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# The Impact of XML on Contract Law and Contract Litigation

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## The Impact of XML on Contract Law and the Volume of Contract Litigation

It is unclear how adoption of Web services contracting systems based on XML standards will affect the frequency of litigated contract disputes among businesses. During the more than 20 years that business-to-business EDI contracting systems have been in use, there have been no reported cases of litigated contract disputes involving EDI contracts. By contrast, there have been many litigated disputes involving business-to-consumer contracts formed through the use of clickwrap and browsewrap Internet interfaces that have been in use for only a decade. B2B EDI contracts are usually formed between businesses that are already in a long-term trading partner relationship, and the high initial investment required to use EDI may provide additional incentives to resolve disputes informally. Businesses without long-term relationships should be able to use B2B XML contract technologies, and the absence of a relationship of trust may make it more difficult to resolve disputes informally when they arise. B2B XML contracts should still have a lower rate of litigation than B2C Internet contracts, however, because most businesses prefer arbitration to litigation.

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# 1. Electronic Commerce Law in Action

An understanding of current business practices is considered by most U.S. commercial lawyers to be an essential element of understanding and correctly applying commercial law. Commercial lawyers in practice try to act like “social engineers” who try to understand their clients’ requirements and then build systems that help clients to achieve their business objectives. Academic commercial lawyers distinguish between “law in the books” and “law in action” and study the circumstances of commercial transactions so that legal doctrine can also be analyzed within the context of commercial practice rather than as a matter of abstract legal theory.

Technological innovation presents unique challenges to commercial lawyers who, unlike patent lawyers, often lack the formal training to understand in depth cutting edge technologies that are central to their clients’ business processes. A business management revolution has taken place in recent years as businesses find they must adopt sophisticated information technologies in order remain competitive. A similar revolution has generally not taken place in the management of law practice because while it is possible to standardize the forms of law practice, the substance of law practice still largely remains the creation of hand-crafted solutions to individual client problems. For example, almost no lawyers in the U.S. are required to use EDI standards in their communications with clients because there are only a few, narrowly focused EDI standards for law practice and they are irrelevant to the work performed by most lawyers. Similarly, most work developing legal XML standards has focused on the form of documents filed with courts or public registries and has not yet tried to standardize content of the legal analysis contained within those documents. (This is in marked contrast with the degree of standardization used to communicate information about medical diagnoses, the work product of another of the traditional professions.) The technological revolution that has forced many businesses to restructure their operations from top to bottom in recent years has only affected administrative and secretarial functions at law firms, leaving many lawyers relatively unaware of the magnitude of the technology-induced changes taking place within their clients’ management systems.

This disconnect between the widespread recognition of the strategic importance of information technology in business management and the more attenuated relationship between law practice and information technologies is one factor contributing to the failure of most commercial lawyers to notice the widespread use of business-to-business (B2B) contracting systems based on electronic data interchange (EDI). Many lawyers, like the American public generally, are personally familiar with the use of business-to-consumer (B2C) Internet contracting systems. As a result, commercial lawyers generally do not recognize the importance of standards-based electronic commerce but instead overemphasize the role of ad hoc or proprietary Internet contracting systems when considering the impact of technological innovation on business processes.

This paper is a preliminary exploration of the legal significance of several important trends in the use of information technology by businesses that until now have been largely overlooked by commercial lawyers. These trends include the surprising absence of any litigated disputes arising out of EDI contracting systems, and the move away from more rigid EDI standards toward more flexible XML standards for electronic contracting. There has apparently never been any attempt to collect systematically data about the actual operation of EDI trading partner relationships and analyze that data in light of existing theories of commercial law and its relationship to business behavior. As a result, the conclusions presented in this paper are only tentative hypothesis awaiting further empirical investigation.

