

REFERENCES

- Abbate, Janet. (1994). *From ARPANET to Internet: A history of ARPA-sponsored computer networks, 1966–1988*. Unpublished doctoral dissertation, University of Pennsylvania.
- American National Standards Institute. Board of Standards Review. (1988, January 15). *Correspondence to Harris*.
- American National Standards Institute. (1993). *Procedures for the development and coordination of American national standards: Approved by the ANSI board of directors, September 9, 1993*. New York: American National Standards Institute.
- American National Standards Committee Z39. (1979a, February 2). *Information Form: Recommended ANSC Z39 Standard*.
- American National Standards Committee Z39. (1979b, August). *Bylaws of the American national standards committee Z39 library and information sciences, and related publishing practices*.
- Avram, Henriette D. (1970). Bibliographic and technical problems in implementing a national library network. *Library Trends*, 18(4), 487–502.
- Avram, Henriette D. (1975). *MARC: Its history and implications*. Washington, DC: Library of Congress.
- Avram, Henriette D. (1977). Production, dissemination, and use of bibliographic data and summary of the conference. *Library Quarterly*, 47(3), 347–369.
- Avram, Henriette D. (1978). Toward a nationwide library network. *Journal of Library Automation*, 11(4), 285–294.
- Avram, Henriette D. (1986, March). *Correspondence to Brown*.
- Avram, Henriette D. (1988, April 6). *Correspondence to Harris*.
- Avram, Henriette D. (1994). *Interview with author*.
- Avram, Henriette D. (1997). *Personal communication*.
- Avram, Henriette D. and Maruyama, (1977). *Toward a national library and information service network: The library bibliographic component (Preliminary Edition)*. Prepared by the Library of Congress Network Advisory Group. Washington, DC: Library of Congress.
- Becker, Joseph. (1969). Information network prospects in the United States. *Library Trends*, 17(3), 306–317.
- Besen, Stanley M. and Johnson, Leland L. (1986, November). *Compatibility standards, competition, and innovation in the broadcasting industry*. Santa Monica, CA: The RAND Corporation.
- Beniger, James R. (1986). *The control revolution: Technological and economic origins of the information society*. Cambridge, MA: Harvard University Press.
- Betancourt, Diego. (1993, November 19). *Strategic standardization management: A strategic macroprocess approach to the new paradigm in the competitive business use of standardization*. (Available from the author: Diego Betancourt, Manager, Office of Strategic Standardization, Polaroid Corporation, 656 Technology Square, Cambridge, MA 02139).

- Bonino, Michael J. and Spring, Michael B. (1991): Standards as change agents in the information technology market. *Computer Standards and Interfaces*, 12, 97–107.
- Boorstin, Daniel J. (1977, April 21). *Special Announcement #828: Establishment of Network Advisory Committee*. Washington, DC: Library of Congress, Office of the Librarian.
- Brock, Gerald. (1975). Competition, standards and self–regulation in the computer industry. In Richard E. Caves and Marc J. Roberts (Eds.), *Regulating the Product: Quality and Variety* (pp. 75–96). Cambridge, MA: Ballinger.
- Buckely, Walter. (1967). *Sociology and modern systems theory*. Englewood Cliffs, NJ: Prentice–Hall.
- Buckland, Lawrence F. and Basinski, William L. (1978). *The Role of the library of congress in the evolving national network: A study commissioned by the library of congress network development office and funded by the national commission on libraries and information sciences*. Washington, DC: Library of Congress.
- Buckland, Michael K. and Lynch, Clifford A. (1988). National and international implications of the linked systems protocol for online bibliographic systems. In Michael Carpenter (Ed.), *National and International Bibliographic Databases: Trends and Prospects*. New York: Haworth Press.
- Burns, Tom R. and Dietz, Thomas. (1992). Technology, sociotechnical systems, technological development: An evolutionary perspective. In Meinhof Dierkes and Ute Hoffmann (Eds.), *New Technology at the Outset: Social Forces in the Shaping of Technological Innovations* (pp. 206–238). New York: Campus Verlag.
- Callon, Michel. (1987). Society in the making: The study of technology as a tool for sociological analysis. In Wiebe E. Bijker, Thomas P. Hughes and Trevor J. Pinch (Eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (pp. 83–103). Cambridge, MA: The MIT Press.
