appropriate mode of authentication. More importantly, to the extent that the originator of a message, and the message's integrity, can be proved, obstacles to the admissibility of the electronic message, and its legal validity, are minimized.

The model agreements are not consistent in their treatment of authentication requirements, although virtually all contain some treatment of the issue. The differences in the agreements may reflect a more fundamental difference in the drafter's perception of what "authentication" means: (i) being able to identify the sender of the message (e.g., by having the name of the sender in the message); (ii) being able to identify the source of the message;¹¹² (iii) being able to verify that the person whose name appears in the message did in fact send (or authorize the transmission of) the message; and (iv) being able to confirm the accuracy or integrity of the contents of the message.

At a minimum, the message should allow the recipient to identify the sender. In a paper-based environment, purchase orders on printed forms of the sender are ordinarily relied upon by vendors without any independent verification that the identified party did indeed initiate the transaction and without any inquiry into the accuracy of the information contained. Although the possibility of fraud exists in any transaction (even those which are paper-based), a perception of increased risk of fraud in electronic transactions has led to requirements of more than mere identification in several of the interchange agreements.¹¹³ Unfortunately, the model agreements are not always precise in terms of what is to be required.

¹¹² Telex and computer to computer telecommunications often employ call back procedures and test keys to verify the source of the message. *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. ¶54, U.N. Doc. A/CN. 9/333 (1990).

¹¹³ Independent verification of the identity of the sender may also be desired in order to satisfy perceived legal requirements for admissibility or enforceability.

Some model agreements require the adoption of an electronic symbol or code as a means of authentication.¹¹⁴ Others merely require that each document incorporate criteria permitting the recipient to verify the identity of the sender.¹¹⁵ One achieves the same result by requiring agreement upon procedures relating to message authentication and verification.¹¹⁶ The UK Interchange Agreement goes further, requiring not just identification of the sender, but verification of the authenticity of the message as well.¹¹⁷ In some, the means of identification and verification are set out in an accompanying User Manual.¹¹⁸ Those agreements which incorporate a User Manual recognize that the parties may agree upon a higher level of authentication to verify the completeness and authenticity of the message.¹¹⁹ In the event a signature does appear in the electronic message, many agreements provide that is sufficient to verify that person as the originator of the message.¹²⁰ Others achieve the same result by providing that the sender warrants that each message sent is duly authorized.¹²¹

Ultimately, if means for authentication are agreed upon by the parties, and a message is received which comports with the agreed authentication requirements, the recipient is entitled to rely upon that message, and its reliance will be protected. In that respect, authentication procedures are intimately related to other security procedures agreed upon by the parties.

¹¹⁴ *ABA Model Agreement*, *supra* note 40, § 1.5 (each party to adopt a signature consisting of a symbol or code; use of signature "shall be sufficient to verify such party originated" the message; *FINPRO Model Agreement*, *supra* note 44, § 8.3.4 (code is to identify the person sending the message). The ABA requirement of a signature serves an additional purpose of demonstrating compliance with those provisions of governing domestic law under the Uniform Commercial Code which require signed writings.

¹¹⁵ *Canada Interchange Agreement*, *supra* note 37, § 5.03 (each message shall incorporate criteria permitting the recipient to verify that it is an authentic document of the sender); *UK Interchange Agreement*, *supra* note 35, § 4.1 (messages must identify the sender and include a means of verifying the authenticity of the message).

¹¹⁶ *TEDIS European Agreement*, *supra* note 42, § 6.2 (parties to agree on procedures for message verification). Message verification includes the identification, authentication and verification of the integrity and origin of a message by use of an authentication mechanism.

¹¹⁷ *UK Interchange Agreement*, *supra* note 35, 4.1. Authentication may be either through a technique used in the message itself, or by some other means agreed upon by the parties.

¹¹⁸ *NZ Standard Agreement*, *supra* note 38, § 4.1; *Canada Interchange Agreement*, *supra* note 37, § 5.03 [optional language].

¹¹⁹ *NZ Standard Agreement*, *supra* note 38, § 4.2; *UK Interchange Agreement*, *supra* note 35, § 4.2.

¹²⁰ *ABA Model Agreement*, *supra* note 40, § 1.5; *Australia Interchange Agreement*, *supra* note 36, clause 3.1.

¹²¹ *Canada Interchange Agreement*, *supra* note 37, § 5.01.

6. Security

A key issue related to authentication is the the appropriate level of security to be implemented and maintained when information is traded electronically. Indeed, several models treat authentication procedures as a part of the overall security procedures.

Security procedures are important to ensure that all transmissions are sent by authorized individuals, to protect the integrity of the data from unauthorized manipulation, and to prevent unauthorized access to business records and data. Although security may also be considered relevant in paper-based transactions, the risk of unauthorized breaches of security in an electronic environment are perceived as sufficiently high to warrant separate treatment in the establishment of electronic trading relationships.

Most agreements require simply that the parties use those procedures reasonably sufficient to protect against unauthorized transmissions and access.¹²² Many specifically allow the parties to agree upon what security is reasonable.¹²³ While only Finland requires that a code and cryptokey be used as a security device,¹²⁴ several agreements seem to contemplate additional security in the form of digital signatures, cryptography, or encoding.¹²⁵

Ultimately, however, the level of security to be implemented is a business decision. In such a decision, the size and sophistication of the parties, the complexity of the operations of the parties, the nature of the communications and the underlying transactions, and the dollar amounts at risk must be balanced against the monetary and non-monetary costs involved in heightened security. There is a need for flexibility in these provisions which is recognized by most of the agreements. The important difference between the agreements is whether security procedures

¹²² *ABA Model Agreement*, *supra* note 40, § 1.4 ("reasonably sufficient" procedures for transmission and access); *Australia Interchange Agreement*, *supra* note 36, clause 7.1 ("sufficient" security procedures for transmission and access); *Canada Interchange Agreement*, *supra* note 37, 5.01 ("appropriate" controls for transmission) and § 5.02 ("all commercially reasonable steps" for access); *FINPRO Model Agreement*, *supra* note 44, § 11.1 ("reasonable steps" for unauthorized access); *NZ Standard Agreement*, *supra* note 38, § 3.1.1 ("reasonable care" for access); *TEDIS European Agreement*, *supra* note 42, § 6.1 (access, alteration, loss or destruction); *UK Interchange Agreement*, *supra* note 35, § 3.1.1 ("all appropriate steps" for storage, access, alteration, loss or destruction).