## 1.1. Contract Formalism and Contract Realism

Within U.S. legal academic contracts scholarship, there are two major schools of thought which provide competing frameworks within which B2B electronic contracting systems might be analyzed. One school of thought is generally referred to as the “Legal Realist” school, the other is generally referred to as “formalism” or, in its most contemporary instantiation, “Law and Economics.” The Legal Realist perspective is associated with the claims that commercial law should adapt to contemporary commercial practice as much as possible. In addition, Realists believe that legal rules should be construed in a flexible manner in order to permit judges to avoid arbitrary outcomes and resolve disputes fairly. The formalist approach assumes instead that commercial law works best when interpreted in a strict, inflexible manner because this promotes predictability, and rewards businesses that plan transactions carefully in advance. In other words, formalism advocates a system of simple rules consistently enforced because it should be simpler for non-

lawyers to administer such a system than the more nuanced, contextualized system proposed by the Realists. If the rigidity of a formalist system produces surprising or unjust outcomes in isolated cases, formalists would treat those cases as just one cost of running an otherwise efficient system.

The fact that EDI contracting systems have now been in use for more than 20 years without a single EDI contract being litigated appears to suggest that the formalist approach to commercial law might have more explanatory power than the Realist approach. The models used for computer programs rely more on the kind of simple, clear rules that formalists support than the flexible, contextualized standards advocated by the Realists. EDI standards are relatively narrow and rigid, and permit non-lawyers to run contracting systems with relatively little input from judges or even attorneys, except at the outset when the EDI relationship is being established. The efficiency gains from B2B EDI contracting would seem to exemplify the benefits of economic rationality that formalists admire. However, the initial appeal of the formalist interpretation may diminish with more sustained scrutiny of the facts.

One of the most influential Realist works is a 1963 study of contract law and practice which showed that it was difficult to get people in business to confirm even the most basic elements of the formalist approach to contracts (Macaulay 1963). The explanations provided by managers of their contractual relationships focused instead on building trust through long-term trading partner relationships, not protecting their legal rights under a written contract. Further empirical research suggests that “relational contracts” play a pivotal role in managing transactional risks among businesses; the widespread practice of relational contracts is difficult to reconcile with the formalist theory of contracts (Macneil 1974, Williamson 1985).

B2B EDI trading partner relationships take place within the context of relational contracts. This association between relational contracts and the use of information technology may reflect the fact that it is relatively expensive to establish a B2B EDI systems, and businesses are reluctant to spend the money required to establish EDI communications in the absence of a relationship of trust that antedates the use of the technology. Once investments in establishing EDI communications have been made by the parties, they may provide additional incentives to resolve disputes informally in order to keep the relationship going. Litigation might end the relationship, requiring the parties to write off their investments in the EDI contracting systems. This Legal Realist analysis of EDI trading partner relationships suggests that information technology contributes to success in business because it creates incentives for cooperation among the parties, not because it promotes rigid adherence to formal rules.

## 1.2. Dispute Resolution

Empirical research into the way legal disputes are resolved in practice as opposed to how they are explained in legal theory has produced an analytic model known as the “dispute resolution pyramid” (Felstiner 1980). Researchers have discovered that the most common response to problems that might result in litigation is to do nothing at all. In a small number of instances, the aggrieved party might seek advice from an attorney, and in only a small subset of those instances, will a lawsuit ever be filed. Even the filing of a lawsuit does not necessarily indicate that the formal legal system will ultimately resolve the dispute because most lawsuits are settled before trial, and even if a trial begins, it is now common in the U.S. for settlement to take place before a judge or jury renders a decision in the case. This research indicates that disputes resolved within the formal legal system account for only a tiny proportion of all disputes that could be characterized as legal disputes.

The fact that there has never been a litigated case based on an EDI contract seems to indicate that within the social context of B2B EDI contracting systems, the transacting parties have found a way to remain at the informal dispute resolution level and to suppress litigation. Lawyers seem to be unaware of this fact because they generally rely heavily on reported judicial decisions for information about current business practices, and so have not noticed the absence of any reported decisions addressing EDI contracts. In order to determine whether disputes involving B2B XML contracts will have the same characteristics as B2B EDI contract disputes, it is necessary to consider some of the distinctive features of B2B EDI contracts.

## 2. B2B EDI Contracts Without Litigation

One of the remarkable things about B2B EDI contracts is just how many of them there are. According to the most recent U.S. Department of Commerce statistics, eCommerce transactions accounted for over 20 percent of all transactions in the manufacturing sectors (\$843 billion), and nearly 17 percent of wholesale sector (\$730 billion) in 2003 (DOC 2005). In these B2B markets, most eCommerce transactions are based on EDI. By contrast, in the retail sector, eCommerce transactions accounted for only 1.7 percent of sales (\$56 billion). From these statistics it is clear that eCommerce based on EDI standards dwarfs retail eCommerce using Internet graphical user interfaces that are not standardized. Given the large volume of B2B EDI contracts formed in the U.S., it is surprising that there is not a single reported case involving an EDI contract. While it is unclear what the volume of litigated disputes would be for those contracts if they had been formed by other means, it is clear that it would be more than zero.