- Callon, Michel. (1991). Techno–economic networks and irreversibility. In John Law (Ed.), *A Sociology of Monsters: Power, Technology, and Domination* (pp. 132–161). London: Routledge.
- Cargill, Carl F. (n.d.). Five stage model of standards development. Included in X3, Strategic Planning Committee. (1989, October 4). *Standards life cycle planning document* [draft]. Washington, DC: Computer and Business Equipment Manufacturers Association.
- Cargill, Carl F. (1989). *Information technology standardization: Theory, process, and organizations*. Bedford, MA: Digital Press.
- Cargill, Carl F. (1990). Justifying the need for a standards program. In Robert B. Toth (Ed.), *Standards Management: A Handbook for Profits* (pp. 1–18). New York: American National Standards Institute.
- Cargill, Carl F. (1994). Evolution and revolution in open systems. *StandardView*, 2(1), 3–13.
- Cargill, Carl F. (1995). A five segment model for standardization. In Brian Kahin and Janet Abbate (Eds.), *Standards Policy for Information Infrastructure* (pp. 79–99). Cambridge, MA: MIT Press.
- Cerni, Dorothy M. (1984, December). *Standards in process: Foundations and profiles of ISDN and OSI studies*. Washington, D.C.: Department of Commerce, National Telecommunications and Information Administration.
- Checkland, Peter. (1981). *Systems thinking, systems practice*. New York: John Wiley and Sons.
- Churchman, C. West. (1968). *The systems approach*. New York: Dell.

- Committee for Information, Computers and Communications Policy. (1991). *Information technology standards: The economic dimension*. Paris: Organisation for Economic Co-operation and Development.
- Computer Systems Policy Project. (1994, February). *Perspectives on the national information infrastructure: Ensuring interoperability*. New York: Computer Systems Policy Project.
- Council on Library Resources. (1974). *18th Annual Report*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1975). *19th Annual Report*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1976). *20th Annual Report*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1978a). *A Program to Establish a Comprehensive Computerized Bibliographic System for Libraries*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1978b, November 18). *Minutes. CLR Board Meeting*.
- Council on Library Resources. (1978c). *22nd annual report*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1979). *23rd annual report*. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1980, April). *CLR Recent Developments* [newsletter]. Washington, DC: Council on Library Resources.
- Council on Library Resources. (1984). *Five year report: Bibliographic Service Development Program 1979–1983*. Washington, DC: Council on Library Resources.
- Cowan, Robin. (1992). High technology and the economics of standardization. In Meinhof Dierkes and Ute Hoffmann (Eds.), *New Technology at the Outset: Social Forces in the Shaping of Technological Innovations* (pp. 279–300). New York: Campus Verlag.
- Crane, Rhonda J. (1979). *The politics of international standards*. Norwood, NJ: Ablex.
- Crawford, Walt. (1991). *Technical standards: An introduction for librarians*. (2nd ed.). Boston, MA: G.K. Hall and Co.
- Crocker, David. (1993). Making standards the IETF way. *StandardView*, 1(1), 48–54.
- Cross Industry Working Team. (1994, September). *An architectural framework for the national information infrastructure*. Reston, VA: Cross Industry Working Team.
- Dankbaar, Ben and van Tulder, Rob. (1992). The influence of users in standardization: The case of MAP. In Meinhof Dierkes and Ute Hoffmann (Eds.), *New Technology at the Outset: Social Forces in the Shaping of Technological Innovations* (pp. 327–350). New York: Campus Verlag.
- Data Research achieves Z39.50 connection with disparate system. (1992). *Information Standards Quarterly*, 4(2), 3.
- David, Paul A. (1985). Clio and the economics of QWERTY. *American Economic Review*, 75(2), 332–337.
- David, Paul A. (1987). Some new standards for the economics of standardization in the information age. In Parth Dasgupta and Paul Stoneman (Eds.), *Economic Policy and Technological Performance* (pp. 206–239). Cambridge: Cambridge University Press.

- Davison, Wayne (1983). The WLN/RLG/LC linked systems project. *Information Technology and Libraries*, 2(1), 34–46.
- Davison, Wayne (1985, April 22). *Correspondence to Denenberg*.
- Davison, Wayne (1986a, March 14). *Correspondence to Denenberg*.
