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PROFESSIONAL EXPERIENCE

- Advising public and private sector clients on strategic issues focused at the intersection of business, technology and public policy in the Internet, e-commerce, and telecommunications domains. Projects include:
 - Analyzing the potential role of digital learning in addressing the need for greater numbers of science, technology, engineering, and mathematics (STEM) workers for the Organization of Economic Cooperation and Development (OECD).
 - Advising the Office of the National Coordinator of Health Information Technology in the U.S. Department of Health and Human Services on the development of the National Health Information Network
 - Advising a major foundation on "reinventing" higher education
 - Directed a series of projects for the Committee for Economic Development setting out policy recommendations regarding the Internet and its impact by providing individuals with more information and greater ability to contribute their own expertise and experience (e.g. increasing "openness"). These projects, focused on promoting economic growth through increased openness, examined digital intellectual property ("Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property"), the rise of open standards and open source software ("Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness"); and potential improvements in healthcare ("Harnessing Openness to Transform American Health Care") and higher education ("Harnessing Openness to Improve Research, Teaching and Learning in Higher Education"). A related project, "The Future of Taxpayer Funded Research," examined the workings of the NIH's public access policy and the effects of information sharing on scientific progress, innovation, and economic growth.
 - Advising the William and Flora Hewlett Foundation on the use of "open educational resources" including their application in improving global health education
 - Chaired the International Public Policy Advisory Council for MIT's AUTO-ID Center and advised EPCglobal, the not for profit entity implementing MIT's Electronic Product Code (EPC) version of radio frequency identification (RFID)
 - Directing Project PURE, an Environmental Protection Agency /EPCglobal funded effort bringing together computer manufacturers, retailers, reusers, recyclers, and waste disposers to study how RFID might be used to reduce electronic waste (e-waste) by improving end of life product handling
- Member, National Research Council Board of Research Data and Information; Fellow, International University of Japan; Member, Board of Trustees, Salve Regina University; Trustee Emeritus, Brown University; Member and former chair, Brown University Advisory Council on Information Technology.
- Formerly a Fellow of the Communications Program at Johns Hopkins University and Distinguished Research Fellow at Pennsylvania State University's eBusiness Research Center.

Senior Fellow for the Digital Economy and Director of the Internet Policy Project

- Directed the Institute's Internet Policy Project as it examined a new generation of policy questions, including efforts by governments to assert control over Internet conduct within and beyond their borders, the implications of technologies that "map" the "borderless" Internet and those that promote privacy and anonymity, and the rise in "private governance" of the Internet
- Organized and raised \$200,000 for a three-day conference entitled, "Rethinking Boundaries in Cyberspace," for 24 world leaders in business, technology, and policy
- Authored *Rethinking Boundaries in Cyberspace*, a report that synthesized and extended the conference discussions

- Served as principal advisor to the Secretary of Commerce on the Internet and electronic commerce. Coordinated the Department's efforts to establish a legal framework for electronic commerce, ensure privacy, protect intellectual property, increase Internet security, encourage broadband deployment, expand Internet participation, and analyze the impact of electronic commerce on all aspects of business and the economy.
- Represented the U.S. in Europe, Asia, and Latin America to promote electronic commerce
- Assisted the Deputy Secretary and the CIO in implementing the Secretary's "Digital Department" e-government initiative
- Coordinated U.S. government Internet policy from 1995–2001 as a member of the U.S. Government Interagency Working Group on Electronic Commerce

Deputy Chief, Office of Plans and Policy

- Participated on the FCC Chairman's core team for implementing the 1996 Telecommunications Act
- Served as the Chairman's liaison with the global financial community
- Advised the Commission on spectrum policy, competition policy, and the impact of the Internet on telecommunications. Initiated Commission activities supporting telemedicine

U.S. Department of Commerce 1993–1996

Director, International Technology Policy, Technology Administration

- Directed the Department's efforts to promote the development and diffusion of U.S. technology abroad. Increased access of U.S. private-sector firms to foreign technology and foreign government technology programs.
- Established the President's U.S.-Israel Science and Technology Commission, reorganized the Japanese Technical Literature Program, expanded the Intelligent Manufacturing Systems Program, and initiated joint technology development efforts with China and Ireland