In B2B commercial transactions in the absence of EDI contracting systems, the parties to a transaction exchange various forms while negotiating the terms of a contract. The prospective purchaser may have a catalogue from a vendor, or may ask for a quote for a particular transaction, and then may submit an order. The vendor may send a form acknowledgement to the purchaser which merely acknowledges receipt of the order, or it may confirm that a contract has been formed on the terms of the order. Once the goods or services in the order form have been delivered, the vendor will follow up with an invoice.

After a contract has been formed, disputes may arise as several fairly predictable points in the transaction. Perhaps the most common reason for business contract disputes—inability of the purchaser to pay—is not a problem that can be solved simply by automating the contracting process. (Management of credit risks can be addressed by a business process reengineering but such systematic changes to business information systems are beyond the scope of this paper.) Once a contract is formed, a party may challenge the enforceability of the contract if it learns that it cannot perform the contract profitably, or a party may demand compensation if it is not satisfied with the performance of the other party. As with credit risks, it is hard to imagine how automated contracting systems would make these problems less likely to occur, so any explanation of the lower litigation rates for B2B EDI contracts must be found elsewhere.

The absence of litigated EDI contract disputes may reflect in part the greater accuracy of EDI contracting systems. Businesses may be able to avoid the formation of contracts that would be unprofitable by specifying in advance the conditions under which orders should be accepted and by relying on machine systems to assure compliance with those policies. Human error in preparing orders or confirmations may be eliminated before performance begins, reducing the number of disputes about what are the actual terms of contracts. While the greater accuracy of B2B EDI contracting systems clearly provides part of the explanation for the absence of litigation, it seems unlikely that it provides a complete explanation. It is therefore necessary to consider what impact adoption of B2B EDI contracting systems have on the parties to commercial transactions in order to look for additional explanatory variables.

### 2.1. Formal Rationality

In order to develop computer programs that can take the place of humans in business administration systems, the roles of human administrators must first be rendered as formal models. The work of the programmers who render the work of humans as machine executable commands in turn is based on those formal models. The ease with which a business organization can make use of a software program in lieu of services performed by staff will depend in part on the compatibility of the formal models upon which the software was based and the implicit models reflected in the organization of staff responsibilities.

When EDI standards were first developed in the 1980s, one objective was to increase the rationality of business processes by moving from human to machine processes. Standardization and machine execution could largely eliminate human error as a factor contributing to disputes. In addition, compliance with management policies could be enforced more effectively. It is therefore plausible to think that the use of B2B EDI contract technologies results in lower than average litigation rates because it enhances the effectiveness of business contracting processes by making them more formally rational. The plausibility of this hypothesis is enhanced by the fact that the highest adoption rates for B2B

EDI contracting systems is among large business enterprises which have the most formal management systems, and lowest among small and medium-sized enterprises, which have the most informal management systems.

The argument that the absence of litigation is a reflection of the effectiveness of B2B EDI contracting systems is undermined by the fact that EDI contracting systems are notoriously difficult to use. It would not be too much of an exaggeration to say that EDI contracting systems have achieved widespread use in spite of the limitations of EDI standards rather than because of their effectiveness. EDI is sometimes called a “standardless standard” because implementations by different organizations can be compliant with the relevant standard but still not interoperate with other compliant implementations. In addition, EDI standards can be difficult to implement because they do not distinguish between the content and form of data, thus requiring greater standardization than is necessary of formal elements of business communications. These and other shortcomings of EDI standards suggest that the absence of litigation cannot simply be explained by their success in rationalizing business practices.

## 2.2. Relational Contract

The theory of relational contract provides a completely different explanation for the low rates of litigation associated with the use of B2B EDI contracting systems. If B2B EDI systems work best when introduced into established relationships of trust, and the adoption of the technology has the effect of reinforcing the bonds of trust, then the absence of litigation may reflect the context within which the technology is used rather than any characteristics of the technology itself.