- Davison, Wayne (1986b, April 22). *Correspondence to Denenberg*.
- Davison, Wayne (1987, February 5). *Correspondence to Denenberg*.
- Davison, Wayne (1988, June 8). *Correspondence to Denenberg*.
- Denenberg, Ray. (1985a, January 11). *Memo to SC D*.
- Denenberg, Ray. (1985b, January 23). *Memo to SC D*.
- Denenberg, Ray. (1985c, April 10). *Memo to SC D*.
- Denenberg, Ray. (1985d, June 12). *Correspondence to Lynch*.
- Denenberg, Ray. (1985e). Linked systems project, Part 2: Standard network interconnection. *Library Hi-Tech*, Issue 10, 71–79.
- Denenberg, Ray. (1986a, February 14). *Memo to SC D*.
- Denenberg, Ray. (1986b, May 19). *Meeting notes*.
- Denenberg, Ray. (1986d, August 4). *Memo to SC D*.
- Denenberg, Ray. (1986e, November 4). *Memo to SC D*.
- Denenberg, Ray. (1986f, August 22). *Budget for 1987 SC D*.
- Denenberg, Ray. (1987a, January 8). *Memo to SC D*.
- Denenberg, Ray. (1987b, March 3). *Memo to SC D*.
- Denenberg, Ray. (1987c, March 26). *Memo to SC D*.
- Denenberg, Ray. (1988, July 20). *Correspondence to McCallum*.
- Denenberg, Ray. (1992, July). Z39.50 background. *Information Standards Quarterly*, 4(3), 17– 22.
- Denenberg, Ray. (1994, October). Z39.50 forum report. *Information Standards Quarterly*, 6(4), 7–9.
- Digital Equipment Corporation grant to support Z39.50 link. (1990). *Information Standards Quarterly*, 2(1), 12.
- Farmer, Nick. (1979, December 17). *Memo*.
- Farrell, Joseph and Saloner, Garth. (1985). Standardization, compatibility and innovation. *Rand Journal of Economics*, 16(1), 70–81.

- Farrell, Joseph and Saloner, Garth. (1986). Installed base and compatibility: Innovation, product preannouncements, and predation. *American Economic Review*, 76(5), 940–955.
- Farrell, Joseph and Saloner, Garth. (1987). Competition, compatibility and standards: The economics of horses, penguins and lemmings. In H. Landis Gabel (Ed.), *Product Standardization and Competitive Strategy* (pp. 1–22). Amsterdam: North–Holland.
- Farrell, Joseph and Saloner, Garth. (1988). Coordination through committees and markets. *Rand Journal of Economics*, 19(2), 235–252.
- Fenly, Judith G. and Wiggins, Beacher (Eds.). (1988). *The linked systems project: A networking tool for libraries*. Dublin, OH: OCLC Online Computer Library Center, Inc.
- Folio. (1994). *FolioViews 3.1: Infobase management software*. Provo, UT: Folio Corporation.
- Frenkel, Karen A. (1992). The politics of standards and the EC. *Communications of the ACM*, 33(7), 41–51.
- Gabel, H. Landis (Ed.). (1987). *Product standardization and competitive strategy*. New York: North–Holland.
- Gibson, Richard B. (1995). The global standards process: A balance of the old and the new. In Brian Kahin and Janet Abbate (Eds.), *Standards Policy for Information Infrastructure* (pp. 466–487). Cambridge, MA: MIT Press.
- Glaser, Barney G. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, CA: The Sociology Press.
- Glaser, Barney G. and Strauss, Anselm L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine de Gruyter.
- Greenstein, Shane M. (1992). Invisible hands and visible advisors: An economic interpretation of standardization. *Journal of the American Society for Information Science*, 43(8), 538–549.
- Guba, Egon G. (1981, Summer). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology: A Journal of Theory, Research and Development*, 29(2), 75–91.
- Guba, Egon G. (1990). The alternative paradigm dialog. In Egon G. Guba (Ed.), *The Paradigm Dialog* (pp. 17–30). Newbury Park, CA: Sage Publications.
- Guba, Egon G. and Lincoln, Yvonna S. (1981). *Effective evaluation*. San Francisco: Jossey–Bass.