¹²³ *ABA Model Agreement*, *supra* note 40, § 1.4; *Canadian Interchange Agreement*, *supra* note 37, § 57.02 (alternative language); *NZ Standard Agreement*, *supra* note 38, § 3.2 and § 4.2; *TEDIS European Agreement*, *supra* note 43, § 6.3.

¹²⁴ *FINPRO Model Agreement*, *supra* note 44, § 11.3.

¹²⁵ An example is the UK agreement, which provides that, where permitted by law, "the parties may apply special protection to Messages by encryption or by other agreed means" including those set out in the user manual. *UK Interchange Agreement*, *supra* note 35, § 3.2.

are a matter of agreement or simply unilateral adoption of what each party deems "reasonable."

Other contractual arrangements may provide for security. An example is the data security requirements of international computer networks. The closed network of the Society for Worldwide Interbank Financial Telecommunications (SWIFT), a company subject to Belgian law to which more than 3,000 banks from seventy industrialized countries belong, is regulated by privately agreed security mechanisms. The same is true of the network of the international aviation companies (SITA) and the European Academic Research Network (EARN).

7. Confidentiality

In paper-based transactions the parties are seldom concerned with the confidentiality of the information (such as purchase orders) exchanged. In an electronic environment, where the same information is being exchanged, the only difference is the medium of communication. One could argue, therefore, that the issue of the confidentiality of the information exchanged is not qualitatively different in the paper and electronic environments. This is true — but there is a *quantitative* difference in the electronic arena, where the parties possess the ability to rapidly access, consolidate and manipulate data. The risk of a person going through hundreds of paper invoices to determine buying patterns is far less than the risk of a person gaining the same information electronically. As a result, many interchange agreements have confidentiality clauses, although they differ in direction.

Some model interchange agreements do not address confidentiality at all. The ABA Model Agreement contains a provision that no information exchanged shall be considered confidential, except to the extent the parties agree otherwise (or the law so provides).¹²⁶ The theory is that the default rule should be the same as in the paper-based environment, but that the parties should be able to respond to the heightened risk in the electronic environment by agreement. The United Kingdom and New Zealand agreements appear to establish a default rule that information is not confidential, yet allow the sender of a message to designate any specific message as confidential.¹²⁷ Similarly, in the TEDIS agreement, if a message is specified as confidential by the sender or agreed to be confi-

¹²⁶ *ABA Model Agreement*, *supra* note 40, § 3.2. For example, in the United States, legal requirements for confidentiality may be found in the common law relating to trade secrets, any court order imposing confidentiality, or 47 U.S.C. 605. See *ABA Model Agreement*, *supra* note 40, Comment 1 to § 3.2.

¹²⁷ *UK Interchange Agreement*, *supra* note 35, § 3.1.2; *NZ Standard Agreement*, *supra* note 38, § 3.1.2.

dential between the parties, there is an obligation imposed to maintain the confidentiality of the information.¹²⁸ By contrast, under the Australian agreement, the default rule is that message information is confidential.¹²⁹

8. *Data Protection*

The model agreements drafted to date tend to focus on the parties' rights in the underlying data, and their corresponding rights to protect the access to and use of that data. Third parties may also have a protectable interest in that data, requiring a different approach to issues of access and use. The concerns about the impact of electronic transmission of data on individual expectation of privacy and confidentiality have led to international efforts to impose requirements of data protection and privacy on data processing and transborder data flow. This type of legislation has been criticized for turning noble principles into potential trade barriers. The question is, however, whether it is possible for the parties to respond contractually to these developments.

In 1981, the Council of Europe adopted a "Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data"¹³⁰ (Convention) to protect each individual's right to privacy with respect to automatic processing of personal data.¹³¹ Pursuant to the Convention, each party must take the necessary measures to assure that personal data is: fairly and lawfully maintained and stored; stored and used only for specified and legitimate purposes; adequate, relevant and not excessive; accurate, necessary and up-to-date, and preserved for only the necessary amount of time.¹³² Furthermore, each state is permitted to prohibit the transborder flow of personal data to another state unless the sender state receives comparable data protection in the recipient state. In March 1990, in a joint conference between the European Community and the Council of Europe, it was observed that the issues of transborder data flow were being addressed inconsistently by Community members. One scholar has suggested that private contractual arrangements may limit the ability of government officials to prohibit transborder data

¹²⁸ *TEDIS European Agreement*, *supra* note 42, § 6.3.

¹²⁹ *Australia Interchange Agreement*, *supra* 36, clause 9.1.

¹³⁰ Council of Europe, Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data, 20 I.L.M. 317 (1981). The Convention has been signed by Austria, Belgium, Cyprus, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, Turkey, and Great Britain.

¹³¹ *Id.*, Article 1.

¹³² *Id.*, Article 5.

flow.¹³³ To implement the Convention, the Council of Europe is preparing proposed clauses for inclusion in a model contract designed to ensure equivalent data protection in transborder data flows.¹³⁴ Therefore, one might expect that the model interchange agreements address the data flow issue.

