

Exploring the Nature and Issues of the

Electronic Marketplace:

The Global Electronic Commerce Conference

at the University of California, Berkeley

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Internet commerce is experiencing growth on an immense scale. In 1998, such commerce accounted for roughly \$1 billion. By the year 2002, this value is expected to increase to \$400 billion, and to account for greater than 1% of the GEP. By 2005, electronic commerce will account for over \$1 trillion.

With these increased dollars also come a variety of advantages. Internet commerce allows a broader reach and faster cycle times than conventional markets. Access to electronic markets is simpler, more convenient, and can be done in the comfort of one's home. Furthermore, from the supply side, this increased access leads to broader competition and a globalization of markets.

Certain factors stand in the way of the realization of these advantages. Insufficient confidence in the privacy and security of electronic transactions hinders the movement into these markets. How to carry out monetary transactions on the Internet poses a variety of questions. Also, there are a variety of legal and regulatory concerns.

To address some of these issues and to foster the continued growth of electronic commerce, the Clinton Administration drafted in 1997 the *Framework for Global Electronic Commerce*, also called the Magaziner Report. The Report advances five principles for the continued development of Internet commerce. First, the private sector should lead. Second, the government should avoid undue restrictions on electronic commerce. Third, government involvement should aid to support and enforce a predictable, minimalist legal environment. Fourth, governments should recognize the unique qualities of the Internet. Last, electronic commerce on the Internet should be facilitated on a global basis.

On May 5-6, 1999, the Berkeley Center for Law & Technology and the Berkeley Technology Law Journal held a conference to discuss the success of the Magaziner Report's principles, and the future of electronic commerce. The Conference is entitled *The Legal and Policy Framework for Global Electronic Commerce: A Progress Report*.

Panel One: Privacy Protection in Electronic Commerce: Government or Private Responsibility

As electronic commerce grows, privacy concerns naturally grow with it. The central issue when it comes to privacy on the Internet is: who should be responsible, government or private entities? John Zysman, of the University of California, at Berkeley, moderated the first panel. Mary Azcuenaga, an attorney with Heller,

Ehrman, White & McAuliffe, spoke first. She feels strongly that it is too early for privacy legislation. She thinks that private organizations are better placed to meet the desire on the part of consumers for privacy protection. Natural market forces are sufficient, in her mind, to provide for adequate privacy protection.

Peter Swire, of Ohio Law School, thinks differently. As part of his new position at the Office of Management and Budget, he plans to use the Privacy Act of 1974 as a guide for developing new rules regarding privacy on the Internet as it relates to electronic commerce. He believes that private parties, left to themselves, will not be as concerned as they should be about privacy issues.

Peter Harter, of Netscape Communications, stakes out the middle ground. He believes that government is needed in an active role in a "regulatory dialogue" between users, government, and commercial organizations. He also stated that the Internet is already regulated in part and will always be to some degree, even if the most radical "libertarian netizens" have their way and remove all but the minimum necessary government regulation and oversight.

Joel Reidenberg, of Fordham Law School, believes that privacy is the main concern preventing people from going online. The trend in the rest of the world is to have a comprehensive code of privacy legislation and the United States would benefit by going in that direction. Self-regulation is not currently working because many people and companies assume that basic rights are marketable and waivable. In order to protect against the infringement of our basic rights, we need to implement a

combination of law and technology. We need a "framework law" to reassure citizens that their privacy will be protected; and we need a technological infrastructure that will allow for users to protect their privacy interests.

Panel Two: Security and the Infrastructure of Electronic Commerce

Eric Brewer, from the University of California, at Berkeley, moderated this panel on security on the Internet, which is in many ways the flipside of user privacy interests. In order for commercial organizations to do business on the Internet, there needs to be a means of protecting confidential information. Stewart Baker, of Steptoe and Johnson, discussed encryption as a means of accomplishing this goal. It was evident to him that the government is the appropriate organization to manage this and called for a change of the guard, so to speak, in moving away from the FBI and toward the National Security Agency. His catchy phrase was: " the FBI is tired, the NSA is wired."

