

INTERNATIONAL ELECTRONIC COMMERCE AND ADMINISTRATIVE LAW: THE NEED FOR HARMONIZED NATIONAL REFORMS*

Jeffrey B. Ritter**
Judith Y. Gliniecki***

INTRODUCTION

Electronic commerce is fundamentally altering business practice by replacing traditional paper-based methods of moving information with direct computer-to-computer communications.¹ The technologies of electronic commerce offer significant advantages over traditional business practices—including increased speed, accuracy, standardization, and reduced communications costs.² On a global basis, international electronic commerce is now viable and foreseeable; the technologies are providing the backbone for the infrastructure of the global economy.³ However, as it evolves, electronic commerce presents the recurring challenge of attempting to accommodate the new commercial practices to existing structures of national and international law.⁴

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** Mr. Ritter is Of Counsel with the law firm of Vorys, Sater, Seymour and Pease in Columbus, Ohio. He serves as a Co-Rapporteur on Legal Questions to the United Nations Economic Commission for Europe Working Party on Facilitation of International Trade Procedures, and he is also vice-chair of the American Bar Association Subcommittee on Electronic Commercial Practices.

*** Ms. Gliniecki is an associate at Vorys, Sater, Seymour and Pease. The authors wish to acknowledge and thank the continuing assistance of Mr. Ceda G. Ogada, also an associate with the law firm, for his insight on trade and development issues.

1. The basic and constituent elements of international electronic commerce were outlined in Jeffrey B. Ritter, *Defining International Electronic Commerce*, 13 NW. J. INT'L L. & BUS. 3 (1992).

2. See M. LITMAN KATSH, *THE ELECTRONIC MEDIA AND THE TRANSFORMATION OF LAW* (1989).

3. Ritter, *supra* note 1, at 3-4.

4. Many authors have commented on the challenges and barriers facing electronic commerce in current law and practice. See, e.g., BENJAMIN WRIGHT, *THE LAW OF ELECTRONIC COMMERCE: EDI, FAX AND E-MAIL* (1991); Michael S. Baum et al., *The Commercial Use of Electronic Data Interchange—A Report and Model Trading Partner Agreement*, 45 BUS. LAW. 1645, 1707-09 (1990) [hereinafter *ABA Model Agreement*]; NORDIPRO, SPECIAL PAPER NO. 3, *LEGAL ACCEPTANCE OF INTERNATIONAL TRADE DATA TRANSMITTED BY ELECTRONIC MEANS* (1983); HANS B. THOMSEN & BERNARD S.

Current legal structures pervasively incorporate a preference for paper-based communications. Whether examining those laws around which commercial transactions are structured, or the statutory and regulatory requirements relating to the submission or exchange of information with government authorities, it is often the case that the validity or enforceability of certain transactions requires the use of paper-media. While this situation is not surprising,⁵ the requirement of paper consistently limits the acceleration of electronic commerce.

Although many different domestic and international forums are working to eliminate barriers in commercial laws or prevailing business practices,⁶ a different situation exists regarding the reform of administrative law requirements that affect commercial transactions. Governmental authorities often interact with commercial transactions, particularly those involving the international movement of goods. Indeed, the respective reporting, licensing, taxation, and inspection requirements in both the exporting and importing jurisdiction (or jurisdictions) generate a large share of the documentation utilized in international trade. In many instances, the required documentation consists of copies of the commercial documents, which are relied on by a regulatory authority to obtain

WHEBLE, *TRADING WITH EDI: THE LEGAL ISSUES* (1989). Additionally, several detailed analyses related to the acceptability of electronic commercial practices under national and international law have been prepared by the Secretariat of the United Nations Commission on International Trade Law ("UNCITRAL").

5. Because paper was the exclusive medium at the time of promulgation of many of these laws, it is not surprising that regulations assume its use. However, the speed with which the technologies of electronic commerce have matured and become accessible for use on a worldwide basis challenges that assumption.

6. Much of the domestic legal focus on accommodating electronic commercial practices is being provided by the American Bar Association. For example, the Section of Business Law, beginning in 1987, has produced contributions including several papers relied on in the current revision of various articles of the Uniform Commercial Code. See also *ABA Model Agreement*, *supra* note 4. This work has been conducted largely under the auspices of a Section-wide Working Group on International Electronic Commerce, chaired by Professor Amelia H. Boss, Temple University School of Law, and the Subcommittee on Electronic Commercial Practices, chaired by Professor Patricia Fry, University of North Dakota Law School.

In addition, the Electronic Data Interchange Association has organized The DataLaw Project, which is designed to assure that the needs of the users of the technologies of electronic commerce are taken into account in the process of law reform.

At the international level, the primary efforts have been those of the United Nations Economic Commission for Europe Working Party on Facilitation of International Trade Procedures ("WP.4"). These efforts have recently been complemented by the beginning work of the UNCITRAL Working Group on EDI and, with respect to administrative laws, the proposals before the United Nations Conference on Trade and Development. See *infra* notes 22-30 and accompanying text. The International Chamber of Commerce also maintains a working group on electronic data interchange.

information relevant to its administrative functions.

Governmental authorities themselves can benefit from the adoption of the technologies of electronic commerce. They must realize that the world is changing, and that those who are regulated now are seeking a different, more efficient, and more productive means of conducting business. Those means themselves must be standard, uniform, and consistent in order to promote an open architecture of information movement. Thus, if governmental authorities fail to respond in a coordinated manner, as between different agencies within one government or similar agencies within different governments, commercial parties could face incongruous, disintegrated operating requirements which would unnecessarily increase the cost of electronic commerce.

At this time, the international community has yet to initiate any substantive effort toward coordinated, proactive, cross-jurisdictional regulatory reform. Within certain regions or within certain administrative venues, some level of activity exists;⁷ however, no project at the level of the United Nations has been initiated to assure that the fabric of administrative laws affecting international trade will, in fact, enable and not disable the expansion of electronic commerce. This Article, as a first step, advocates the need for those efforts to be initiated. Our purpose is to outline the essence of the required reform. Additional inquiries will be required to determine the scope and direction for moving forward.