With one exception none of the model interchange agreements contain such clauses. The exception is the TEDIS European Agreement, which provides as follows:

Where EDI messages containing personal data are sent or received in countries where no data protection legislation is in force, each party agrees, as a minimum standard, to respect the provisions of the Convention N 108 of 28.01.1981 of the Council of Europe on the protection of the individual with regard to the automatic processing of personal data.¹³⁵

The failure of the remaining interchange agreements may be a reflection of the perception that such provisions, governmental or contractual, inhibit rather than facilitate international electronic commerce.

B. Legal Issues

1. *Validity and Enforceability; Writing, Signing and Document Requirements*

As noted earlier, a concern of parties contemplating electronic contracting is the validity and enforceability of any resulting transaction. In the international sphere, the existence of national rules requiring that certain transactions be in paper or written form, or signed by the parties, has long been viewed as a barrier to international electronic commerce.¹³⁶ In 1985, the United Nations Commission on International Trade Law called on governments to review and revise writing, signature

¹³³ Napier, *Contractual Solutions to Equivalent Protection of TDF*, TRANSNATIONAL DATA AND COMMUNICATIONS REPORT 18 (May 1990). He suggested, inter alia, extension of regulatory mechanisms regarding data protection to transborder data flow, and incorporating, by reference, governmental regulations governing data protection.

¹³⁴ Council of Europe, Consultative Committee of the Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data of 28 January 1981, T-PD (91) 8 (April 1991). The current draft merely repeats the requirements of the convention, restating the requirements as a contractual undertaking of the parties.

¹³⁵ *TEDIS European Agreement*, *supra* note 42, Article 11. Note that the TEDIS European Agreement was produced under the auspices of the Commission of the European Communities, which has also issued a proposed directive on the issue of data privacy. Proposal for a Council Directive Concerning the Protection of Individuals in Relation to the Processing of Personal Data, 1990 O.J. (C277).

¹³⁶ *Co-ordination of Work: Legal Aspects of Automatic Data Processing: Report of the Secretary General*, U.N. Doc. A/CN.9/265 (1985); *Report of the United Nations Commission on International Trade Law on the Work of its Eighteenth Session*, 40 U.N. GOAR Supp. No. 17 ¶ 360, U.N. Doc. A/40/17 (1985).

and other national legal requirements which operate as barriers to electronic commerce.¹³⁷ In a 1989 survey of member states by the Commission of the European Communities, under the first phase of its TEDIS (Trade Electronic Data Interchange Systems) Programme, the requirement of a signed paper document was identified as one of the three legal impediments to the implementation of EDI¹³⁸. The Commission also noted that no country had, as yet, fully adapted its legislation to meet the specific needs and problems relating to electronic trade.¹³⁹

To remove any doubts as to their intent to be bound by electronic transmissions, many of the model interchange agreements contain recitals in which the parties affirm their desire to trade electronically and be legally bound by the consequences.¹⁴⁰ In addition, virtually every model agreement has addressed the writing problem, although the strategies used are different. The issue of authentication of messages and the existence of a signed writing are intricately related. Indeed, the existence of a signed writing is considered evidence that the transaction is authentic or real. The requirements of a signed writing, however, have taken on a life independent of the requirement that a transaction be authenticated, and there are many ways to authenticate a transaction other than by a signed writing. Thus, the model agreements tend to do two things: establish authentication requirements,¹⁴¹ and then demonstrate compliance with writing and signing requirements.¹⁴²

Some agreements define the electronic transmission to bring it

¹³⁷ *Id.* See also *Legal Value of Computer Records: Report of the Secretary-General*, ¶ 82, U.N. Doc. A/CN.9/265 (1985). This recommendation was endorsed by the General Assembly. G.A.Res. 40/71, 40 U.N.GOAR Supp. No. 17 ¶ 5(b), U.N. Doc. A/40/17 (1985).

¹³⁸ Commission of the European Communities, *The Legal Position of the Member States with Respect to Electronic Data Interchange: Final Report* ¶¶ 660-673 (Sept. 1989). For more on the TEDIS programme, see *supra* note 42.

¹³⁹ *Id.* ¶ 656.

¹⁴⁰ The recitals to the *ABA Model Agreement* are illustrative:

[The parties] desire to facilitate purchase and sale transactions . . . by electronically transmitting and receiving data in agreed formats in substitution for conventional paper-based documents and to assure that such Transactions are not legally invalid or unenforceable as a result of the use of available electronic technologies for the mutual benefit of the parties.

ABA Model Agreement, *supra* note 40, Recitals. More specifically, the agreement provides:

This Agreement has been executed by the parties to evidence their mutual intent to create binding purchase and sale obligations pursuant to the electronic transmission and receipt of Documents

ABA Model Agreement, *supra* note 40, § 3.3.1. Similarly, the Australia agreement, in its introduction, notes that "The parties wish to ensure that the Activities are not invalid or unenforceable in any respect as a result of this use of EDI." *Australia Interchange Agreement*, *supra* note 36, Introduction.

¹⁴¹ See *supra* Part IV.A(5).

¹⁴² It should be noted that, if writing and signature requirements are ultimately eliminated, the critical question of whether the transaction is authentic will remain.

within the definition of a "writing" and to satisfy the definition of a "signature."¹⁴³ Other agreements say that the electronic transmission "shall have the same force and effect" as a paper transmission.¹⁴⁴ The South African agreement contains a provision that each party "guarantees" the binding nature of each electronic transmission.¹⁴⁵ In other interchange agreements, the parties similarly recognize the validity and enforceability of electronic messages.¹⁴⁶

A different tactic, used in combination with those tactics described above, is for the parties to agree not to contest the validity or enforceability of an electronic transaction¹⁴⁷ nor object to the introduction of evidence of the electronic transaction.¹⁴⁸ Additionally, some of the model agreements acknowledge the importance of the parties' conduct and performance under the agreement as demonstrating their intent to be bound by the electronic transaction.¹⁴⁹

Whatever tactics are used, it becomes clear that an overriding concern of many of the interchange agreements is the validity and enforceability of the electronically consummated transaction. Presumably, if the legal rules were changed to specifically recognize, validate and enforce electronic messages, it would be unnecessary for the parties to engage in such elaborate maneuvers as redefining terms to satisfy domestic requirements.