- Guba, Egon G. and Lincoln, Yvonna S. (1994). Competing paradigms in qualitative research. In Norman K. Denzin and Yvonna S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 105–117). Thousand Oaks, CA: Sage.
- Hack, David B. (1987, May 21). *Telecommunications and information–systems standardization-- Is America ready?* (CRS Report for Congress, 87–458 SPR). Washington, DC: Congressional Research Service, The Library of Congress.
- Haas, Warren (1979, June 21). *Letter to Corrigan*.
- Hardin, Steve. (1992). ‘91 ASIS conference highlights standards. *Information Standards Quarterly*, 4(1), 13–17.
- Harrington, Richard. (1979, October). *A comparison between the NCLIS/NBS computer network protocol for library and information science applications, and the fourth draft of the reference model for open systems interconnection (ISO/T93/SC–16–N227)*.

- Harris, Patricia. (1984, December 14). *Correspondence to Denenberg*.
- Harris, Patricia. (1985, July 2). *Correspondence to each of seven companies for review of draft standard*.
- Harris, Patricia. (1986a, January 31). *Correspondence to Denenberg*.
- Harris, Patricia. (1986b, August 5). *Correspondence to Turtle*.
- Harris, Patricia. (1986c, October 3). *Correspondence to ANSI*.
- Hartmann, David C. (1981, October 16). *Correspondence to Z39*.
- Hartmann, David C. (1982, January 11). *Status Report*.
- Hartmann, David C. (1984, August 17). *Correspondence to Paul*
- Hemenway, David. (1975). *Industrywide voluntary product standards*. Cambridge, MA: Ballinger.
- Hinnebusch, Mark. (1990a, July). Z39.50: Onward to Implementation. *Information Standards Quarterly*, 2(3), 3–6.
- Hinnebusch, Mark. (1990b). Z39.50: Where it is and who care? *The Public Access Computer System Review*, 1(2), 62–66.
- Hinnebusch, Mark. (1995). *Interview with author*. Gainesville, FL., November 28, 1994.
- Information Infrastructure Task Force. (1993, September 15). *National information infrastructure: Agenda for action*. Washington, DC: Department of Commerce, NTIA, NII Office. [Available: <ftp://ftp.ntia.doc.gov/pub/niiagenda.asc>]
- International Organization for Standardization/International Electrotechnical Commission. (1992). *ISO/IEC TR10000-1 Information technology—Framework and taxonomy of international standardized profiles—Part 1: Framework*. Geneva: ISO/IEC Copyright Office.
- Internet Activities Board and Internet Engineering Steering Group. (1994, March). *RFC 1602: The Internet Standards Process -- Revision 2*. [Available: <gopher://gopher.isoc.org:70/11/isoc.and.ietf/ietf>]
- ISO ILL and Search/Retrieve OSI Protocols Advance to DISS. (1990). *Information Standards Quarterly*, 2(2), 13–14.
- Jones, C. Lee. (1980, September 5). *Correspondence to LASP Principles*.
- Jones, C. Lee. (1983, May 17). *Correspondence to Hartmann*.
- Jones, C. Lee. (1986). *Final report of the bibliographic service development program*. Washington, DC: Council on Library Resources.
- Jones, C. Lee and Gwinn, Nancy. (1979). Bibliographic service development: A new CLR program. *Journal of Library Automation*, 12(1), 116–124.
- Kahin, Brian and Abbate, Janet. (1995). *Standards policy for information infrastructure*. Cambridge, MA: The MIT Press.

- Kahle, Brewster and Medlar, Art. (1991, April 8). *An information system for corporate users: Wide area information servers (TMC-199)*. Cambridge, MA: Thinking Machines Corporation.
- Katz, Michael L. and Shapiro, Carl. (1985). Network externalities, competition, and compatibility. *American Economic Review*, 75(3), 424-440.
- Kubicek, Herbert and Seeger, Peter. (1992). The negotiation of data standards: A comparative analysis of EAN- and EFT/POS-systems. In Meinhof Dierkes and Ute Hoffmann (Eds.), *New Technology at the Outset: Social Forces in the Shaping of Technological Innovations* (pp. 351-374). New York: Campus Verlag.
- Law, John. (1991). Introduction: Monsters, machines and sociotechnical relations. In John Law (Ed.), *A Sociology of Monsters: Power, Technology, and Domination* (pp. 1 - 23). London: Routledge.
