

Dear Readers,

Every transaction in everyday life takes place in a legal environment. Various forms of contracts exist to cover against risks caused by legal uncertainties. The change from paper-based to electronic commerce has given rise to the need for legal instruments commensurate with the new media. In conventional practice, all obligations under a contract including such questions as liability, warranty or termination are laid down in a paper document made unique by the signatures of the parties. Generating this uniqueness involves a number of problems in an electronic exchange of communications. PC users are aware of how easily digital information can be copied or edited. Whereas technical problems are amenable to straightforward solutions, the legal side calls for in-depth clarification and updated legislation.

However, electronic commerce is expanding despite the gaps in the legal system, juridical aspects being covered by either general or specific agreements 'outside' the electronic system. Such agreements are usually a prerequisite for an EDI connection, for participation in cargo community systems, airline reservation systems, commodity exchanges, etc.

The emphasis of this newsletter is on the legal aspects of electronic commerce and the first section contains five articles from important authors. Continuing our tradition, sections on research issues and practical experience will follow. We hope you will enjoy reading the present number of EM-Electronic Markets.

Sincerely,



Rainer Alt



Stefan Zbornik

Editors

Legal Uncertainty and Electronic Markets

While the legal system - via the political system (deregulation, harmonization) - has allowed ample latitude for the exploitation of the potentials of Electronic Markets (EMs), it still fails to provide a sufficiently stable structure for the further development of EMs.

Actors in the economic system are accustomed to a certain level of legal risks. Such risks are regarded to be acceptable as long as the final outcome of

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legal actions remains sufficiently predictable. Such predictions on legal conflicts have to be shared among economic actors to stabilize mutual expectations of behavior. This stability then helps to reduce legal risks. Predictability is not necessarily related to precise legal knowledge. It is sufficient to know when legal specialists have to get involved. Economic actors prepare for such situations by legal risk management measures, e.g. contracting legal services to monitor their economic activities. With the advent of EMs such a traditional approach has become insufficient.

The Rising Importance of Intangibles

Products and production processes change their appearances in the information and communication technology (IT) environment: Intangibles are becoming increasingly important; the contracting process itself - via digitization - is freed from its traditional paper format while becoming irreversibly dependent on the functioning of IT. This technology has its own uncertainties and intransparencies adding to the uncertainties of the legal system. Against this background actors in EMs grow suspicious of the relevance of their traditional legal knowledge, their rule-of-thumb strategies for legal problems and their capability to sense legal problems in time.

Adjustment Difficulties of the Legal System

This situation is aggravated by the observation that actors in the legal system seem unable to manage their own tasks: While, almost by definition, it is via conflicts that the legal system produces

consensus, reliance on its capability to finally produce such consensus within an acceptable time for an acceptable time in the future is decreasing. Such difficulties not only occur in the context of IT but can be perceived in the reaction of law to technological change in general. However, the pressure on the performance of the legal system to simultaneously maintain stability (legal rules as a stable environment for economic strategies) and adaptability (adequate application of legal rules to each new individual case without the need to mobilize the complex mechanisms of changing the laws) has increased considerably. Changes in the legal environment are demanded to arrive faster and to last longer, to be fine-tuned and yet to remain sufficiently general, to appeal to local and sectoral customs and yet to be accepted beyond national jurisdictions.

Legal Problems in EMs

Increasing uncertainties are reflected in a series of legal questions surrounding the development of EMs. Not all of them affect EMs specifically. EMs, however, share many of the uncertainties that relate to IT in general. An overview on current developments in IT law may be obtained by constant screening of [4]-[6], for more comprehensive approaches see [7]-[12]. The legal questions may be grouped around the issues of validity, protection of property rights, responsibility, and balancing power distribution.

Validity

For some commercial activities legal regulations require the observance of formal rules. These rules may relate to what constitutes a 'document' serving specific functions of administrative control (e.g. in tax law); they may prescribe 'writing' as a pro-active mechanism against likely conflicts about validity; they may demand 'signatures' as an additional safeguard in the decision-making process of the con-

tracting parties. Some of these regulations are mandatory; non-observance renders the activity legally invalid. These formal rules are to a large extent still either implicitly or explicitly connected to paper documents and handwriting. Their observance limits the efficient use of electronic interaction.

Responsibility

Actors in traditional markets are accustomed to be held liable for faulty goods and services. There is usually enough experience to accurately appreciate these risks. Moving into EMs, however, the provision of information on such products may already become an issue of liability as well as the automated or semi-automated response mechanisms of contracting. Complex layers of responsibilities develop: Information provider, product provider, network provider and the party that operates the EM may all be different and may all be differently involved in causing dysfunction.

Protection of Property Rights

The rising importance of intangibles increases the pressure on the effectiveness of legal property protection. Encouraging investment in the development of intangibles via legal protection is not new to the legal system. Conceptual problems due to the specific qualities of IT, however, have hampered clear subsumptions under differing protection regimes (patent, copyright, design or safeguards against unfair competition). Traditional balances between limited monopolies as premiums for innovation and the promulgation of innovative ideas through re-use are being questioned to the extent to which innovators seek to make their concepts directly tradable. The traditional administration of property rights has become cumbersome in economies in which products are exchanged electronically.

Distribution of Power

Legal rules may also be read as frozen compromises on past power distribution

conflicts in societies. Highly visible social change accompanying technological change may unfreeze these compromises. Classical conflicts re-surface and are re-discussed under a new name. Existing imbalances may reach new dimensions and demand new responses. While EMs tend to contribute in breaking up hierarchically organized allocation systems they are themselves not immune to new agglomerations of power. Law is activated to resist the change of existing power distribution patterns; law is at the same time called upon to influence new distributions. Market access and market domination problems may require new adjustments. The increasing involvement of end users and consumers in EMs create demands for protecting the 'electronic consumer'.