The concept of relational contract can be illustrated by the example of a homeowner who hires a gardener to care for her rose garden. The formalist model of contract would predict that the parties should negotiate fully all aspects of the relationship, assigning rights and responsibilities clearly between the parties. In reality, it may be too time consuming and difficult for the parties to try to specify at the outset of the contract every element of the gardener’s responsibilities and the homeowner’s payment obligations. The homeowner might instead ask the gardener to take good care of the roses, leaving the details of the care to the discretion of the gardener to work out. If unanticipated developments make the care of the roses more difficult than originally anticipated, the parties may both believe they have an obligation to adapt the original contract to the changed circumstances, perhaps by providing the gardener with more pay. The idea that the parties are committed to adapting the terms of their relationship as needed in light of changing circumstances is not something that traditional contract law can easily accommodate. An “agreement to agree in the future” might even be found not to be a valid contract if its terms are too uncertain at the time the contract was formed.

If the parties to an EDI trading partner relationship are considered to be parties to a relational contract rather than a traditional formal contract, then it is possible to explain several characteristics of trading partner relationships. Parties making the commitment to use EDI for their contract communications may each believe that they have a tacit agreement to work together to resolve technological glitches that arrive in the future, or to put in place human-administered “work arounds” if necessary to make the two EDI systems interoperate effectively. Within the relationship of trust created by the relational contract between trading partners, the large investment in IT resources to get an EDI system up and running in the first place, and the ongoing investment to keep it running, can be justified by management. This explanation presumes that EDI systems are temperamental and hard to use instead of assuming that they are highly effective and error-free.

## 2.3. Strategic Behavior

B2B EDI contracts are an example of a long-term contract in which each of the contracting parties must make a “relationship-specific investment” in order to reap the benefits of using the technology. The relationship-specific investment is the large upfront investment in modifying existing information technology systems normally required with establishing an EDI trading partner relationship. The economic analysis of long-term contracts in which one party makes asset-specific investments indicates that the other party may take advantage of the opportunity to extract quasi-rents unless the first party can find a way to defend itself (Klein 1978). In other words, if one party enjoys an increase in profitability because of the efficiencies possible through the use of EDI, the other party may find an excuse to raise its prices, thus depriving the first party of the enjoyment of those benefits. If the two parties to the B2B EDI relationship



are roughly peer institutions with roughly similar amounts invested in making the EDI technology work, then neither would be likely to try this kind of “holdup” of the other. However, if one of the trading partners is a small or medium sized enterprise (SME) and the other is a multinational enterprise (MNE)—a common situation in which EDI technologies are used—then the MNE may use the B2B EDI relationship as a way to extract additional concessions from the SME after the relationship is established. An SME that was unwilling to make extra concessions would have no choice other than to leave the relationship because threatening litigation would be unlikely to affect the behavior of the MNE.

## 2.4. Explaining the Absence of Litigation

The absence of litigation related to B2B EDI contracting is most likely a function of several variables: reduction in the absolute rate of disputes due to the greater accuracy of machine systems compared to human systems; resistance to adoption of EDI technology outside of preexisting relationships of trust which create an environment within which problems arising out of the use of the technology can be resolved; and the creation of new incentives for the informal resolution of disputes through the investment required to make EDI systems work. It is also possible that B2B EDI contract disputes are being resolved in arbitration because final decisions in arbitrated cases are not usually reported publicly. (Arbitration as an alternative to litigation is discussed further below.) Further refinement of these possible explanations will be possible in the future if more data about the impact of B2B EDI contracting systems on the rights and responsibilities of transacting parties becomes available.

## 3. B2C Internet Contracts and Litigation

While few lawyers outside of in-house counsel at companies with B2B EDI contracting systems are even aware of the widespread use of EDI by U.S. businesses, almost all lawyers are aware of the growth of B2C Internet contracting systems based on graphic user interfaces. Internet commerce first became possible in 1995 with the lifting of the U.S. National Science Foundation Acceptable Use policy prohibiting commercial activities, and the first reported judicial decisions involving Internet contracts were published in 1998. By 2005, at least 20 cases involving Internet contracts of various types had been decided by U.S. courts, including several highly influential cases by federal appeals courts (Winn 2005). A significant body of case law now exists in the U.S. which provides some guidance to attorneys and managers reviewing the design of graphical user interfaces designed to form contracts. Yet these cases are not as helpful as they might be in those situations because there is a lack of consistency in how they evaluate graphical user interfaces and how the relevant contract law doctrines are articulated and applied. It is highly likely that B2C Internet contracts will continue to generate significant litigation in the future.