Charles Merrill, of McCarter and English, discussed various means of encryption. PKI encryption is the current standard. This standard is used to protect confidentiality, to authenticate identity and messages with a digital signature, and securing access to private information in the custody a third party, to name a few. Another means of encryption used less commonly, is the ABA digital signature. The hardest legal issues in this area involve allocation of liability among parties.

Thomas Smedinghoff, of McBride, Baker & Coles, discussed the role of electronic signature legislation. In recent years, there has been an explosion of legislation in most states. Forty-four states have enacted legislation to further security on the Internet. Forty-nine have *introduced* some kind of legislation for the same purpose. Mr. Smedinghoff also discussed types of electronic signatures and the issues involved in authenticating electronic signatures. For a summary of electronic commerce legislation, you can visit the website at www.mbc.com.

Last to speak in this panel was Doug Tygar, of the University of California at Berkeley. He discussed tamper-resistant devices such as smart cards, set-top boxes, and DVX boxes that all rely on maintaining information in secure environments. These systems are comparable to the Internet insofar as they all rely on maintaining information in a secure boundary. The problem with extending the paradigm from devices such as these to the Internet is one of evaluation: how do we evaluate what is working or not?

Panel Three: Setting Government and Private Policies for Electronic Payment Systems

Stephen Choi, from Boalt Hall School of Law, moderated this panel. Henry Lichstein, of Citigroup, envisions a day in which people will be able to pay for items online as easily as going to the neighborhood grocery. Authentication is one of the main issues, but once authenticity is established, the problem of repudiation arises.

How do we prevent people from paying for an item and then canceling either before or after receiving the product? If customers behaved thus en masse, massive inefficiencies would result. It also opens the door to bad faith transactions, which may be too tempting for many people. A regulatory framework should be set up to deal with this problem.

Kerry Macintosh, from Santa Clara University School of Law, discussed electronic cash, "e-money." She believes e-money is needed in addition to credit cards, largely so e-commerce can have a truly global currency at some point (despite the dollar's current standing as the international trade currency). Laws currently standing in the way of e-money should be eliminated. Another advantage of e-money would be the elimination of transaction costs incurred currently in switching from one currency to another. Any future e-currency should be international in scope (so national currencies should be discouraged because they would serve the same function that current currencies serve). And in order to further the end of a truly international currency, banks should be encouraged to issue their own currencies, in a step away from the nation-state centered paradigm of banking.

Last to speak on this panel was Jane Winn, of Southern Methodist University. Ms. Winn's views were in many ways distinct from the previous speaker's views. She believes that payment systems should include: alternatives to legal tender currency; should involve finality, such that a closure occurs and possession is established; electronic fund transfers should be provided for so that governments can make and

receive payments electronically. A major problem in starting any electronic payment system will be people's entrenched unwillingness to divorce themselves entirely of the physical aspect of money. Surmounting this problem would require massive efforts to raise confidence in e-money. Ms. Winn didn't elaborate on how this would be done but felt that it would indeed be possible. "If something is market-effective, it will survive" was her admonition.

Panel Four: Global Rules for Commercial Law and Intellectual Property

Maureen O'Rourke, from Boston University School of Law, spoke first on this panel, moderated by Mark Lemley, from the University of Texas Law School. She discussed Article 2(b) of the Uniform Commercial Code, and in particular the scope and weaknesses of this article. This article governs what a contract to be used in e-commerce should include, in order to be valid. The article was designed largely to help small businesses because it's very expensive for small businesses to deal with varying protection levels in different jurisdictions. The article's main problem is its decreasing scope; it has been reduced from its originally intended scope. Another large problem with the article in its current incarnation is that it doesn't protect consumers. Lastly, Ms. O'Rourke believes that the article should be brought into the international realm in order to wring out its weaknesses through large-scale use and testing.

Rob Merges, from Boalt Hall School of Law, spoke on the current trend in intellectual property toward a radical "disintermediation," due to the death of the traditional middleman in e-commerce. The new middleman is the patentee, who has set up a toll booth "to take a little business." A major question in this area of patent law, that has sprung up as a result of the new middlemen is: how far should a patent or business idea reach? This is a slippery slope conceptually because once the traditional limitations of patent law are expanded, it is hard to know when to stop expanding. Merges believes that the answer to this question and other relation questions lie outside the confines of traditional intellectual property law.