¹⁴³ *ABA Model Agreement*, *supra* note 40, § 3.3.2 (any properly transmitted document "shall be considered . . . to be a 'writing' . . . [and] when containing . . . a Signature . . . shall be deemed for all purposes . . . to have been 'signed'"); *Australia Interchange Agreement*, *supra* 36, clauses 3.3 and 3.4 (any message to which a signature is affixed shall be deemed to be in writing, signed, and to constitute an original); *Canada Interchange Agreement*, *supra* note 37, § 6.04 (electronic document shall be deemed to constitute a writing signed and delivered by the sender).

¹⁴⁴ *CMI Rules*, *supra* note 34, § 4(d) (electronic message shall have same force and effect as paper bill of lading for both evidentiary and contractual purposes). The UK agreement provides that the parties agree to accord electronic messages "the same status as would be applicable to a document or to information sent other than by electronic means . . ." *UK Interchange Agreement*, *supra* note 35, § 5.2. See also *TEDIS European Agreement*, *supra* note 42, Article 10 (messages shall have comparable value to that accorded written documents).

¹⁴⁵ *South Africa Model Agreement*, *supra* note 39, § 12.1.

¹⁴⁶ *FINPRO Model Agreement*, *supra* note 44, § 8; *CIREDDIT* § 2; *Quebec Agreement* § 6.3(1); *TEDIS European Agreement*, *supra* note 42, § 10; *ABA Model Agreement*, *supra* note 40, § 3.3.1.

¹⁴⁷ *TEDIS Model Agreement*, *supra* note 42, 9.1 (the parties accept that transactions are validly formed through exchange of EDI messages and waive right to contest validity of electronic transaction).

¹⁴⁸ *ABA Model Agreement*, *supra* note 40, § 3.3.4; *Australia Interchange Agreement*, *supra* 36, 3.4; *Canada Interchange Agreement*, *supra* note 37, § 6.04 (waiver of right to raise defense of lack of signed writing); *TEDIS European Agreement*, *supra* note 42, Article 10.

¹⁴⁹ *ABA Model Agreement*, *supra* note 40, § 3.3.3.

2. *Evidentiary Value of Messages*

The uncertainty of national law regarding the admissibility of electronic messages into evidence in the event of dispute has been characterized as an obstacle to the implementation of EDI. Most countries have complicated rules of evidence governing what is needed to introduce certain types of information into the record of a judicial or administrative proceeding. The TEDIS study of the Commission of the European Communities viewed this as a major barrier¹⁵⁰. However, a report of the UNCITRAL Secretariat concluded that there were fewer problems in the use of electronic data as evidence than might have been expected.¹⁵¹ Most interchange agreements nonetheless address the evidentiary value of electronically transmitted messages.

Under most of the model interchange agreements, there is a provision by which the parties agree that evidence of the electronic message is admissible.¹⁵² Where the domestic rules of evidence require that the "original" of a document be introduced in court, the model agreements provide that the electronic transmission, or its print-out, constitutes an "original."¹⁵³ Under some agreements, the parties agree that they will not contest the admissibility of the electronic evidence;¹⁵⁴ or that its evidentiary value is the same as that accorded a signed writing.¹⁵⁵ A few interchange agreements do not address the issue at all.¹⁵⁶ While such provisions may have some weight in disputes between the parties,¹⁵⁷ they

¹⁵⁰ TRADE ELECTRONIC DATA INTERCHANGE SYSTEMS [TEDIS], COMMISSION OF THE EUROPEAN COMMUNITIES, THE LEGAL POSITION OF THE MEMBER STATES WITH RESPECT TO ELECTRONIC DATA INTERCHANGE (FINAL REPORT.) (September 1989).

¹⁵¹ *Legal Value of Computer Records: Report of the Secretary-General*, ¶ 75, U.N. Doc. A/CN.9/265 (1985). This report was prepared after initial work identified the legal value of computer records as evidence as one of several legal issues involving electronic communications. *Co-Ordination of Work: Legal Aspects of Automatic Data Processing: Report of the Secretary-General*, ¶ 5, U.N. Doc. A/CN.9/254 (1984).

¹⁵² *ABA Model Agreement*, *supra* note 40, § 3.3.4; *TEDIS European Agreement*, *supra* note 42, Article 10 (EDI messages have a comparable evidential value to that accorded written documents); *Canada Interchange Agreement*, *supra* note 37, § 7.04; *Quebec Standard Agreement*, *supra* note 41, § 6.3(2); *South Africa Model Agreement*, *supra* note 39, § 18.

¹⁵³ *ABA Model Agreement*, *supra* note 40, § 3.3.2; *Australia Interchange Agreement*, *supra* 40, clause 3.3(3); *Canada Interchange Agreement*, *supra* note 37, § 7.04; *Quebec Standard Agreement*, *supra* note 41, § 6.3.

¹⁵⁴ *ABA Model Agreement*, *supra* note 40, § 3.3.4; *Canada Interchange Agreement*, *supra* note 37, § 7.04; *TEDIS European Agreement*, *supra* note 42, Article 10 (parties shall not bring into question admissibility of message).

¹⁵⁵ *TEDIS European Agreement*, *supra* note 42, Article 10.