Assistant Vice President—Corporate Strategy

- Led a multi-disciplinary staff in the Chairman's office responsible for long-range planning and the identification, analysis, and resolution of critical corporate issues in the holding company for Pacific Bell and the PacTel Companies. Issues included the impact of, and strategies for, changing the AT&T Consent Decree, the growth of competition for Pacific Bell, the development of wireless personal communications services, new wireless opportunities in Japan and Western Europe, and corporate reorganization.
- Analyzed telecommunications opportunities in Japan; September 1991–August 1992
- Received Koret Israel Prize to study telecommunications in Israel; July 1990

Pacific	Telesis Group	986–1989
	Executive Director—Strategic Planning, External Affairs	

- Led a multi-disciplinary staff responsible for planning Pacific Telesis Group's External Affairs activities, including lobbying at the federal, state, and local level, corporate communications, and corporate contributions
- Created first External Affairs strategic plan

ADDITIONAL EXPERIENCE

Telecommunications consultant. Japan, 1982, 1985, 1991

Federal Communications Commission

Deputy Chief, Office of Science and Technology, 1980–1981

Special Assistant to the Chairman, 1977–1979

United States Senate, 1975–1978

Senior Counsel, Select Committee on Intelligence Activities

PROFESSIONAL HONORS AND AFFILIATIONS

Member, Board on Research Data and Information, National Research Council, National Academy of Sciences

Member, District of Columbia Bar

Fulbright Scholar in Japan. Studied Japanese telecommunications policy and technology, 1985

Member, Phi Beta Kappa

Member, Board of Editors, Yale Law Journal, 1975

Member, Board of Trustees, Brown University, 1972-1977

Member, Advisory Council for the College, Brown University

Chair, Advisory Committee on Information Technology, Brown University

Doctor of Letters (Honorary) Brown University 1995

Member, Advisory Council, Center for Democracy and Technology

Fellow, Communications Program, Johns Hopkins University

Distinguished Research Fellow, e-Business Research Center Pennsylvania State University

Member, Technical Advisory Committee, U.S. Agency for Economic Development

Fellow, Glocom, International University of Japan

Member, Free Trade of the Americas Negotiations' E-Commerce Experts Committee

Koret Israel Prize for Study in Israel 1990

Member, Executive Board, Liz Lerman Dance Exchange

Mentor, Nokia Innovent Group

Member, Board of Directors, PEOPLink.org

EDUCATION

J.D. Yale, 1976 Special Assistant to the Dean, 1974–1975, Member, Board of Editors, *Yale Law Journal*

B.A., cum laude, Brown University, 1968

Phi Beta Kappa, National Merit Scholar, Francis Wayland Scholar, Samuel T. Arnold Fellowship for Study Abroad, Executive Board of the Student Government, 1966–1968. As an undergraduate, co-authored, with Ira Magaziner, a study that led to the restructuring of the Brown curriculum in 1969. (Download draft of working paper, or view report as reprinted by the Open Jar Foundation.)

CIPP/US, International Association of Privacy Professionals

SELECTED PUBLICATIONS

"The Future of Taxpayer-Funded: Who Will Control Access to the Results?" Published by the Digital Connections Council of the Committee for Economic Development, Washington, DC (2012).

"Harnessing Openness to Improve Research, Teaching and Learning in Higher Education." Published by the Digital Connections Council of the Committee for Economic Development, Washington, DC (2009).

"Harnessing Openness to Transform American Health Care." Published by the Digital Connections Council of the Committee for Economic Development, Washington, DC (2008).

"Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness." Published in Innovations: Technology, Governance, Globalization, Summer 2006, Vol. 1, No. 3: 119–176.

"Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness." Published by the Digital Connections Council of the Committee for Economic Development, Washington, DC (2006).