- Lehr, William. (1992). Standardization: Understanding the process. *Journal of the American Society for Information Science*, 43(8), 50-555.
- Lehr, William. (1994a). *Compatibility standards and interoperability: Lessons from the Internet*. [Working paper]. New York: Columbia University.
- Lincoln, Yvonna S. and Guba, Egon G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Livingston, Lawrence. (1977). *Status of library networks in the United States today: Blueprint for the future*. Unpublished Report. Washington, DC: Council on Library Resources.
- Lofland, John and Lofland, Lyn H. (1995). *Analyzing social settings: A guide to qualitative observation and analysis*, 3rd ed. Belmont, CA: Wadsworth Publishing Company.
- Long, Philip. (1979). *Study of message text formats: Bibliographic search queries*. (Network Planning Paper Number 5). Washington, DC: Library of Congress, Network Development Office.
- Lynch, Clifford A. (1983). *The Council on Library Resources applications and presentation level protocols: A critique*. [unpublished paper].
- Lynch, Clifford A. (1985a, March 11). *Correspondence to Denenberg*.
- Lynch, Clifford A. (1985b, June 28). *Correspondence to Denenberg*.
- Lynch, Clifford A. (1986a, March 5). *Correspondence to Denenberg*.
- Lynch, Clifford A. (1986b, March 26). *Correspondence to Denenberg*.
- Lynch, Clifford A. (1988, April 26). *Correspondence to Denenberg*.
- Lynch, Clifford A. (1992). The CNI Z39.50 interoperability testbed project. *Information Standards Quarterly*, 4(2), 4.
- Lynch, Clifford A. (1993, March). Interoperability: The standards challenge for the 1990s. *Wilson Library Bulletin*, 67(7), 38-42.
- Lynch, Clifford A. (1994a). *Interview with author*. Gainesville, FL., January 28, 1994.
- Lynch, Clifford A. (1994b, April). Using Z39.50 information retrieval protocol in the Internet environment. *Information Standards Quarterly*, 6(2), 1-5.

- Lynch, Clifford A. and Preston, Cecilia. (1990). Internet access to information resources. In Martha E. Williams (Ed.), *Annual Review of Information Science and Technology*, vol. 25 (pp. 263–312). NY: Elsevier Publishers.
- Malamud, Carl. (1992). *Exploring the Internet: A technical travelogue*. Englewood Cliffs, NJ: PTR Prentice Hall.
- Maruyama, (1985). *The Library of Congress network advisory committee: Its first decade* (Network Planning Paper Number 11). Washington, DC: Library of Congress, Network Development and MARC Standards Office.
- Marshall, Catherine and Rossman, Gretchen B. (1989). *Designing qualitative research*. Newbury Park, CA: Sage Publications.
- McCallum, Sally H. (1985). Linked systems project, Part 1: Authorities Implementation. *Library Hi-Tech*, Issue 10, 61–68.
- McCallum, Sally H. (1987). The linked systems project: Implications for library automation and networking. In Joe A. Hewitt (Ed.), *Advances in Library Automation and Networking*, Vol. 1 (pp. 1–20). Greenwich, CT: JAI Press.
- McCallum, Sally H. (1988a, February 5). *Correspondence to Peters*.
- McCallum, Sally H. (1988b, March 15). *Correspondence to Denenberg*.
- McCallum, Sally H. (1994). Information technology standards: Implementation, maintenance, and coordination. In William E. Moen (Ed.), *Twelfth Open Forum of the Study on International Exchange of Japanese Information and Scholarly Databases in East Asian Scripts: Scholarly Information and Standardization, November 20, 1992, Tokyo*. (pp. 13–20) Bethesda, MD: NISO Press.
- McGill, Michael. (1984a, March 9). *Correspondence to Denenberg*.
- McGill, Michael. (1984a, May 4). *Correspondence to Hartmann*
- Meek, Brian L. (1990). Changing people's attitudes: Personal views. *Computer Standards and Interfaces*, 10, 29–36.
- Merriam, Sharon B. (1988). *Case study research in education: A qualitative approach*. San Francisco: Jossey-Bass.
- Michael, James J. (1994, December 19). *Correspondence to Denenberg*.