I. THE NEED FOR RULE-MAKING

As electronic commerce transforms how international trade participants (including governments) conduct business, media-neutral rules that govern national and international transactions will become necessary. Under current rule structures, if paper is replaced by media that violate existing requirements necessary to establish a valid transaction,⁸ not only

7. Two examples are illustrative. In the area of customs, the Customs Cooperation Council, located in Brussels, has provided support for expanding the use of electronic data interchange and related technologies for some time. Within the United Nations, WP.4 has been working, with primary focus on the European regions, on the development of a structured format for the use of electronic data interchange in international trade. This format, known as Electronic Data Interchange for Administration, Commerce and Transport ("UN/EDIFACT") is rapidly receiving worldwide acceptance as a global standard by which the business information required to be communicated in international trade can be exchanged among participants in a transaction.

8. For example, in commercial transactions trading partners are concerned that, in the absence of signed paper documents, a contract entered into through the use of electronic

is the comfort of tradition removed, but the entire transaction becomes at-risk. Without media-neutral rules at the administrative level, widespread commercial use of the new technologies for international trade will be unlikely. The rules for electronic commerce must define what conduct is to be considered fair and what types of business communications are to be treated as authentic.

In the absence of a public system of rules or uniform business practices, the participants will inevitably develop their own rules by which their transactions become predictable and coherent. The endorsement within the legal community of the use of trading partner agreements⁹ is at once an acknowledgment of the lack of a public system of rules for electronic commerce and an attempt to co-opt the *lex mercatoria* of commercial actors into a form that is enforceable under the current legal structures.¹⁰ While this endorsement represents a positive first step, this private rule-making process contains limitations incompatible with the long-range visions of open electronic commerce. Private rule-making can be effective only among a well defined group of established trading partners. This sort of private rule-making works against the inclusion of smaller and newer participants in international commerce. To the extent that viable commercial entities are excluded, these private agreements work against the objective of open, global electronic commerce.

While harmonization is frequently initiated by private parties,

data interchange ("EDI") will be unenforceable because of a statute of frauds problem. See U.C.C. § 2-201 (1989). Carriers of goods are concerned that, in the absence of a negotiable bill of lading, the risk of liability for wrongful delivery might be increased if they were to rely on copies of electronic records to provide evidence of parties with whom the right to dispose of the goods exists. Value-added communication networks have misgivings, particularly in international operations, about the content of information transmitted through their systems. A network could be liable under an increasing number of data-privacy laws, which mandate certain protection if information is identifiable to or concerns individuals. See, e.g., Privacy Act of 1974, 5 U.S.C. § 552(a) (1988); Right to Financial Privacy Act of 1978, 12 U.S.C. §§ 3401-3422 (1988). Liability also exists for other breaches of national law, such as U.S. export restrictions on technical data. See, e.g., 15 C.F.R. § 770.3 (1992).

9. A trading partner agreement attempts to establish legal and technical rules to govern communications between commercial partners. At the same time, such agreements attempt to circumvent other legal requirements, such as the need for signed documents to satisfy the Statute of Frauds, by stipulating that the communications meet those requirements and that the parties will not raise a defense against the transaction because of non-compliance with those requirements.

10. The legal communities of several nations have drafted or are drafting model trading partner agreements. A recent United States effort is reported in *ABA Model Agreement*, *supra* note 4. See also Amelia H. Boss, *Electronic Data Interchange Agreements: Private Contracting Toward a Global Environment*, 13 NW. J. INT'L L. & BUS. 31 (1992).

electronic commerce has reached a level of current viability that calls for concerted action at national levels. Today, capable and reliable technology, an internationally-endorsed business language ("UN/EDIFACT"), and a broad, international base of interest all exist; the missing pieces are accommodating national administrative rules. The development of private rule-making through trading partner agreements and other efforts to reform commercial law and practice provide a mandate to, and models for, national effort. Affirmative rule-making by governmental and administrative authorities, which possess the advantage of hindsight in reviewing these private rule-making efforts, offers considerable potential for the development of the coherent and integrated systems of rules for the use of electronic commerce. This result would be exceedingly difficult to achieve solely by private rule-making.

National administrative rule-making cannot, and should not, be done in a vacuum. Initiatives will be best developed toward the goal of international harmonization. As national economies are becoming more interdependent, international trade is no longer exotic or a luxury, but increasingly is the only means of obtaining some commodities. Without an international view by governmental and administrative authorities toward rule-making in the first instance, it may become more difficult to alter national consensus later in order to bring about international harmonization.¹¹

The development of domestic rules for the facilitation of international electronic commerce does not necessarily involve the wholesale rejection of current rules. Electronic commercial practice does not require changing the principles on which business is conducted. It merely changes the medium. The idea and purpose of the transaction remain the same, whether it is a sale of goods, the delivery of a notification, or a transfer of title. What must be done is to examine the barriers that inhibit electronic commerce and to develop a coordinated response to meet or

11. Negotiating the 1980 Vienna Convention on International Sales of Goods, for example, was difficult because of the need to recognize and balance differences between national laws and practices so as to achieve a universally acceptable document. In the end, the broadly permissive and media-neutral definition for the form of a contract was tempered with a local opt-out provision in which a nation could, for example, require a signed paper document. See generally Peter Winship, *Formation of International Sales Contract Under the 1980 Vienna Convention*, 17 INT'L LAW. 1 (1983); John E. Murray, Jr., *An Essay on the Formation of Contracts and Related Matters Under the United Nations Convention on Contracts for the International Sale of Goods*, 8 J.L. & COM. 11 (1988); Alejandro M. Garro, *Reconciliation of Legal Traditions in the UN Convention on Contracts for the International Sale of Goods*, 23 INT'L LAW. 443 (1989).

circumvent those barriers.

II. BARRIERS

National administrative rule-making efforts must focus on eliminating a number of barriers to electronic commerce under legal structures developed for paper media. In order to construct a viable set of background rules to advance electronic commerce, the current practices and the interplay between commercial participants and administrative authorities must be examined in relation to: a) emerging electronic commercial practices, b) the absence of current rules that can accommodate or promote electronic commerce, and c) existing mandatory administrative requirements.