¹⁵⁶ *FINPRO Model Agreement*, *supra* note 44; *NZ Standard Agreement*, *supra* note 38; *Odette Guidelines*, *supra* note 33.

¹⁵⁷ There is some concern, however, that there may be limits on the ability of the parties to alter or waive mandatory legal provisions. To the extent that the rules of evidence are construed as

may be insufficient in controversies involving third party disputes, or in satisfying tax, accounting, or other regulatory concerns.¹⁵⁸

3. *Liability for Failure or Error in Communication*

Risks arising from an error in a message, or the failure to send or receive messages, are not unique to the electronic environment. Indeed, the U.K. Interchange Agreement does not cover the issue of liability because of its apparent assumption that damages will be due to a breach of the underlying commercial contract or will be actionable in tort, but will not be a breach of the "communications agreement."¹⁵⁹ Nonetheless, the potential for error, the difficulties in establishing fault, and the potential for unlimited damages may justify treatment of this area in an interchange agreement.

Some agreements impose an obligation on a sender to assure the completeness or accuracy of the data transmitted and, consequently, a breach of that obligation is a breach of the interchange agreement.¹⁶⁰ Presumably, under this formulation, if the sender fulfills its contractual obligation, but notwithstanding its efforts an error in transmission still occurs, the risk is not allocated to either party under the agreement.

Other agreements impose on the recipient of a message the obligation to notify the sender if a message is unintelligible or garbled. The breach of this obligation imposes risk of errors in transmission on the recipient.¹⁶¹ Again, that does not address the problem of allocation of risk in the event of error which is not the fault of either party.

The default rule appears to be, at least under some agreements, that the sender should be liable for errors in messages which it transmits.¹⁶² The theory is that, as between two otherwise innocent parties, the sender's use of the intermediary makes the intermediary the agent of the

protecting the integrity of the courts, contractual provisions such as these may be suspect. *See infra* note 178 and accompanying text.

¹⁵⁸ Some public authorities, however, are currently adapting their regulations to encompass electronic capabilities in the commercial context. The United States Department of Internal Revenue, for example, has issued regulations governing electronic record keeping for tax purposes. *See* Rev. Proc. 91-59, 1991-43 I.R.B. 23.

¹⁵⁹ *UK Interchange Agreement*, *supra* note 35 (explanatory comments).

¹⁶⁰ E.g., *South Africa Model Agreement*, *supra* note 39, Article § 16; *UK Interchange Agreement*, *supra* note 35, § 5.1.

¹⁶¹ *ABA Model Agreement*, *supra* note 40 § 2.4; *Australia Interchange Agreement*, *supra* 40, clause 4.2; *Canada Interchange Agreement*, *supra* note 37, § 5.05; *FINPRO Model Agreement*, *supra* note 44, § 9.2.

¹⁶² *Australia Interchange Agreement*, *supra* 36, clause 4.5; *NZ Standard Agreement*, *supra* note 38, § 5.3; *UK Interchange Agreement*, *supra* note 35, § 5.3.

sender. That presumption can be rebutted by evidence that recipient knew or should have known of the error.

Most agreements exclude consequential damages.¹⁶³ Some model agreement have not included such provisions, under the theory that the issue of whether or not to limit liability in the event of breach is not unique to the electronic environment, or that breach of the interchange agreement will not be the cause of damages.¹⁶⁴ The contrary position is that the potential for liability and the magnitude of the resulting liability present greater risks in the electronic environment militating towards the use of admittedly standard contract language.

4. *Contract Formation*

When electronic messages are exchanged, a contract may or may not be formed, depending upon the applicable rules of contract. Any contract formed through the electronic exchange of information — the underlying commercial transaction — is a separate transaction from the agreement to exchange information electronically. It is apparently on the basis of this reasoning that some of the model agreements choose not to discuss issues such as offer, acceptance, and contract formation.¹⁶⁵

To the extent that applicable rules of contract formation are uncertain in their application in an electronic environment, or to the extent that these applicable rules may not yield the optimal result in an electronic environment, it is presumably proper for this area to be addressed in an interchange agreement.¹⁶⁶ The Australia Interchange Agreement, while staying away from the ultimate issue of contract formation, does take a partial step in that direction by defining when a message is deemed received by the other party.¹⁶⁷

The issue of when a message is received is vital to determine the application of traditional contract formation rules. Related issues include when a message is effective, giving rise to legal consequences, and when a contract is formed. Several agreements define proper receipt, choosing as the appropriate time when the incoming message is accessi-

¹⁶³ *ABA Model Agreement*, *supra* note 40, § 4.6; *Australian Interchange Agreement*, *supra* note 36, clause 14.1; *Canadian Interchange Agreement*, *supra* note 37, § 8.07; *South Africa Model Agreement*, *supra* note 39, § 16.

¹⁶⁴ See, e.g., *UK Interchange Agreement*, *supra* note 35 (explanatory comments) (negligence or breach of underlying commercial contract, not breach of interchange agreement, likely to be the direct cause of damage).

¹⁶⁵ *Id.* (underlying contracts are assumed to exist, or to be brought into existence, just as they would be if other more traditional means of communication were used).

¹⁶⁶ *ABA Model Agreement*, *supra* note 40, § 2.2; *Canadian Interchange Agreement*, *supra* note 37, § 6.02; *TEDIS European Agreement*, *supra* note 42, Article 9.