"A New Future for Telecommunications Policy: Learning from Past Mistakes," by Elliot Maxwell. Published by the Economic Policy Institute, Washington, DC (2005).

"Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property," with Susan Crawford, Digital Connections Council of the Committee for Economic Development, Washington, DC (2004).

"Rethinking Boundaries In Cyberspace," with Erez Kalir, The Aspen Institute, Washington, DC (2002).

"Issues in E-Commerce" in *Pushing the Digital Frontier*, N. Pal et al. (ed.) American Management Association, New York, NY (2001).

"The Online Landscape" in Internet Law for the Business Lawyer, D. Reiter et al. (ed.) American Bar Association, Chicago, IL (2001).

"Policies for the Emerging E-Commerce Market Place" in AAAS Science & Technology Yearbook 2000. E. Teich et al. (ed.) American Association for Advancement of Science, Washington, DC (2000).

"A Policy Perspective on Electronic Commerce" with Shukri Wakid & Judi Moline, *IEEE Communications Magazine*, New York, NY (Sept. 1999).

"The Internet and Electronic Commerce: A Tale of Three Cities" in *The Emerging Internet*, the Annual Review of the Institute for Information Studies, Washington, DC (1998).

"Innovation and New Services" in *After the Break-up; Assessing the New Post AT&T Divestiture Era.* Barry G. Cole (ed.) Columbia University Press, New York, NY (1991).

"The First Amendment and the Right of Privacy" in *The First Amendment—The Challenge of New Technology*, Sig Michelson (ed.), Praeger, New York, NY (1989).

Editor, The Future of Electronic Information Handling at the FCC: A Blueprint for the 80's, Washington, DC (1980).

"The CIA's Secret Funding and the Constitution" 84 Yale Law Journal 608 (1975).

A Working Paper for Education at Brown, with Ira Magaziner. Cammarian Press, Providence, RI (1968).

SELECTED PRESENTATIONS

Openness and Higher Education at University of Michigan. Ann Arbor MI, January 2010 (download slides)

OECD Conference on Innovation in the Software Sector. Cáceres, November 2007

Balancing Globalisation, OECD Forum 2006. Paris, May 2006

Radio Frequency Identification (RFID) Applications and Public Policy Considerations, OECD Foresight Forum. Paris, October 2005

Public Policy and the EPC, EPC Symposium. Chicago, September 2003

Intellectual Property Rights and the Global Economy, Woodrow Wilson Center. Washington, February 2003

Openness and the Internet: Six Degrees of Openness, Fujitsu Research Institute. Tokyo, 2002

Openness and the Internet: Some Implications for Development, Washington World Bank. Washington, 2002

Openness and the Internet, Launch Conference for the Oxford Internet Institute. Oxford, 2002

Extra-territoriality and International Politics; Private Governance: Perils and Prospects for Self-Regulation, INET 2002. Washington, 2002

Achieving Broadband Opportunities in the U.S. and Japan, International Council for Computer Communication and Research Institute of Telecommunications and Economics. Washington, DC 2002

Issues in International Telecommunications, Georgetown University. Washington, 2002

The E-Commerce Story in the U.S.: The End of Chapter One, Fujitsu IT Innovation Forum. Tokyo, 2001

Emerging E-Commerce Issues, Second Asia-Pacific Conference on E-Commerce. Hawaii, 2001

Expanding Digital Opportunity, FTAA E-Commerce Experts Committee. Panama, 2001

The Role of Policy in E-Commerce, Hambrecht and Quist's Financing The New Economy. San Francisco, CA 2000

A Policy Vision for E-Commerce, OECD Forum on Electronic Commerce. Paris, June 2000

Policy and Business Intertwined, Oxford University E-Business Conference. Oxford, 2000

E-Commerce in the U.S. and Japan, Nihon Keizei Shinbum Global Information Summit. Tokyo, 2000

A Facilitative Role for Government in E-Commerce, E-Commerce Mexico. Mexico City, 2000

E-Commerce: Policies for the Emerging Marketplace, E-Commerce Chile. Santiago, 2000