Despite the existence of well established commercial practices that rely on paper documents as a basis for doing business, national administrative rule-makers must evaluate whether, in electronic commerce, it is sensible to follow the same commercial practices.¹² For example, although the use of negotiable bills of lading remains common practice, this is by no means the only method by which title to goods can be passed in a relatively secure manner.¹³

The absence of rules is more significant. In many cases, those seeking to use the technologies of electronic commerce possess disciplined rules for constructing and communicating the data elements, segments, messages, and envelopes within defined communication protocols. But for the resulting electronic records, often no defined rules exist that can be mimicked for use with the new technologies in order actually to perform commercial and administrative transactions. As a consequence, the technology is impaired because there is simply no acceptable structure in place from which to evolve rules that give an assurance of validity to a transaction.¹⁴

12. See *infra* text accompanying note 20 (discussing a recent Korean statute, which seeks to change domestic business practice radically in order to facilitate electronic commerce).

13. In 1990, Comité Maritime Internationale issued rules to govern the use of electronic bills of lading. See THE LEGAL FACILITATION OF INTERNATIONAL ELECTRONIC COMMERCE: CURRENT INITIATIVES AND FUTURE DIRECTIONS, U.N. Doc. UNCTAD/DDM/4 XXX (1992) [hereinafter LEGAL FACILITATION] (discussing the CMI Rules for Electronic Bills of Lading).

14. As discussed earlier, trading partner agreements have been promoted by the legal community as a means of bridging the lack of rules in the current legal structure. See *supra* notes 8-9 and accompanying text.

Finally, requirements for written documents, such as manual signatures, which are established by mandatory statutory or regulatory provisions or equivalent judicial decisions, are most preclusive of electronic commerce. These barriers often are not based on commercial justification, but rather on administrative concerns for authentication.¹⁵ While commercial practice may evolve and new commercial rules may develop, only positive regulatory reform will transform these administrative requirements into a media-neutral environment that facilitates the evolution of electronic commerce.

III. RESPONSE THROUGH FACILITATIVE ADMINISTRATIVE RULE-MAKING

In order to move beyond the types of barriers identified in the previous Part, rule-making by national governmental and administrative authorities must address multi-faceted concerns in order to promote international facilitation. Not only will administrative authorities need to take into account their own requirements for rules that promote accurate reporting, but they will also need to balance domestic business practices, cultural traditions, and preferences with the desire for internationally harmonized rules.

Before administrative authorities leap head-first into the promulgation of rules, they should consider whether rule-making is an appropriate approach. The strongest response may not be legislative but may instead consist of education and the promotion of responsive new commercial approaches. Often, this requires cooperation among players who are otherwise operating at arm's length or on a competitive basis—manufacturers and distributors, shippers and bankers, marine carriers and road carriers.¹⁶ By filtering perceived needs for rules through a screen that first looks for other options, administrative authorities should be able to concentrate their efforts on true barriers in a more meaningful manner.

The promulgation of rules in electronic commerce will require inventive approaches. Rule-making is traditionally a retroactive process, codifying existing commercial practices, ratifying society's acceptance of

15. See, e.g., discussion *infra* Section IV.B.

16. See, e.g., *Programme of Work*, UN/ECE Working Party on Facilitation of International Trade Procedures, U.N. Doc. TRADE/WP.4/R.697 (1990) (identifying the need for sectoral coordination).

those practices, and providing some sense of stability to better assure further use. Recent legislative enactments, particularly in the United States, indicate that the process of retroactive rule-making is beginning with respect to electronic commerce.¹⁷ In each instance, the legislative response followed a substantial period of commercial experience with the technologies of electronic commerce. Thus, at an appropriate time, legal facilitation can occur through the adoption of statutory commercial laws that embrace the rules that have evolved from widespread commercial practices. Recent fiscal rules adopted in the United States and France illustrate this response to commercial practice.¹⁸

Facilitative rule-making may require proactive approaches, however, in order to overcome certain barriers to the use of electronic commerce. In certain circumstances, affirmative official initiatives can encourage migration to a new method of public policy if that migration is determined to be beneficial for the participants and the community at large.

A recent Korean statute, the 1992 Act on Promotion of Trade Business Automation,¹⁹ adopts an inventive approach, which appears to overcome cultural barriers to the use of electronic commerce. Asian businesses have traditionally placed a great emphasis on doing business face-to-face. In current practice, this means that transaction documents are often transmitted between business entities by hand-delivery as evidence of respect for the relationship. Thus, in order to promote competitive advantage through the use of electronic commerce, the Korean government has mandated that virtually all necessary reports and returns filed with the Korean government relating to international trade must be delivered to it solely by electronic means. This system will require the creation of a public-private-sector infrastructure for communication, standardization of formats, and corporate investments in appropriate technologies. As the system evolves, it is hoped that corporate users will become comfortable with its use, experiencing first-hand the advantage.

17. See, e.g., U.C.C., art. 4A (1990) (governing electronic funds transfers). The National Conference of Commissioners on Uniform State Laws is also in the process of reviewing and updating other Articles of the Uniform Commercial Code, including Articles 1, 2, 5, 8, and 9, so that they more fully correspond with current commercial practice.

18. See, e.g., Rev. Proc. 91-59, 1991-43 I.R.B. 1; Décret No. 91-579 du 20 juin 1991 pris pour l'application de l'article 47 de la loi de finances rectificative pour 1990 relatif à la transmission des factures par voie télématique. See *infra* Section V.B.

19. See *Legal Aspects of Trade Data Interchange*, Transmitted by the Rapporteurs on Legal Questions and the Secretariat of the Korea Edifact Committee, United Nations Economic and Social Council, Committee on the Development of Trade, 46th Sess., Agenda Item 2, U.N. Doc. TRADE/WP.4/R.872 (1992).

of the tools of electronic commerce. The Korean legislation proactively invites the eventual direct connection of the various trade participants with their commercial partners, both domestically and internationally, enabling an entire country to alter its prevailing business practice so as to keep pace with international technological trends.²⁰

Proactive approaches are particularly appropriate for constructing regulatory schemes that do not migrate existing commercial practices into the new technologies but seek instead to move new opportunities for trade development into the venue of electronic commerce. In several different venues, regional and global efforts have been made to develop arrangements and methodologies to enhance and expand trade participation by a larger proportion of the global trading community.²¹ Though considered successful by several measures, many of these efforts have not anticipated the further opportunities that might be realized by harmonizing the progress made in those areas with progress in electronic commerce.