Mark Haynes, from Haynes and Beffel, spoke next, on software patents. He criticized the current system for failing to promote cooperation and forcing every developer to start from scratch with each new product. Developers must start anew each time because software code is patented and companies jealously guard their code. He wants to see the copyright laws changed to allow developers to benefit from other people's work in order to spur innovation and create better, more integrated programs. One change that would help in this effort would be to amend existing laws to allow for reverse engineering of other companies' products.

Last to speak on this panel was Pamela Samuelson, the organizer of this conference, and also from Boalt Hall School of Law and the School of Information Management and Systems. She discussed circumvention of copy protection systems. Vendors have begun to include copyright protection around a program, but consumers

often find this undesirable because it makes packages hard to "mate." However, the need for copyright protection outweighs this dissatisfaction on the part of consumers, and has led to "anti-circumvention rules" being developed. These rules prevent developers and users from skirting around the access controls of software packages. Despite her support for anti-circumvention measures in general, she believes the current rules being considered by the World Intellectual Property Association are overbroad and need to be revised.

Panel Five: Liberalizing the Telecommunications Infrastructure

To start the second day of the Conference, the assembled panel discussed the liberalization of the telecommunications infrastructure underlying electronic commerce. Professor Michael Katz of the Haas School of Business at the University of California, Berkeley, explained that the high speed cable infrastructure has been steadily improving. Furthermore, at its projected rate of continued improvement, this infrastructure should be able to handle the growth, and consequent demands, of Internet commerce in the future. He also related the importance of the speed of the telecommunications foundation to the entrance of new consumers into electronic markets: greater speed facilitates consumers in their efforts to explore these markets, and creates confidence in electronic commerce, while slower speed results in consumers finding one site which fills their needs, and going no further than that.

Professor Howard Shelanski, from the Council of Economic Advisers, explored the factors which create loyalty to gateway servers. These include address, ownership, customization based on user experience, and exclusive content of sites. In addition, he investigated the consequences of the FCC mandate under the 1996 Telecommunications Act on the deployment of broadband telecommunications infrastructure. The competition introduced by the Act could open markets to increased competition, and may prevent existing carriers to exploit economies of scale that could potentially benefit consumers and infrastructure development in the short-term. He also discussed a few alternative technologies available to the telecommunications infrastructure, such as copper and coaxial cables, fiberoptics, and wireless technology.

Deal Hal Varian, from the School of Information Management and Systems at the University of California, Berkeley, added to Professor Shelanski's viewpoint on the effects of competition. He described how increased competition among Internet providers would be to the eventual benefit of consumers, and would result in less regulation on any one provider. He also discussed the merits of wave-division multiplexing. It should increase backbone capacity in the next few years, yet its compatibility with the current infrastructure is uncertain. He went on to discuss the features of a "domain name" system of governance.

Like the other speakers, Kevin Werbach, Esq., investigated the meeting of telecommunications and the Internet, and compares this meeting to that of the Titanic with the iceberg. He was concerned that the Internet, growing very fast, is threatening

to overwhelm the telecommunications infrastructure. He explored in greater detail three areas which impact on the problem. First, the underlying economics can shed some light, in that an economic analysis indicates the costs of making various assumptions about the technology comprising the infrastructure. Second, the architecture of the Internet has contributed to its tremendous growth. Third, the individual opinions adopted by different companies shape how the growth and change of the Internet will continue.

Panel Six: Setting (and Choosing) Global Technical Standards

The next panel introduced the topic of global technical standards. Steven Fabes, from Mondex, discussed first the barriers to the widespread use of smart cards. They do not lend themselves to sound business, and require their own particular infrastructure, in the form of readers, agents, and payment means. He also argued for the Internet Open Trading Protocol (IOTP), a protocol between consumers and banks, consumers and merchants, or merchants and banks. The IOTP supports any payment method, is vendor neutral and extensible, and has a sound technical foundation. Lawrence Lessig, from Harvard Law School, discussed the Open Source Software Movement (OSSM) and its ramifications on the ability of the government to regulate technical standards. It involves Internet protocols which facilitate data exchange. Thus, one weakness of imposed standards, that they are restraining, is alleviated in the regime created by the OSSM.