¹⁶⁷ *Australia Interchange Agreement*, *supra* 36, clause 4.1

ble to the recipient at its receipt computer.¹⁶⁸ They further provide that no legal obligations arise until receipt — thereby rejecting the legality that the dispatch of the message, rather than its receipt, is the operative event.¹⁶⁹ The focus on the “availability” of the message makes it clear that it not necessary for the recipient to either know of the existence of the message, much less read it, for the message to be received. The Canada Interchange Agreement places an affirmative obligation on the parties to review all messages at given intervals.¹⁷⁰ The key is accessibility at the recipient’s “receipt computer”, which may be designated by the parties. As the commentary to the ABA Model Agreement explains: “A Receipt Computer may be the computer of the third party service provider, the computer of either party or a specific terminal within a party’s internal network (for example, a billing supervisor’s desk).”¹⁷¹

Some messages, once they are received, may have legal consequences. Examples are required notices. In the case of messages which constitute offers under applicable law, there is still a question regarding what constitutes acceptance leading to the formation of an electronic contract. The ABA Model Agreement allows the parties to designate, in their Appendix, which messages require acceptances in order to give rise to any obligation,¹⁷² and what documents are deemed appropriate acceptances. Once such an acceptance document is in turn received, then appropriate obligations arise.

As noted earlier, not all the interchange agreements cover issues of contract formation on the theory that an interchange agreement deals

¹⁶⁸ *ABA Model Agreement*, *supra* note 40, § 2.1 (document not properly received, and does not give rise to any obligation, “until accessible to the receiving party at such party’s Receipt Computer”); *Australia Interchange Agreement*, *supra* note 36, clause 4.1 (message deemed received when accessible to recipient at the receipt computer or when available to the recipient through any provider); *Canada Interchange Agreement*, *supra* note 37, § 4.02 (accessible to receiver at receipt computer).

It should be noted that the Australian Interchange Agreement has an additional requirement before a message is deemed received — that an acknowledgement have been transmitted to the sender. *Australia Interchange Agreement*, *supra* note 36, clause 4.2(3).

¹⁶⁹ See *ABA Model Agreement*, *supra* note 40, § 2.1, Comment 2:

“This Section, therefore, represents a departure from the ‘mailbox rule’ and parallel legal doctrines. Since the technology exists by which the party originating the transmission . . . can effectively confirm receipt has occurred, it is inappropriate that the mere dispatch of any Document should be sufficient for any legal purpose.”

¹⁷⁰ *Canada Interchange Agreement*, *supra* note 37, § 4.03

¹⁷¹ *ABA Model Agreement*, *supra* note 40, § 2.1, Comment 3.

¹⁷² It should be noted that the ABA Model Agreement is not using “acceptance” in the technical sense to refer to a response to an offer which leads to a binding contractual obligation, but rather the return document which is required before any electronic message gives rise to any obligation. See *ABA Model Agreement*, *supra* note 40, § 2.3, Comment 2 (“This Section permits the parties to designate Acceptance Documents for Documents not specifically included in the contract formation process”).

solely with the decision to trade electronically, and does not apply to the underlying trade transaction. To the extent the use of electronic communications makes the application of traditional rules of contract formation problematic, the approach exemplified by these other agreements is appropriate. However, once the legal rules governing contract formation by electronic means are clarified by the development of international model rules or laws, the need for such provisions evaporates.

5. *Terms and Conditions of Underlying Contract*

One of the advantages of electronic communications technologies is its speed and efficiency. To achieve those advantages in the use of EDI, information is sent in standardized formats, which do not allow for complete negotiation over all terms and conditions. In other words, to realize the true advantages of EDI, one might have to forgo the luxury of transaction by transaction negotiations. This introduces an element of uncertainty as to the terms and conditions governing the electronic transactions, uncertainty which may be eliminated by inclusion of such terms in the interchange agreement or in a master agreement governing the underlying commercial transactions.

One course is to provide for those terms and conditions — or the method for determining the appropriate terms and conditions — in the interchange agreement. The theory is that although the issue of ascertaining applicable terms and conditions is not a peculiar characteristic of electronic data interchange, it is nonetheless important enough to be dealt with in the agreement. Some model agreements have expressly excluded coverage of terms and conditions, limiting the interchange agreement solely to the information exchanged between the parties, and excluding the underlying commercial or contractual obligations of the parties.¹⁷³ While it is true that these matters could be dealt with in a separate contract (e.g. a master agreement for the supply and purchase of goods and services) and indeed that is a feasible way of proceeding, it is also possible for these issues to be covered in an interchange agreement. The important point is that the parties should recognize that the use of EDI in commerce may be inconsistent with negotiation over the terms of every individual contract. Therefore a prudent business person might choose to resolve the problems contractually, either in the document itself¹⁷⁴ or in a separate agreement.¹⁷⁵

¹⁷³ *UK Interchange Agreement*, *supra* note 35 (explanatory comments); *NZ Standard Agreement*, *supra* note 38 (explanatory comments 1,2).

¹⁷⁴ For an example of how these matters can be covered in an interchange agreement, see *ABA Model Agreement*, *supra* note 40, § 3.1 (three options given). Commentary to the ABA Model

6. *Dispute Resolution*

Disputes may arise in electronic commerce just as they arise in traditional paper-based spheres. The difficulties in determining the appropriate forum for resolution of a dispute and the applicable domestic law, difficulties which are traditionally present in any international transaction, are arguably increased in an electronic environment. Moreover, the greater uncertainties surrounding the application of certain domestic laws to electronic commerce may militate towards greater precision in choice of law and forum. Hence, many of the model agreements contain choice of law and forum clauses — just as most international agreements do. The lingering question is the latitude of the parties in choosing applicable law. Given the difficulty in establishing the nexus between an electronic transmission and the law of any particular state, validation of choice of law clauses would be an important contribution to electronic commerce, as would be the clarification of the appropriate conflicts of law rule.¹⁷⁶

Also notable is the fact that many of the models contain arbitration clauses.¹⁷⁷ While the strength of these arbitration clauses may vary, they arguably reflect a perception among the drafters of the model agreements that arbitral rather than judicial fora may be more hospitable to and knowledgeable about the complexities of electronic commerce.