In addition to responding to domestic concerns in the development of rules for electronic commerce, national administrative authorities must commit themselves to the goal of international harmonization. Although international harmonization will be one of the great challenges for those who advocate facilitating global electronic commerce, conflicting national rules, even if intelligent and internally coherent as national schemes, will present nearly as great a problem for global electronic commerce as would an absence of rules altogether.²² This, of course, will mean delving into differing social desires and politics of developed countries,

20. The United States has witnessed the same sort of proactive rule-making. For example, those wishing to promote the electronic trading of corporate securities—doing away, for practical purposes, with the commercial function of the actual paper stock certificate—were faced with a difficult dilemma. Without broad commercial use of the electronic technologies, it was difficult to determine what rules were the most fair, and in what circumstances the exchange of electronic messages should be given legal effect. Yet, without the existence of some rules—some means of figuring out and allocating responsibility if something went wrong—no one was likely to use the technology. The solution was to write the rules and hope that basic fairness would result. The resulting section 8 of the Uniform Commercial Code offers a set of rules for the transfer of legal rights without exchanging the paper certificates. The paperless trading of securities now stands ready to enjoy increased recognition both in the United States and in other securities markets. See Charles W. Mooney, Jr., *Beyond Negotiability: A New Model for Transfer and Pledge of Interests in Securities Controlled by Intermediaries*, 12 CARDOZO L. REV. 305 (1990).

21. Multi-modal transport, counter-trade, government procurement, and regional currency exchange clearing houses are prime examples of topics that have received recent attention. See LEGAL FACILITATION, *supra* note 13, at 55-71.

22. See *supra* note 11 (discussing the Vienna Convention). A further discussion of French and U.S. fiscal rules appears in Section IV.B.

with a recognition of the fears and desires of developing nations.

Technological capacity is frequently viewed as one of the most important determinants of a nation's future economic growth and competitiveness in international trade.²³ Although developing countries have recognized the importance of technology, they have nevertheless raised a number of concerns about the impact of technology-related issues on their economic growth and their role in international trade.²⁴ These countries fear that, in an era in which technology has become a decidedly important factor in global competitiveness, their relative technological weakness will hamper their ability to meet certain strategic aspects of development. These strategic aspects include: maintaining national sovereignty, identity, and security; establishing a basic infrastructure for the needs of the population and the functioning of a domestic economy; the development of human capital and the upgrading of employment opportunities; the competitiveness of national firms in the world market; and the location of production and decisionmaking functions.²⁵ These technology issues have been the subject of intense debate at the Uruguay Round of GATT and have especially been debated in the deliberations of the Group on Negotiation of Services ("GNS").²⁶

At the GNS deliberations, developing countries have been reluctant to open up their service markets to international trade. They argue that they do not have the technological capacity to compete effectively in several information- and technology-intensive service areas such as telecommunications, information networks, data processing, engineering design and construction, financial services, or media services.²⁷ The primary

23. The importance of technology resources is a particularly acute question for developing countries today. The Secretary-General of UNCTAD, Mr. K.K.S. Dadzie, has identified technology as a factor with an "important bearing" on the sustainable development and trade of developing countries. *Statement by Mr. K.K.S. Dadzie, Secretary-General of UNCTAD*, U.N. TDBOR, 38th Sess., 1st pt., U.N. Doc. UNCTAD/SGO/Misc. 39 (1991) [hereinafter *Statement by Secretary-General of UNCTAD*]. Similarly, the Group of 77 emphasized the value of technology: "The technological revolution, the increasing globalization of production and trade and the consideration of large economic spaces can lead to a better world for all, provided the international community takes positive action to prevent the marginalization of developing countries and to ensure their active participation in the world economy." TEHRAN FINAL DOCUMENTS, para. 4, U.N. Doc. UNCTAD/PSM/CAS/363 (1991).

24. See TRADE AND DEVELOPMENT REPORT, at 173-4, U.N. Doc. UNCTAD/TDR/8 (1988) [hereinafter TRADE AND DEVELOPMENT REPORT].

25. *Id.*

26. *Accelerating the Development Process, Challenges for National and International Policies in the 1990's, Report by the Secretary-General of UNCTAD to UNCTAD VIII*, at para. 18, U.N. Doc. TD/354 (1991), [hereinafter *Accelerating the Development Process*].

27. See Shirang P. Shukla, *International Discussions on Trade in Services: The*

concern is that as technology assumes more importance in international trade, developing countries will become primarily consumers rather than producers. In the role of consumers, these countries will be unable to control the strategic aspects of development, because the critical decisions affecting trade will be made in producing countries. The argument is that countries that are solely international consumers fail to create domestic employment and import more than they export, thereby suffering from chronic balance of payments difficulties. Development objectives are thus frustrated.²⁸

Moreover, developing countries have been concerned that the increasing role of technology in international trade could compromise their national sovereignty and/or national security. With respect to sovereignty, concern has been expressed about the increasing sense of loss of political, economic, and cultural control over national infrastructure as financial markets, media services, transportation and communication services, and tourist markets become increasingly internationalized as a result of technological advances.²⁹ With respect to national security, many developing countries, although appreciating the value of the new information technologies, are nevertheless sensitive to the storage of national data in foreign countries. One of the reasons for these fears is the concern that, by facilitating information flows, a foreign firm could obtain and use this new information to gain (or to increase) market advantages.³⁰ However, to the extent that developing countries have concerns about the potential for misuse of their national information, they should appreciate that a foreign government or entity may require confidence that information provided to developing countries in the

Perspective of Developing Countries, in SERVICES AND DEVELOPMENT: THE ROLE OF FOREIGN DIRECT INVESTMENT 170, U.N. Doc. UNCTC (1989) [hereinafter SERVICES AND DEVELOPMENT]; TRADE IN SERVICES: SECTORAL ISSUES, U.N. Doc. UNCTAD/ITP/26 (1989) [hereinafter TRADE IN SERVICES].