### 3.1. Clickwrap and Browsewrap Contracts

The first type of B2C contract involving the use of new distribution channels to market innovative technologies were “shrinkwrap” contracts. Before the advent of online distribution systems, software was distributed to end users on floppy disks or other tangible media in boxes covered with a plastic wrapper outside the box. “Shrinkwrap” contracts were controversial because software licensors interpreted the act of breaking the shrinkwrap by the end user as a manifestation of assent to be bound by the terms of its license. By contrast, consumer advocates believed that end users could only be bound by terms that could be reviewed before payment. The trend in U.S. case law over the last 20 years has been to uphold the enforceability of shrinkwrap contracts, although consumer advocates have remained highly critical of this trend.

U.S. courts and lawyers refer to graphical user interfaces used to form online contracts as “clickwrap” or “browsewrap.” Clickwrap contract interfaces require some explicit manifestation of assent by the consumer to form a contract; in most cases, the consumer is asked to select between graphical representations of “I accept” and “I decline” by clicking on the chosen alternative. The first cases holding explicitly that a clickwrap interface design could be used

to form a binding contract appeared in 1998. In all, more than a dozen cases have been decided upholding the enforceability of contracts formed using clickwrap interfaces. In only a few cases have courts refused to enforce specific terms contained within contracts formed using a clickwrap interface, and the terms at issue have been found to violate a public policy of the forum state or to be “unconscionable.”

Browsewrap terms and conditions are usually found behind a hyperlink marked something like “Legal” or “Terms” or “Use of this site signifies your acceptance of the Terms and Conditions.” Because end users must seek out browsewrap terms in order to learn their contents, there is considerable disagreement over whether browsewrap interfaces can be used to form contracts at all. Although several courts have held that browsewrap interfaces do not establish manifestation of assent to contract terms, not all that have considered the issue have so held. Closer examination of the cases reveals that all three cases holding either that browsewrap might be the basis of a contract—or at least that summary judgment against the party advancing that argument would be premature—involve business-to-business contracts, not business-to-consumer contracts. Furthermore, in all three cases the party claiming that a browsewrap interface can be used to form a contract also had strong claims that the defendant should also be held liable for unfair competition.

## 3.2. Litigation versus Arbitration

A review of the clickwrap and browsewrap cases reveals that the terms most likely to be the subject of litigation are terms that either require the end user to travel to the merchant’s jurisdiction to file a lawsuit or require the dispute to be arbitrated. Underlying the dispute about procedure is a dispute about the quality of the product or service, but the court considering the dispute can decline to address the substance of the contract dispute if the parties have agreed to use arbitration in lieu of litigation. Only if the dispute resolution procedure issue is resolved in favor of litigation can the court resolve the underlying dispute about the product or service.

The reason that the parties spend so much time arguing about the correct location and process to resolve their dispute is not difficult to discern. Business advocates who believe that excessive litigation against businesses and excessive damage awards are problems with the U.S. legal system point to several characteristics of litigation in the U.S. they find problematic. These include the ability to award punitive damages in a civil law suit (which in effect blurs the distinction between civil and criminal liability and creates the possibility of large damage awards unrelated to any harm actually suffered by the plaintiff); class action lawsuits (which permit hundreds or thousands of individuals who have suffered the same harm to join in a single lawsuit against the party who allegedly caused the harm); the practice of permitting attorneys to work on contingency fees (which may grant the attorney up to 40 percent of a victim’s recovery as compensation if the plaintiff wins but nothing if the plaintiff loses); and the general prohibition on fee shifting (which requires the losing party to pay the winning party’s attorneys fees as well as any damages awarded and so suppresses frivolous litigation). Few countries other than the U.S. permit any of these practices (Kagan 2001). Not surprisingly, consumer advocates reject claims that the U.S. suffers from excessive litigation.