- Michael, James J. and Hinnebusch, Mark. (1995). *From A to Z39.50: A networking primer*. Westport, CT: Mecklermedia.
- Miles, Matthew B. and Huberman, A. Michael. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: Sage.
- Miller, James Grier. (1978). *Living systems*. New York: McGraw-Hill.
- Mitroff, Ian and Mason, Richard O. (1983). Stakeholders of executive decision making. In Suresh Srivastara and Associates (Ed.), *The Executive Mind* (pp. 144–168). San Francisco: Jossey Bass.
- Moen, William E. (1994a, April). Research fieldnotes–ZIG Meeting, April 1994.
- Moen, William E. (1994b, September). Research fieldnotes–ZIG Meeting, September 1994.

- Moen, William E. (1994c, October). ANSI's information infrastructure panel aims to accelerate standards development for the NII/GII. *Information Standards Quarterly*, 6(4), 2–4.
- Moen, William E. (1995a). A guide to the ANSI/NISO Z39.50 protocol: Information retrieval in the information infrastructure. Bethesda, MD: NISO Press.
- Moen, William E. (1995b, January). Research fieldnotes–ZIG Meeting, January 1995.
- Moen, William E. (forthcoming). CIMI's Z39.50 interoperability testbed: Search and retrieval of distributed cultural heritage information. *Communications of the ACM*.
- Moen, William E. and McClure, Charles R. (1994a). *The government information locator service (GILS): Expanding research and development on the ANSI/NISO Z39.50 information retrieval standard, final report*. Washington, DC. Bethesda, MD: NISO Press.
- Moen, William E. and McClure, Charles R. (1994b). A profile for the government information locator service (GILS) using ANSI/NISO Z39.50: Implications for a user-based approach to standards development. *StandardView*, 2(2), 86–95.
- Monterio, Eric, Hanseth, Ole and Hatling, Morten. (1994). *Standardisation of information infrastructure: where is the flexibility*. Paper presented at the Society for the Social Study of Science (4S), New Orleans, LA.
- Morris, Charles R. and Ferguson, Charles H. (1993, March–April). How architecture wins technology wars. *Harvard Business Review*, 71(2), 86–96.
- National Commission on Libraries and Information Science. (1975). *Toward a National Program for Library and Information Services: Goals for Action*. Washington, DC: U.S. Government Printing Office.
- National Information Standards Organization. (1986). *Operating procedures of the National Information Standards Organization*. Gaithersburg, MD: National Information Standards Organization, National Bureau of Standards.
- National Information Standards Organization. (1992). *ANSI/NISO Z39.50–1992, Information retrieval application service definition and protocol specification for open systems interconnection*. Gaithersburg, MD: NISO Press.
- National Information Standards Organization. (1995). *ANSI/NISO Z39.50: Information retrieval (Z39.50) application service definition and protocol specifications for open systems interconnection*. Bethesda, MD: NISO Press
- National Institute of Standards and Technology. (1994, July). *Framework for national information infrastructure services [DRAFT]*. Gaithersburg, MD: U.S. Department of Commerce, National Institute of Standards and Technology, Computer Systems Laboratory.
- National Institute of Standards and Technology and The Industrial Technology Institute Center for Electronic Commerce. (1993, November). *Standards development for information technology: Best practices for the United States: Summary of workshop deliberations*. Ann Arbor, MI: Industrial Technology Institute.
- National Research Council. (1990). *The Crossroads of information technology standards: A report prepared by the workshop committee crossroads of information technology standards, Board on Telecommunications and Computer Applications, Commission on Engineering and Technical systems, National Research Council*. Washington, DC: National Academy Press.
- National Research Council. (1994a). *Information technology in the service society: A twenty-first century lever*. Washington, DC: National Academy Press.

- National Research Council. (1994b). *Realizing the information future: The internet and beyond*. Washington, DC: National Academy Press.
- National Research Council. (1996). *The unpredictable certainty: Information infrastructure through 2000*. Washington, DC: National Academy Press.
- NCLIS/NBS Task Force on Computer Network Protocol. (1977, December). *A computer network protocol for library and information science applications*. Washington, DC: National Commission on Libraries and Information Science.
- Network Advisory Committee. Library of Congress. [ongoing]. *Network Planning Papers*. Washington, DC: Library of Congress, Network Development Office.