28. See generally COMMUNICATION FROM INDONESIA: SOME ESSENTIAL ELEMENTS WHICH SHOULD ENTER AS A PART OF ANY FRAMEWORK AGREEMENT IN SERVICES TO ACCOMMODATE THE DEVELOPMENT NEEDS OF DEVELOPING COUNTRIES, U.N. Doc. MTN.GNS/W/81 (1989).

29. *Statement by Secretary-General of UNCTAD*, supra note 23, at 3; *Accelerating the Development Process*, supra note 26, para. 26; see also Shukla, supra note 27 (financial infrastructure as integral aspect of national sovereignty); Rainer Geiger, *Patterns and Effects of Service Regulations*, in SERVICES AND DEVELOPMENT 138, supra note 27 (education, the media and tourism as regulated to promote national cultural values); TRADE AND DEVELOPMENT REPORT, supra note 24, at 174.

30. See Murray Gibbs & Michiko Hayashi, *Sectoral Issues and the Multilateral Framework for Trade in Services: An Overview*, in TRADE IN SERVICES 1, supra note 27, at 31.

process of international trade—particularly shipment information necessary to move goods through various port authorities, customs and other importing operations—will be managed in a secure and reliable manner.

IV. SPECIFIC EXAMPLES

The scope of challenge for harmonized administrative law reform is perhaps more clearly illustrated by analogy to three particular areas of law: commercial law, fiscal and tax regulation, and customs regulation. These areas highlight specific existing barriers, possible responses, and examples of current facilitation efforts.

A. Commercial Law

Concerns arising under commercial law regarding the adoption of electronic commercial practices may be generally categorized around four central themes: writings, signatures, and documents; transactional evolution; new commercial practices; and transfer of legal rights. Applied to the various kinds of commercial transactions that are the components of international trade (e.g., sales, funds transfers, carriage of goods, insurance), these themes interact; however, each generates a different kind of analysis.

1. Writings, Signatures, and Documents

First, there is a need to identify and examine existing legal requirements for written documents or manual signatures. If not satisfied, these requirements can render invalid or unenforceable a commercial contract evidenced by electronic messages.³¹ As a result, the remedies of the aggrieved party can be significantly impaired. Determinations must be made whether, despite the availability of electronic technologies, a continuing rationale for the existing paper-based rules can be provided. If so (and preliminary indications suggest there are few commercial reasons for those requirements),³² alternative legal and commercial

31. See, e.g., U.C.C. § 2-201 (1989) (Statute of Frauds).

32. For example, the EDI user community has enthusiastically embraced the utility of various forms of private agreement to resolve, among the commercial parties, any concerns related to contract formalities left behind by paperless practices. See Boss, *supra* note 10.

responses are available.

Requirements for paper-based writings are not always explicit within the commercial statutes. In a number of different statutory schemes, the rights of commercial parties are often defined by whether one party has delivered written notice to the other. But when the definition of a "writing" is examined, a statute does not contemplate that electronic messages might be used and only permits paper-based communications. That result does not usually reflect any type of judgment on the utility of the technology; rather, at the time the statute was devised, prevailing commercial practices did not include electronic notices simply because the technology did not then exist. However, these implicit legal requirements for paper-based writings pose a significant challenge to the migration of commercial practices; if such anachronistic requirements are not attended to by statutory or administrative reform, or through commercial agreements, one party or the other might retain defenses (based on violations of the rules) that are inconsistent with the mutual intent of the parties to give commercial and legal effect to their electronic messages.³³

These requirements for written documents or manual signatures become particularly acute in light of the totality of rules and regulations that might govern an international trade transaction.³⁴ The non-acceptance of an electronic document either under a single law or by one governmental or administrative authority could force the entire transaction to become paper-based.³⁵ Governmental and administrative authorities can play a

In addition, the development and use of enhanced security techniques and procedures can provide EDI users with many alternative or complementary assurances of the authenticity and source of electronic messages; these devices help evolve the electronic messages into the practical equivalents of the written or signed documents which are legally required. One legal expert has commented on the relative security of various methods for "signatures" under today's technology. By reviewing the "forensic characteristics of authentication mechanisms," he suggests that authenticity of electronic signatures may exceed that of traditional, manual methods, including the handwritten signature. See MICHAEL S. BAUM, *ELECTRONIC CONTRACTING, PUBLISHING, AND EDI LAW 200-01* (1991).

33. A working group of the American Bar Association Subcommittee on Electronic Commercial Practices has proposed, as a new definition for the Uniform Commercial Code, the term "Record," which is intended to embrace both paper-based and electronic stored information.

34. At this point, there exists no comprehensive understanding at the international level of the scope and complexity of administrative requirements, within national laws and regulations, for the written documents or documents containing manual signatures. The Commission of the European Communities has completed an initial study of those requirements, but only with specific attention to the particular topics of customs and tax laws. TEDIS, COMMISSION OF THE EUROPEAN COMMUNITIES, *THE LEGAL POSITION OF THE MEMBER STATES WITH RESPECT TO ELECTRONIC DATA INTERCHANGE* (1989).

35. A survey of writing, signature, and notice requirements in international transportation

key role by enacting media-neutral statutes or amending statutes so that they become media-neutral.³⁶

2. Transactional Evolution

Second, electronic commerce raises a number of issues arising from changes in how transactions are negotiated, confirmed, and performed. Sales transactions, shipping arrangements, funds transfers, letters of credit, and insurance contracts are handled differently when the technologies of electronic commerce are employed. Timings and expectations change as the information moves more efficiently. Perhaps the most significant factor, not yet capable of being fully appreciated, is the degree to which human decisionmaking is being removed from the processes of business contracting.