An increasingly popular strategy among U.S. businesses to try to stop what they perceive to be excessive litigation and excessive damage awards is to take disputes out of the court system and resolve them in arbitration instead. Arbitration in lieu of litigation has been growing in popularity as a way to resolve B2B disputes for more than 50 years. Arbitration is generally believed to be faster and cheaper than litigation and arbitrators are general presumed to know more about business than judges, and more friendly to business than juries. Punitive damages, class actions and contingency fees are not possible in arbitration. Another benefit to business of using arbitration is that there is no publicly reported report of the decision. Over the last 10 years, businesses that deal regularly with consumers have begun to require that consumers agree in advance to arbitrate any disputes about the transaction as a way to reduce the frequency of what businesses perceive as frivolous litigation. While arbitration is universally recognized as appropriate for resolving B2B disputes if both businesses have agreed to arbitration as a term in their contract, many consumer advocates believe that arbitration of B2C disputes is inherently unfair to consumers. (In Europe, the use of such mandatory arbitration terms in B2C contracts is prohibited by law.)

The clear trend in the B2C Internet contract cases decided by U.S. courts is in favor of enforcing agreements to arbitrate. Consumer advocates and legal academics have been sharply critical of several decisions that they believe set too low a threshold for finding that a contract has been formed, and that an arbitration term in the contract is therefore enforceable against a consumer. Many courts do appear to be relaxing the formal criteria for determining whether the



consumer's online conduct is sufficient to form a contract. However, the magnitude of the background controversy about whether the U.S. is currently suffering from a "litigation crisis" makes it difficult to know whether this loosening of the criteria for finding that a contract has been formed reflects judicial support for innovation in consumer contract interface design, or judicial support for arbitration as a substitute for litigation.

### 3.3. Explaining the Frequency of Litigation

Although it is not possible to calculate what percentage of either B2C or B2B contract disputes are resolved informally or end up in litigation, it does seem clear that the rate of litigation for B2C Internet contracts is much higher than the rate of litigation for B2B EDI contracts. B2C Internet commerce differs from B2B EDI commerce in many ways, some of which may be contributing to the higher rate of litigation. Consumers may not appreciate the degree to which online merchants differ in the quality of the products or services they market, or in the kind of after-sales support they provide. Consumers may lack the sophistication to distinguish between the business models of online merchants, and so may have unrealistic expectations with regard to the products and services that they buy online. Under these circumstances, many consumers doing business with low price, low quality, low service business models may be unwilling to settle disputes informally if that requires them to accept poor quality products or services.

The lack of standardization in B2C contract interface designs may also contribute to the inability to resolve disputes informally if consumers form contracts without a clear understanding of contract terms other than the price, quantity and delivery terms. The disarray in U.S. case law discussing the elements of graphical user interface design required to form a clickwrap or browsewrap contract contributes to this lack of standardization. Self-regulation in the form of codes of conduct or statements regarding best practices might help achieve greater standardization than is possible merely by reference to reported judicial decisions, which in turn might improve consumer understanding of terms. While some private organizations such as the Better Business Bureau have developed voluntary codes of conduct that address certain issues in online contracting, these efforts have not resulted in any formal standard developing efforts in the area of online contracting.

## 4. XML Standards and Emerging Business Practices

If XML standards can lower the initial cost of establishing B2B electronic contracting relationships, then the use of B2B electronic contracting technologies may become feasible outside the context of long-term trading partner relationships. The absence of an environment of trust may reduce the incentives that parties to B2B EDI relationships now have to settle disputes informally. If B2B XML contract disputes are arbitrated rather than litigated, then the rates of litigation for B2B XML contracts may be no higher than those for B2B EDI contracts.

### 4.1. XML Contract Standards

It is not yet clear which, if any, of the various XML contract standards will achieve widespread acceptance in the market. The XML standards may be too recently finalized to have yet achieved widespread adoption, so the migration from EDI to XML for electronic contracting may be just beginning. However, some observers of the work of informal standard setting organizations have suggested that the apparent reluctance of end users to embrace many recently proposed e-business standards may reflect a disconnect between the work of the informal standard setting organizations (SSOs) and the actual needs of business end users (Cargill 2005, Ketchell 2003). EDI contracting has proven surprisingly resilient given its well known shortcomings, which suggests that either the switching costs of moving to XML may be prohibitive, or the XML alternatives may not yet be offering end users what they want. Until any of the XML contract standards now available for use by businesses actually achieve significant rates of adoption, predictions about litigation rates associated with the use of XML can only be speculation.