Reactions of the Legal System

Some of these legal problems only require internal adjustments. An enterprise providing traditional transportation services, e.g. one that is now moving into the business of providing information on available transport capacities, surrounding regulations and services for contractual transactions, has to familiarize itself with the rules of liability for brokerage and consulting services. There are also answers from the legal system for many other issues. The legal system internally (e.g. through case law and converging doctrine) and via the political system (through legislation) has already been reacting to some of the challenges of IT: Interpretation of existing law has helped to establish that the purchase of standard software is now regarded as a sale-of-goods contracts. 'Clarifying' legislation has tried to reconfirm copyright protection of software. 'Adaptive' legislation has accepted the use of electronic storage media for purposes of proof and control, although e.g. in the case of Switzerland, not necessarily in a manner consistent with the various categories of documents and storage media. 'Innovative' legislation has developed new criminal law protection mechanisms against computer misuse and has attempted to counterbalance shifts in power distribution by providing new types of rights and installing new institutions (e.g. access rights and data protection agencies). Coming legislation may well sanction the widespread use of electronic signature devices.

Effectiveness of the Reactions

There is a general impression, however, that these answers have not yet helped to sufficiently reduce the level of uncertainty in 'digital environments'.

□ *Problems of Tradition:* Many of the answers are still unstable; there is not yet a firm 'tradition' of new interpreta-

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tions of old laws or of new laws. Such a tradition is needed so that economic actors can regain assurance in their assessment of legal risks.

- *Problems of Consistency:* Consistency between new answers and old traditions and among new answers has not yet sufficiently been tested (e.g. the new type of protection for semi-conductors or the protection currently intended by the Commission of the European Union for data banks which do not meet the test of traditional copy-right). 'Repellent' reactions through unexpected case law are feared from a legal system trying to re-establish internal consistency.
- *Problems of Balance:* Legal answers may too strongly reflect one set of interests predominant at the time of law making. These answers may lose acceptance over time and become the focus of controversies in the future (for instance there is now discussion as to whether software protection has not gone too far in an era of modular programming).

Answers may have come too late or may not be (commercially) practical enough to be implemented. Participants in EMs have to and already try to overcome such deficiencies. These approaches can be divided into mid-range and long-range strategies.

Mid-range Strategies - Contracts and their Limitations

Market participants can make their 'own' law via contracts. But the form of the contracting procedure, crucial in EMs, may already be limited by mandatory legal regulations. Market participants ignoring these regulations may run the risk of unenforceable contracts. Obeying these rules, on the other hand, may render EMs inefficient. Furthermore, the need to solely rely on contractual solutions slows down the extension of EMs from internal or closed to open markets. Contractual solutions in open markets also depend on the knowledge of past and likely future contract performance. While IT has opened up new dimensions for these kind of information services, such systems themselves have their own technical and legal risks and have become politically controversial (cf. e.g. the privacy debates on credit information systems).

Long-range Strategies - Improving Legal Risk Management

Mid-range strategies have to be supplemented by a thorough rethinking of legal risk management. Legal risk management for EMs has to move more forcefully from the reactive into the proactive

mode and has to reach out beyond the boundaries of the individual enterprise and national jurisdictions. It has to contribute to the social construction of 'legal openness' [2] for electronic communication systems by enlarging the scope of trust building mechanisms.

Tasks

Such comprehensive strategic and collective legal risk management efforts will have to face the following tasks:

- *Back-ups Against Uncertainty:* Learning to manage a higher degree of legal insecurity in spontaneous economic interactions, e.g. by establishing procedures for flexible responses and back-up procedures outside the range of legal remedies (insurance, public relations, etc.).
- *Improving and Exchanging Knowledge:* Improving the knowledge and implementation of existing legal solutions, of contractual practices (e.g. by sectoral databases on contracts), of standardization efforts, etc., for (current and potential) EM participants. A model for such an exchange is for instance the LAB (Legal Advisory Board) of DGXIII/E of the Commission of the European Union [3]. EM participants should be encouraged to provide input to the legal system (to provide information on current economic practices and trends, to sit as lay-judges, to lobby, etc.).
- *Improving Operationalization:* Improving input that comes from the legal system by translating normative requirements into practical procedural routines, checklists, etc.
- *Social and Socio-technical Solutions:* Contributing to the development and implementation of social, technical and organizational solutions for trust building, e.g. by maintaining traditional freedoms of choice in economic interactions in EMs (e.g. the choice between identification and anonymity).
- *Self-regulating Mechanisms:* Developing and propagating effective mechanisms of self-regulation and self-control that have integrative effects on 'non-members'.
- *Research:* Making questions of the interactions between the legal and the economic system and concepts of legal risk management an integral part of multi-disciplinary research and the implementation processes.

Political Implications

Expanding EMs will require its participants to develop more self-dependent concepts of legal risk management and to reflect on social innovations accompa-

nying technical innovations. Such concepts will have to overstep the boundaries of organizational and national jurisdictional settings to make full use of the ubiquitous potentials of IT and EMs. As a political consequence, private sector entities in such environments will have to be prepared to take over new ethical and social obligations. Such a move of responsibilities from the public to the private sector and its strategic consequences can, for instance, already be observed at private sector telecommunications operators. ■

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