As these changes in commercial practice accumulate, they place under stress both the paper-based rules and the underlying expectations arising from those rules as to how parties are expected to perform in particular circumstances. In comparing different commercial and geographic sectors, the pace of change varies but the trend appears conclusive. What seems fair and reasonable in negotiating and performing paper-based commercial relationships becomes less fair, and perhaps less reasonable, as the players migrate toward electronic commerce.³⁷ Proactive rule-making by administrative authorities may be particularly appropriate where electronic commerce will require commercial actors to rethink and keep vital the rules that govern the transactions themselves.³⁸

conventions was presented in Judith Y. Gliniecki & Ceda E. 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).

36. For example, if a reduction in a store's inventory to a certain pre-arranged level triggers the issuance of an electronic purchase order, which is subsequently confirmed electronically by a manufacturer's computer based on the level of stock in the manufacturer's warehouse, what becomes of traditional, legal notions of mutual assent to the contract?

37. For example, the ABA Model Trading Partner Agreement rejected the mailbox rule, which deems delivery to have occurred upon the sending of a document, in favor of actual receipt for electronic transactions. The reporters determined that since the technology exists for the sending party to confirm receipt of a document quickly and inexpensively, legal obligations based on the mere sending of a document would be inappropriate. *ABA Model Agreement*, *supra* note 4, at 1732-33.

38. An excellent example of the process of ongoing reform is the activities of the International Chamber of Commerce ("ICC") relating to the use of documentary credits and Incoterms in international trade. The ICC has taken a proactive role by successfully anticipating the trends in commercial practice and integrating them into its facilitation

3. *New Commercial Practices*

Third, the business of moving electronic information has introduced a range of new business concerns and issues for which existing components of commercial law have little direct relevance. Questions must be resolved, for example, regarding the manner in which standards, communication protocols, message formats, and codes are selected. In addition, we must address the treatment of interrupted or garbled transmissions, the responsibility of parties for the conduct or negligence of their respective networks, the establishment and monitoring of security procedures (including the exchange of private codes and use of access techniques and encryption technologies), the allocation of the costs of transmitting and receiving messages, and the division of the risks of loss arising from telecommunication system failures and from ownership of the data transmitted and received.³⁹

Moreover, electronic commerce introduces new types of commercial relationships not contemplated by current law. Businesses engaged in the tasks of receiving, transmitting, distributing, storing, and processing electronic data and information (networks, data managers, trusted third parties) are, and will continue to be, inherent components in the foreseeable progress of electronic commerce. Both existing trade players (such as banks, telecommunication companies, and freight forwarders) and new players—the commercial networks—are making significant investments in this regard.⁴⁰ These investments are tempered by the uncertainty of the legal environment in which they conduct business.

Uncertainties affect a number of topics. Networks, for example, are concerned about the commercial consequences of achieving interconnectability among different networks. In moving and processing electronic messages between systems, networks must assess the scope of possible economic liabilities resulting from performance errors or omissions, particularly when tracing responsibility through the chain of interconnected networks may be difficult. In addition, building and operating networks require tremendous capital investments, particularly in proprietary intellectual property (such as software) needed to move the data. Assuring that ownership in those investments is properly protected

efforts. The ICC's most recent efforts are the forthcoming revisions to the Uniform Customs and Practice for Documentary Credits, ICC Pub. 500 (forthcoming 1993).

39. See, e.g., Boss, *supra* note 10.

40. See Ritter, *supra* note 1, at 16-20.

is of vital importance to a network.⁴¹ These concerns inhibit the full realization of the potential services (and benefits) such businesses might offer in the market, especially to those portions of the global trading community not yet connected into the emerging global network. In effect, uncertainties render insecure hard currency investments in technology, resources, and marketing.

Direction by administrative authorities is needed, therefore, in addressing issues essential to the further evolution of a functioning interconnected network of proprietary information-distribution systems. Ideas to be emphasized include: (a) data-privacy elements,⁴² (b) liability for unauthorized access to electronic networks, and (c) the evidentiary significance to be given to record retention activities of data managers or trusted third parties. Harmonizing views on the roles of networks in vindicating international principles of copyright and other intellectual property with evolving choice of law principles for international communication disputes, is also an important objective.⁴³

41. For electronic commerce, the ongoing dialogue between developing and developed nations on the legal protection of intellectual property rights interacts with vital aspects of how electronic commerce will evolve. Expanding electronic commercial practices to permit broader access and participation by international trade participants requires distribution and use of the technological tools required to do EDI. However, international dissemination of such tools might jeopardize intellectual property rights of manufacturers and service providers. Stated differently, if restrictions (either by law or by the terms of commercial agreements, such as licenses) were perceived as ineffective to prevent duplication, use, or transfer of the technologies, then the prices and terms could be expected to be significantly more expensive. In addition, in the absence of adequate intellectual property protection, commercial importance and competitive value for electronic information transmitted through EDI could impair the willingness of trade participants to adopt technologies in opening access to new markets or trading relationships.

Developing countries have argued that because costs for development of technology are usually recouped in developed nations and markets, intellectual property rights regimes do not need to be made more stringent than they are currently. This viewpoint is tested when circumstances suggest that the market for which the product is designed is international in scope (including developing countries). Particularly for software based on UN/EDIFACT, this will increasingly prove to be the case. Developers for the international market will need to take into account the possible use of their software in developing countries, and will include in their expectations the likelihood of sales in those markets.

42. The European Community, for example, has drafted a directive that would prohibit the transportation of information to any country that does not have certain minimum protection standards. See Joseph I. Rosenbaum, *The European Commission's Draft Directive on Data Protection*, 33 JURIMETRICS J. 1 (1992); George B. Trubow, *The European Harmonization of Data Protection Laws Threatens U. S. Participation in Trans-Border Data Flow*, 13 NW. J. INT'L. L. & BUS. 159 (1992).

43. See, e.g., LEGAL FACILITATION, *supra* note 13, at 47-52.

4. *Transfer of Legal Rights*

Perhaps the most challenging aspect of legally facilitating the migration of international trade practices toward electronic commerce is negotiability.⁴⁴ Bills of lading and other negotiable documents used in international trade are governed by certain legal rules that determine, based on physical possession of an original paper document, the party that controls certain legal rights. For example, a bill of lading, when completed with the proper descriptions, signatures, and "magic words," contains the right to control disposition of the goods as well as, in certain circumstances, the contract rights of the shipper against the carrier.⁴⁵ There is generally no statutory means in place by which commercial parties, through the exchange of electronic messages, can validly transfer legal rights in the same manner possible with paper documents.