- Network Advisory Committee and Dataflow Systems, Inc. (1978). *A glossary for library networking* (Network Planning Paper Number 2). Washington, DC: Library of Congress, Network Development Office.
- Network Development and MARC Standards Office. (1986). *Standard network interconnection protocols: Specifications of the protocol layers for open systems interconnection*. Washington, DC: Library of Congress.
- Network Technical Advisory Group. (1977, July 28–29). *Minutes. NTAG Meeting July 28–29, 1977*.
- Network Technical Architecture Group. (1978). *Message Delivery System for the National Library and Information Service Network: General Requirements* (Network Planning Paper Number 4). Washington, DC: Library of Congress, Network Development Office.
- Office of Management and Budget. Office of Information and Regulatory Affairs. (1992, March). *Budget examining techniques for evaluating information technology investments*. Washington, DC: Office of Management and Budget.
- Office of Management and Budget. (1993, October 26). Revision of OMB Circular No. A–119, Notice of Implementation. *Federal Register*, 58(205), 57643–57648.
- Office of Technology Assessment. (1992). *Global standards: Building blocks for the future*. Washington, DC: Government Printing Office.
- Office of Technology Assessment. (1994). *Electronic enterprises: Looking to the future*. Washington, DC: Government Printing Office.
- Patton, Michael Quinn. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
- Pinch, Trevor J. and Bijker, Wiebe E. (1987). The social construction of facts and artifacts: Or how the sociology of science and the sociology of technology might benefit each other. In Wiebe E. Bijker, Thomas P. Hughes and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (pp. 17–50). Cambridge, MA: The MIT Press.
- Piscitello, David M. and Chapin, A. Lyman. (1993). *Open systems networking: TCP/IP and OSI*. Reading, MA: Addison–Wesley.
- Preston, Cecilia M. and Lynch, Clifford A. (1994, May 22). Interoperability and conformance issues in the development and implementation of the government information locator service (GILS). In William E. Moen and Charles R. McClure, *The Government Information Locator Service (GILS): Expanding Research and Development on the ANSI/NISO Z39.50 Information Retrieval Standard, Final Report*. Syracuse, NY: School of Information Studies, Syracuse University.

- Reddy, N. Mohan. (1987). Technology, standards, and market: A market institutionalization perspective. In H. Landis Gabel (Ed.), *Product Standardization and Competitive Strategy* (pp. 47–66). Amsterdam: North-Holland.
- Register of Z39.50 to be compiled. (1992). *Information Standards Quarterly*, 4(2), 3–4.
- Reilly, Arthur K. (1994). A U.S. perspective on standards development. *IEEE Communications Magazine*, 32(1), 30–37.
- Richardson, George P. (1991). *Feedback thought in social science and systems theory*. Philadelphia: University of Pennsylvania Press.
- Rose, Marshall T. (1990). *The open book: A practical perspective on OSI*. Englewood Cliffs, NJ: Prentice Hall.
- Rush, James E. (1982, Fall). A proposed model for the development of an integrated set of standards for bibliographic and related data. *Library Trends*, 30, 237–249.
- Rutkowski, Anthony M. (1995). Today's cooperative competitive standards environment for open information and telecommunication networks and the Internet standards making model. In Brian Kahin and Janet Abbate (Eds.), *Standards Policy for Information Infrastructure* (pp. 594–600). Cambridge, MA: The MIT Press.
- Saracevic, Tefko. (1997). Users lost: Reflections on the past, future, and limits of information science. *SIGIR Forum*, 31(2), 16–27.
- Schmidt, Susanne K. and Werle, Raymund. (1992). The development of compatibility standards in telecommunications: Conceptual framework and theoretical perspective. In Meinhof Dierkes and Ute Hoffmann (Eds.), *New Technology at the Outset: Social Forces in the Shaping of Technological Innovations* (pp. 301–326). New York: Campus Verlag.
- Sirbu, Marvin A. and Zwimpfer, Laurence E. (1985, March). Standards setting for computer communications: The case of X.25. *IEEE Communications Magazine*, 23(3): 35–45.
- Spivak, Steven M. and Winsell, Keith A. (Eds.). (1991). *A sourcebook of standards information: Education, access, and development*. Boston, MA: G.K. Hall and Co.