V. IMPLICATIONS OF INTERCHANGE AGREEMENTS

The proliferation of model interchange agreements within the past few years may well continue into the immediate future. In addition to domestic and industry-based efforts, international efforts at forging a truly international model interchange agreement are proceeding.¹⁷⁸ Some drafters of existing model agreements have acknowledged explicitly that their work is merely the “first step” and implicitly that these model agreements are not the panacea for all the legal and commercial issues presented by the implementation of EDI.¹⁷⁹

Agreement notes that the highest level of certainty is achieved by prior negotiation and agreement upon terms and conditions. *Id.*, comment 3.

¹⁷⁵ *Canada Interchange Agreement*, *supra* note 37, § 6.03 (requires supply agreement).

¹⁷⁶ See UNCITRAL Working Group, *supra* note 20, at 33 (suggesting that the parties have complete freedom to determine applicable law, or that a conflict-of-laws rule be adopted applying one national law to all the differing segments of the electronic transaction).

¹⁷⁷ *ABA Model Agreement*, *supra* note 40, § 4.7 (optional); *Australia Interchange Agreement*, *supra* 36, clauses 15.1 - 15.3; *Canada Interchange Agreement*, *supra* note 37, § 10.01 (optional); *TEDIS European Agreement*, *supra* note 42, Article 12.

¹⁷⁸ See *supra* note 69 and accompanying text.

¹⁷⁹ For example, the forward to the UNCID rules calls the rules an “interim solution” necessari-

The reason for such reservations should be obvious. Interchange or trading partner agreements are merely agreements between private parties, and do not and cannot themselves alter the legal framework within which they operate. Thus, to the extent legal barriers exist to the use of electronic communications technologies in commercial practice, those barriers remain. Interchange agreements may help the parties structure their transactions to assure, to the extent possible, that all legal requirements are met.¹⁸⁰ Courts confronted with interchange agreements may find them insufficient to overcome the requirements of the law,¹⁸¹ and until interchange agreements and electronic contracts have actually been litigated and upheld, or until legislation is enacted to validate the electronic commerce or the related interchange agreements under which such commerce occurs, legal uncertainty will continue.

More is needed to establish the validity and enforceability of transactions entered into through electronic means and to establish a legal framework against which parties using electronic communications technologies may intelligently and knowingly structure their transactions. Affirmative action, through international treaties, is needed to change the nature of those barriers or to eliminate them completely. The fashioning of model interchange agreements can be only the first step towards establishing the legitimacy of electronic transactions.

There exist other reasons for the reservation that interchange agreements are only the "first step". Interchange agreements require the consent of both parties. To the extent that the parties are unable to reach agreement about the specifics of the transaction, either because of impasses reached in the negotiation process, the lack of time in which to

tated by the delays inherent in changing existing law is slow and the pressing needs of trade. The UNCITRAL Report calls a model agreement the "first step to help to resolve many of the present difficulties and to better understand the [legal] questions."

¹⁸⁰ The effectiveness of any agreement depends upon its perceived enforceability: if the parties "perceive" the agreement as legally enforceable and valid (whether or not it is actually legally enforceable and valid), they will tend to adhere to its terms because of the apparent availability of possible legal sanctions. The bulk of model interchange agreements have been developed specifically to satisfy the applicable requirements for enforceability, and thus the "risk" that such interchange agreements will be invalidated may be minuscule. To the extent that the parties have doubts as to the legal enforceability of the interchange agreement or of the underlying transactions consummated through electronic communications, the function of the interchange agreement is undermined, if one is entered into at all. Thus, the need for some legislative, judicial or administrative recognition of the validity and enforceability of electronic contracts and interchange agreements remains.

¹⁸¹ An example of the risk arises in the context of rules deemed to be "mandatory" (*"d'ordre public"*) and hence unalterable by the parties. As noted above, to the extent that the model agreements were drafted with these types of rules in mind, presumably there should be no problem. Sometimes, however, the characterization of a rule as "mandatory" or "non-mandatory" is far from clear, and the possibility exists that a court or legislature might "re-characterize" the rule at issue.

negotiate, or mere ignorance, a void will remain in which the "rules" to be applied to the use of electronic communications technology will be unascertainable. Until our respective legal regimes are able to develop a set of "default" rules which would apply in the absence of express agreement, these situations remain problematic.

Moreover, to the extent the consent of the parties is involved, third parties who are not privy to any negotiated agreement will not, under most legal schemes, be bound by its terms. An interchange agreement between the buyer and seller of goods will not bind the third party provider used by the parties, nor will an interchange agreement between a carrier issuing a bill of lading to a shipper necessarily bind subsequent purchasers of the goods or parties claiming under the bill of lading. Although the privity problem is not one unique to an electronic environment, the problem is acute in a global economy trading electronically. The traditional concept of contract is a bilateral negotiated agreement between parties. In a global economy, where information can move in a micro-second, computers are programmed to carry on routine transactions, and parties may transact business with one another without ever coming face to face to negotiate the transaction, the older concept of contract is being put to the test. With the speed and efficiency provided by electronic communications, back-to-back trading can occur almost instantaneously, while goods are still in transit for example, involving multiple parties and relationships. The absence of a common agreement between the parties, or of a uniform approach to the issues, may be problematic. Again, private rule-making will not substitute for legislative or regulatory rule-making in these instances.