Other types of legal documents function similarly. For example, real property deeds identify the party with the right of possession to land. In each case, the regulatory scheme essentially confirms the various physical procedures that must be satisfied in order to transfer the related legal rights. Certain specified words, signatures placed in a certain location on the document, the use of notarial seals or witnesses, the labelling of a document as the "original"—each of these techniques defines the methodology of transfer. In effect, the prescribed techniques assure that anyone asked to rely on the document will be able to exercise the underlying legal right.

The ECE Working Party ("WP.4") has promoted for some time the adoption of new commercial practices (e.g., the use of non-negotiable sea waybills) that would work around the problem of trying to achieve negotiability in an electronic setting.⁴⁶ However, despite the desirability

44. See generally TRADE FACILITATION COMMITTEE OF THE NORDIC COUNCIL, SPECIAL PAPER NO. 3, LEGAL ACCEPTANCE OF INTERNATIONAL TRADE DATA TRANSMITTED BY ELECTRONIC MEANS (1983).

45. See, e.g., Bills of Lading Act, 49 U.S.C. §§ 81-124 (1988).

46. In 1979, WP.4 adopted Recommendation 12, which recommended the following changes in commercial and administrative practice: "(i) minimize the use of negotiable transport documents and encourage the use of alternative sea waybills or other non-negotiable transport documents; (ii) encourage the use of single original transport documents; (iii) encourage the use of blank back and standard transport documents" in order to avoid "problems arising from the late arrival of transport documents at destination" and to facilitate the migration to electronic commerce. The need for continuing efforts on this project was recently reaffirmed by proposals made for revising Recommendation 12 in order to reflect more accurately current commercial practice and to recognize ongoing reform efforts. *Implementation of ECE/FAL Recommendation No. 12, Measures to Facilitate*

of those efforts, there remains a continued commercial need for negotiable documents in certain types of international trade transactions. For commodity ocean shipments, which are often the subject of numerous title transfers in transit, the need is particularly clear.⁴⁷

The United Kingdom has responded to the need to facilitate new commercial practice by revising its 1855 Bills of Lading Act. The new law, the 1992 Carriage of Goods by Sea Act, not only provides a media-neutral definition for the form of the bill of lading or other shipping document, but also affirmatively permits the Secretary of State to adopt specific regulations for use of "information technologies." "Information Technologies" are defined as "[including] any computer or other technology by means of which information or other matter may be recorded or communicated without being reduced to documentary form. . . ." ⁴⁸ The Carriage of Goods by Sea Act, while laudable for affirmatively promoting electronic commercial practices, must be harmonized internationally. For example, any comparable regulations that the Secretary of State would issue should consider other initiatives, such as the CMI Rules for Electronic Bills of Lading.⁴⁹

B. Fiscal and Tax Laws

Until 1991, concerns of the global EDI community about the adequacy of electronic records for purposes of fiscal administration were largely considered to be a subset of broader questions regarding the ability of a corporation's records to support normal audit requirements. Primarily, the issue has been considered at the national level, if only because of the relatively low volume of international electronic commerce. However, the significance of tax law requirements regarding the quality of corporate electronic records was dramatically increased by the recent promulgation by the governments of France and the United States of new rules.⁵⁰

Maritime Transport Documents Procedures, U.N. Economic and Social Council, Committee on the Development of Trade, 47th Sess., U.N. Doc. ECE/TRADE/WP.4/R.940 (1993).

47. See Peter Faust, *Shipping Services*, in *TRADE IN SERVICES* 113, *supra* note 27. In addition, many financial institutions in developing countries place heavy reliance on the negotiable quality of a bill of lading, even on non-commodity shipments, as a condition to financing. To assist the migration of those institutions to electronic commerce, some have argued that it may be easier to develop the necessary procedures on negotiability than to secure change of the underlying commercial practices requiring a negotiable document.

48. Carriage of Goods by Sea Act, 1992, § 5(1) (Eng.).

49. See *supra* note 13.

50. See *supra* note 18.

In each case, the new rules offer a regulatory scheme through which electronic records will be accepted in support of tax reporting and payments. The differences in the strategies and solutions embodied by each of the regulatory schemes highlight the nature of tax law requirements as legal barriers to international trade. The reliance on electronic records for tax auditing has emerged as one of the leading edges of administrative reform, and, as a result, in this area the greatest need may exist for early harmonization in the cause of international-trade facilitation. The need is illustrated by a comparison of some of the features of the two announced approaches.

For example, under the United States provisions⁵¹ the taxpayer who is electronically retaining records needs no prior authorization to do so. The taxpayer must, however, supply the tax authorities with a complete systems description. In contrast, under the French regulations⁵² the taxpayer must obtain prior authorization for its record-retention and tax-filing systems. The U.S. approach makes suggestions on proper record-retention procedures, but requires, regardless of the procedures used, that the taxpayer maintain and make accessible to tax authorities a documentary "trail" of procedures, systems charts, record storage, and modifications. The French regulations require that the taxpayer employ precise methods. For example, prior approval is required for any system modification; electronic records must be maintained in chronological order of transmission and receipt; and paper documentation may be required if the information transmitted and that received do not correspond exactly. Both the U.S. and French regulations permit the tax authorities to examine the electronic tax information recording and retention system at any time.

In drafting the requirements for tax-information recording and retention, the tax authorities of the United States and France both chose to emphasize the potential for high-technology tax evasion and their abilities to examine and audit records in a meaningful manner. By making taxpayers adhere to specific requirements for systems approval and testing, the French tax authority is able to achieve a better understanding of each taxpayer's system and identify possible fraud. However, the different levels of specificity at the national level lead to a possible patchwork of record-reporting and retention requirements that could

51. *Id.*

52. *Id.*

potentially make it impossible, or at least impractical, for the international EDI user to calibrate its system to satisfy all relevant requirements.