### 4.2. Web Services Contracting Practices

Web services hold out the promise of making B2B contracting as easy as B2C Internet contracting and as powerful as B2B EDI contracting. If Web services contracting systems really are as easy to set up and operate as

clickwrap interfaces, then it is possible that businesses without any prior relationship will be able to find each other online, negotiate, and form binding contracts without a need for back channel communications. The prospect of this kind of “stranger-to-stranger” Internet commerce has tantalized technology providers and contracting parties since the early days of EDI contracting. Commercial practice has not yet embraced this option, however, as both online and offline transactions still seem to be based on prior relationships, closed systems such as credit cards or bank accounts to screen the credentials of prospective trading partners, or reliance on traditional signals of a party’s trustworthiness such as maintenance of a recognized “brand.”

If Web services contracting systems can lower the cost of establishing new trading partner relationships, then litigation rates might rise compared to EDI trading partner relationships. This is because implementation of EDI systems normally requires the parties to increase their commitment to each other simply to gain access to the technology. Low startup costs for Web services contracting would remove the incentive to resolve disputes informally created by the relationship-specific investments required to establish EDI communications.

### 4.3. Web Services Dispute Resolution

If Web services technologies can reduce the barriers to entry associated with B2B

EDI contracting, then a much larger and more diverse group of businesses will be forming contracts online outside the environment of trust created by relational contracts. It would be reasonable to expect that the volume of litigation with B2B Web services contracts would be above zero, as parties would have fewer incentives to resolve disputes informally. However, B2B Web services contracts are still between two businesses. Businesses usually share an interest in keeping dispute resolution costs as low as possible and so are more likely than are consumers to make an informed commitment to alternative dispute resolution systems such as arbitration when a contract is formed. As a result, B2B Web services contract disputes may move out of the realm of wholly informal dispute resolution more often than B2B EDI contracts, but proceed to arbitration without ever reaching the stage of litigation.

## 5. Conclusion

Without any reliable empirical data regarding the absence of litigation based on B2B EDI contracts, it is impossible to know with any certainty why contracting parties are not resorting to litigation. While it is possible that the greater accuracy possible with automated contracting systems has simply eliminated all disputes that might ultimately lead to litigation, or that the high degree of formalism associated with B2B EDI contracts provides the parties with all the information they need to resolve disputes effectively without resort to legal institutions, these explanations are not that credible. A more likely explanation is that B2B EDI systems are used within the context of relational contracts, and parties have such a strong incentive to preserve the relationship within which the technology is embedded that they are able both to work around the obvious limitations of the technology and to resolve transaction disputes informally whenever they arise. It is also possible that B2B EDI contract disputes are simply being arbitrated rather than litigated, and that this is part of a larger overall trend toward arbitration instead of litigation.

Most of the cases addressing B2C Internet contract issues have focused on procedural issues rather than the substance of disputes about performance of the underlying contracts. As a result, it is difficult to know why consumers seem more willing to litigate contract disputes than trading partners in B2B relationships. The fact that many graphical user interfaces used to form B2C Internet contracts seem designed to obscure rather than disclose clearly the contract terms may contribute to consumer misperceptions and frustration. Consumers may find it difficult to resolve disputes satisfactorily with merchants who cut corners on quality or service. Consumers may be willing to try to litigate disputes in class actions because the cost to an individual consumer to participate in collective litigation financed with contingency fees is likely to be much lower than the cost of participating in arbitration.

It is unclear how frequently B2B contracts based on XML standards will be litigated. B2B XML contracts will be standards-based and used by relatively sophisticated parties. This should contribute to the accuracy and reliability of these contracting systems, which should reduce the frequency of litigation. However, the use of B2B XML contracts should not be limited to parties who have already established long-term trading partner relationships. The absence of

relational contracts to create an environment of trust between trading partners may reduce the parties' incentives to resolve disputes informally when problems with either the transaction or the technology arise. Because businesses usually prefer arbitration to litigation, it is possible that B2B XML contract disputes will be arbitrated instead of litigated, which might make the actual volume of disputes difficult to determine.

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