Furthermore, interchange agreements can only feasibly be used between established trading partners, and will not be feasible in an open environment. In an open environment,¹⁸² a party may communicate electronically with another party in a manner which may lead to the establishment of an electronic contract, even though the parties have never

¹⁸² The universal adoption of standards makes possible trade between parties with no previously established trading relationship. See Jake V. Th. Knoppers, Results of the Work of the International Organization for Standardization (ISO) on the "Open-EDI Conceptual Model" and its Importance for EDI Developments, (a paper presented at the World EDI Forum, Brussels, 3 September 1991). In an open environment, a potential purchaser of goods, for example, could locate a potential supplier either through an "Electronic Yellow Pages" or on-line directory, obtain price quotations electronically, and then place the necessary order electronically.

In theory, the "potential purchaser" could be a computer programmed to make such orders on an as needed basis. Whether computer initiated and consummated transactions would ever become a reality in an open environment is probably unlikely because of the practical problems. Nilson, *Contract Formation and Open EDI Systems*, International Chamber of Commerce, Commission on International Commercial Practice, Working Party on EDI, Doc. No. 460-10/Int. 42 (Jan. 1992).

deal with each other in past, have never executed an interchange agreement,¹⁸³ and use separate third party providers or networks, eliminating the possibility of having such a third party establish the applicable rules of conduct. Thus, the need for an external set of default rules increases.

A final reason for the recognition that interchange agreements are not a panacea is that, as with any agreement, there are transaction costs involved in the negotiation, drafting and execution of such agreements. From the perspective of the user, a predefined set of rules, or a set of rules which can easily be incorporated into any contract between the parties, may be preferable.

Suggestions have been made to facilitate the ability of the parties to choose the legal principles applicable to their transaction by providing a field in the electronic message where the parties could specify (by agreed codes) those rules which they adopt to govern their transaction. When trade is occurring at a rapid speed between the parties, the necessity of negotiating and executing an interchange agreement may slow down international trade, and may not be feasible. The transaction costs involved in complex interchange agreements may inhibit parties from enacting such an agreement or possibly even from implementing electronic data interchange. As an alternative, the parties may prefer to refer to standards existing in the industry, incorporating them by reference into their business dealings. Just as commercial practices evolved "Incoterms" which permit parties to choose those shipping, risk of loss and cost terms which apply to their transaction,¹⁸⁴ the suggestion has been made that "Editerms" can be developed for electronic commerce, and that the parties could choose the appropriate "Editerm" in the message itself.¹⁸⁵ While this approach might reduce the transaction costs involved in the negotiation and execution of an interchange agreement or any accompanying supply agreement,¹⁸⁶ it does not address the other

¹⁸³ If I constantly purchase my supplies from a given supplier, it may be feasible for me to negotiate a master purchase agreement with that supplier; but if I am "walking in off the street" to purchase one single item, the likelihood of negotiating anything is minimal.

¹⁸⁴ INTERNATIONAL CHAMBER OF COMMERCE, INCOTERMS 1990 (ICC Pub. No. 460).

¹⁸⁵ See Pascal Brousse, *Toward a More Suitable Interchange Contract*, International Chamber of Commerce, Commission on International Commercial Practice, Doc. No. 460-10/Int. 32 (Sept. 12, 1991).

¹⁸⁶ Such a result is far from clear. See Nilson, *Contract Formation and Open EDI Systems*, International Chamber of Commerce, Commission on International Commercial Practice, Working Party on EDI, Doc. No. 460-10/Int. 42 (Jan. 1992):

But the thought of bits of software sending EDI contractual messages with little code purporting to indicate sets of standard conditions is positively frightening. Of course, this is an area where an organization such as the ICC could do good work by introducing actual standard terms, along the lines of the Incoterms. It's just that companies like to expand even standard terms with their own bits and pieces, which happens today with Incoterms and will happen tomorrow with "Editerms".

limitations on the ability of interchange agreements to eliminate all uncertainty surrounding electronic trading.

A related suggestion is that the electronic messages themselves which are selected may carry with them certain "interchange profiles" which incorporate technical, security and legal requirements.¹⁸⁷ As with the Editerm suggestion, the use of interchange profiles may reduce the transaction costs, and additionally may address situations where the parties have not executed an interchange agreement. Moreover, such a concept may overcome obstacles presented in an open environment. If properly constructed, these "interchange profiles" may be able to bind third parties who ultimately receive the electronic messages. The identity of the "drafters" of the interchange profiles is crucial. To the extent they are drafted during the technical standard setting process, and do not receive legislative, judicial or administrative approval, such profiles may not be sufficient to overcome contrary legal requirements and barriers.

There are, of course, other sources of rules applicable to electronic trading. Where parties choose to transact business through an established network or system, the parties may be opting into a set of rules governing that network or system.¹⁸⁸ Similarly, implementation guidelines in certain industries may provide terms which can be applied under a law merchant approach.

Over the years, however, the continued proliferation and use of interchange agreements should serve as a message — to courts, legislatures, regulators, and other legal decision-makers — that the time has arrived to recognize the validity and enforceability of EDI transactions. Indeed, the existence of such model agreements may, over a period of time, begin to establish the existence of certain trade practices or usages with respect to electronic commerce. As such, the agreements will acquire a life of their own, and persons who begin to transact business using EDI may well find such agreements applied to them — even without their consent. As a part of the way merchants do business, the "universally accepted" terms of interchange agreements may become part of the law merchant, the usage of trade. In this way, the private rules which have been developed between commercial parties may become part of the "public rules" applied or even adopted by legislative, regulatory and judi-

¹⁸⁷ See Thierry Piette-Coudol, *From Interchange Contracts . . . To Interchange Profiles*, International Chamber of Commerce, Commission on International Commercial Practice, Doc. No. 460-10/Int. 34 (Sept. 12, 1991).

¹⁸⁸ Banks, for example, who move funds electronically using networks such as SWIFT or Fedwire are bound by the rules which govern those systems.

cial rule-makers. The void which currently exists with respect to the legal rules applicable to electronic data interchange will then be filled.