C. Customs Laws

In addition to fiscal laws, laws regulating importation of goods, and the related reporting and duty-payment requirements, are vitally important to the growth of international trade. Substantively, the issues are no different from those inherent to other administrative legal barriers to electronic commerce. Customs requirements, however, introduce the additional need for supporting documents such as invoices, import permits, and certificates of origin.

As a result, migration toward electronic commerce by customs authorities requires not only the ability to accept electronic versions of their own reporting forms, but also the ability to process copies of other electronic information generated and delivered as supporting documentation. Here is an additional challenge, involving the acceptance by Customs authorities of electronic transmissions from sources outside national boundaries.⁵³

For now, parties using EDI in pilot or test programs involving customs also continue with few exceptions to deliver duplicate paper documentation.⁵⁴ In the exceptional cases, use of EDI occurs subject to written agreements between governmental authorities and the users that define the acceptability and evidential values of the EDI transmissions.⁵⁵ In effect, the customs authorities and users have adopted the flexibility developed by commercial practices as a means of bridging the migration progress until adequate and appropriate regulatory schemes can be

53. See Morrin, in THONSEN & WHEBLE, *supra* note 4, at 82. Mr. Morrin confirmed during a 1991 working session of the E.C.E. Working Party Rapporteurs on Legal Questions that these practices continue in effect.

54. *Id.*

55. Customs authorities permitting the use of EDI for the submission of data have relied on interchange agreements executed with users to respond to and accommodate concerns regarding the processes and legal adequacies of electronic records. Although there is recognition of the eventual possibility these issues might be managed by affirmative government regulation, the Customs Cooperation Council ("C.C.C.") has promoted interchange agreements as an appropriate interim solution pending the updating of national legislation. As a result, the C.C.C. has issued guidelines on interchange agreements and user manuals for customs authorities and traders. See BRUSSELS CUSTOMS COOPERATION COUNCIL, GUIDELINE CONCERNING CUSTOMS-TRADER DATA INTERCHANGE AGREEMENTS AND EDI USER MANUALS 35.910 (1990).

devised.⁵⁶

CONCLUSION

When multi-national corporations consider investing in the tools of electronic commerce, the attributes of those tools—uniformity, standard formats, and the seamless movement of data within the corporate organization—logically attract an overall expectation for standardization of procedures throughout the business enterprise. The existence of mandatory, different administrative law requirements introduces and will continue to produce costs of inefficiency that ultimately increase the aggregate implementation costs. These costs will make it particularly burdensome for smaller companies with activities in but two or three jurisdictions to migrate comprehensively toward electronic commerce. There is, therefore, no question that internationally harmonized administrative requirements will facilitate the vision of open, global electronic commerce.

Despite the strategic importance of harmonized administrative regulations in the various areas that affect international business practice, reforms thus far (as discussed throughout this Article) have been piecemeal. Some of these individual reform efforts are laudable in offering creative solutions to difficult problems; however, further steps must now be taken. Instead of merely singling out specific areas in particular need of reform, we must examine the entire fabric of governmental and administrative regulation in order to craft an approach that is cross-sectorally consistent in a world of increasingly multi-modal business practice.

One example of a possible cross-sectoral approach to reform of governmental and administrative regulations is that which the United Nations Conference on Trade and Development (“UNCTAD”), as a part of its Trade Efficiency Initiative (adopted at UNCTAD VIII in 1992) now has under consideration. This cross-sectoral approach is advanced by an interrelated program of projects, which, in their collected synergy, offer potential to catalyze further developments. Briefly summarized, the

56. See SIMPLIFICATION OF IMPORT CLEARANCE PROCEDURES, U.N. Doc. UN/ECE/TRADE/WP.4 (1979). This recommendation outlined 12 different “[s]ubjects for possible consideration, which would concern predominantly—but not exclusively—imports, and which could provide benefits to the Customs authorities as well as to the trading community.” *Id.*

proposed projects call for:

- (a) the development of model regulations relating to data protection and privacy;
- (b) the drafting of model regulations for the acceptance of electronic records to satisfy national fiscal and taxation requirements;
- (c) the development of a code of conduct for participants, whether administrative, governmental, or commercial, in port and harbor operations, for the use and validity of information sent and received electronically;
- (d) the promotion of automated systems for regional clearing houses for currency exchange and the correlative development of rules for systems operation;
- (e) the development of EDI messages to support counter trade and government procurement;
- (f) the compilation of a comprehensive computer data base to provide easy-access assistance on international trade;
- (g) the development of training centers to assist in the modernizing of commercial practices; and
- (h) the modernization of the infrastructure of less-technologically developed nations to facilitate their migration to electronic commerce.⁵⁷

Without commenting on the UNCTAD projects individually, it is enough to recognize the possible broad impact of these projects on the reform of governmental and administrative regulations; the projects encompass a wide spectrum of issues that continue to hinder attempts to reform commercial practice so as to facilitate electronic methods.

As discussed earlier, the revolution of business practice that is being caused by electronic commerce raises many classic political concerns that include, among other issues, underdevelopment issues, the role of government, the sanctity of custom, and the ethics of new business practices. The proposed UNCTAD program is designed to break down some of these overwhelming issues into understandable, manageable units with realistic goals. While the philosophical questions underlying these global

57. See LEGAL FACILITATION, *supra* note 13. To date, the document setting forth the proposed program has received limited distribution; copies may be requested by writing to Mr. Jean Gurunlian, Director, Trade Efficiency Initiative, UNCTAD, Palais des Nations, CH-1211 GENEVE 10, Switzerland.

concerns will not be fully resolved through these projects alone, they will advance, if completed, practical business solutions for electronic commerce that can be adopted on a broad international basis.

However, no one program or international organization can encompass all of the issues that affect electronic commerce. The existence of mandatory governmental and administrative requirements make administrative regulation a key area of reform, but the furtherance of the vision of open, global electronic commerce will require the development of creative alliances and solutions. Electronic commerce offers incredible capabilities, but its use must be supported through vigorous cooperative, inter-organizational efforts to rethink the way business, including the business of government, is conducted.