Professor Joseph Farrell, from the Department of Economics at the University of California, Berkeley, stepped back to look at technical standards as a whole, and to try to justify various assumptions. He questioned what incentives should be put into standards, and what goals are promoted by doing so. He posits that flexibility and simplicity are the qualities which technical standards seem to encourage, but whether or not they actually are encouraged is uncertain. He also discussed the role of intellectual property law on the changes in the technical standards that should be set. Mark A. Lemley, from the University of Texas Law School, discussed the government's current answers to some of these questions. He pointed out the inconsistency of its approach, in that the Magaziner Report opposes governmental standard setting, yet seems to encourage open standards. The Report also ignores the role of intellectual property law. Lemley also argued that the setting of standards by private bodies leads to antitrust and enforcement problems; therefore, the government should take a more positive role in setting standards via purchasing policies and revision of intellectual property.

Panel Seven: What's Next? What's Missing in the Magaziner Report?

The topic of the final panel of the Conference was the future of electronic commerce. Richard Prem, from Deloitte & Touche, discussed how taxes will influence the growth and change of electronic markets. He also questioned which goods or services should be taxed, and what rationale exists for doing so.

Attempting to answer some of these questions was David Forst, Esq., from Fenwick & West. He argued that tax rules should be neutral at all levels and areas, including that of Internet commerce. He saw the geographic uncertainty of where income is being generated as pitting "source-based" tax rules against interests in an equitable sharing of tax revenues. Governments remain hesitant to vary from traditional taxation principles, but Forst asserted that taxation issues are likely to reemerge at national and international levels as the volume of economic commerce, and hence tax revenues, grows.

Professor A. Michael Froomkin, from the University of Miami Law School, first summarized what in his view is missing from the Magaziner Report. There is a noteworthy lack of a solid encryption policy, but noted that this lack only will have an effect for a short period. Also, a theory of governance is conspicuously absent, as the document is goal-oriented and focuses on the ends rather than the means for fostering and monitoring electronic commerce growth. He also observed the limited role of government in supervising expression and taxation on the Internet, arguing that increased national legislative competence is insufficient to shape policy.

Professor J. Bradford DeLong, of the Department of Economics at the University of California, Berkeley, discussed the role of the government as surveyor of the Internet. He argued that allowing the government to draw electronic property lines and to describe and enforce the consequences of crossing those lines is undesirable. He remains skeptical that the aggressive surveying of the electronic

frontier by the government is beneficial for the continued growth of the Internet and its commerce.

Steven Brower, Esq., from Ginsburg, Stephan, Oringer & Richman, explored the threat of Y2K and explained how it arose. During its creation there was a lack of economic incentive to avoid or repair the problem. He observed that today's technology is not capable of fully preventing its harm, and that legislation does not represent a solution, for several reasons. First, the government is too slow to act. Also, it may respond to competing interests in its efforts to cope with the problem. Moreover, legislation is unlikely to come up with a valid response to the unique effects which Y2K will have.

Professor Michael Borrus, member of the Berkeley Roundtable for the International Economy, discussed the application of jurisdictions for electronic commerce regulation. He argued that United States leadership is already being challenged by European nations, making the questions of whose laws should apply and who should resolve disputes more difficult to answer. Since the United States and Europe are the only entities which have the ability to exert their preferences on the rest of the world, they represent valid jurisdictions. While the World Trade Organization (WTO) is a logical candidate, and will possibly get jurisdiction for most Internet-related questions, Borrus asserted that the WTO should not be the last-resort settler of disputes.

Finally, moving to the enforcement side of electronic commerce, Kent Alexander, Esq., of King & Spalding, urged the need to model electronic commerce after conventional commerce, and create offenses such as insider trading and embezzlement, which have analogs in the electronic realm. He also elaborated on the policy "blindspots" which hinder efforts to establish these offenses. He pointed to the international structure of the Internet and the prospect of an explosion of litigation. Also, the policymakers themselves do not know enough about Internet offenses to enact adequate legislation. Furthermore, tax professionals do not know enough about how income is generated on the Internet.

On a more personal level, the conference was well-organized, ran smoothly, and managed to make what is sometimes a rather dry field a little more lush than it otherwise would be. And the food was quite good.