- Spring, Michael. (1991). Information technology standards. In Martha E. Williams, (Ed). *Annual Review of Information Science and Technology (ARIST)*, v. 26 (pp. 79–111). Medford, NJ: Learned Information.
- Spring, Michael B. and Bearman, Toni Carbo. (1988). Information standards. Models for future development. *Book Research Quarterly*, 4(3), 38–47.
- Spring, Michael B., Grisham, Christal, O'Donnell, Jon, Skogseid, Ingjerd, Snow, Andrew, Tarr, George and Want, Peihan. (1995). Improving the standardization process: Working with bulldogs and turtles. In Brian Kahin and Janet Abbate (Eds.), *Standards Policy for Information Infrastructure* (pp. 220–252). Cambridge, MA: The MIT Press.
- Stake, Robert E. (1994). Case studies. In Norman K. Denzin and Yvonna S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 236–247). Thousand Oaks, CA: Sage Publications, Inc.
- Stovel, Lennie. (1992). Z39.50 Implementors Group (ZIG) March Meeting. *Information Standards Quarterly*, 4(3), 7–9.
- Strauss, Anselm and Corbin, Juliet. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

- Stein, Richard Marlon. (1991, May). Browsing through terabytes. *Byte*, 16, 157–164.
- Sullivan, Charles D. (1983). *Standards and standardization: Basic principles and application*. New York: Marcel Dekker.
- Sutton, Brett. (1993). The rationale for qualitative research: A review of principles and theoretical foundations. *Library Quarterly*, 63(4), 411–430.
- Swankin, David A. (1990, February). *How due process in the development of voluntary standards can reduce the risk of anti-trust liability. [NIST-GCR-90-571]*. Gaithersburg, MD: U.S. Department of Commerce, National Institute of Standards and Technology.
- Task Force on American National Standards Committee Z39. (1978). *American national standards committee Z39: Recommended future directions*. Washington, DC: National Commission on Libraries and Information Science.
- Technical communications. Protocol for computer-to-computer communication. (1976). *Journal of Library Automation*, 9(2), 167–191.
- Toffler, Alvin. (1990). *Powershift: Knowledge, wealth, and violence at the edge of the 21st century*. New York: Bantam.
- Turtle, Howard. (1986a, March 20). *Correspondence to Denenberg*.
- Turtle, Howard. (1986b, July 7). *Correspondence to Harris*.
- Turtle, Howard. (1988, May 13). *Correspondence to Denenberg*.
- Updegrove, Andrew. (1995). Evolving the role of government in private industry standard setting: Lead? Follow? (Or get out of the way?). In Brian Kahin and Janet Abbate (Eds.), *Standards Policy for Information Infrastructure* (pp. 321–348). Cambridge, MA: The MIT Press.
- Verman, Lal C. (1973). *Standardization: A new discipline*. Hamden, CT: Archon Books.
- Webster's Third New International Dictionary of the English Language, Unabridged*. (1981). Springfield, MA: Merriam-Webster.
- Weiss, Martin B. H. (1989). Compatibility standards and product development strategies: A review of data modem developments. *Computer Standards and Interfaces*, 12, 109–123.
- Weiss, Martin B.H. (1993). The standards development process: A view from political theory. *StandardView*, 1(2), 35–41.
- Weiss, Martin and Cargill, Carl. (1992). Consortia in the standards development process. *Journal of the American Society for Information Science*, 43(8), 559–565.
- Weiss, Martin B.H. and Sirbu, Marvin. (1990). Technological choice in voluntary standards committees: An empirical analysis. *Economics of Innovation and New Technology*, 1, 111–133.
- Wigington, Ronald L. and Wood, James L. (1970). Standardization requirements of a national program for information transfer. *Library Trends*, 18(4), 432–447.
- Williams, Joan F. (1997). An Overview of Z39.50 for Consumers. *Library Technology Reports*, 33, 507–514.
- Wilson, Brian. (1984). *Systems: Concepts, methodologies, and applications*. New York: John Wiley and Sons.

- Wood, James L. (1979a, January 30). *Correspondence to C. Lee Jones*.
- Wood, James L. (1979b, April 10). *Correspondence to Avram*.
- Wood, James L. (1980, July 3). *Correspondence to Haas*.
- Wood, James L. (1982). Factors influencing the use of technical standards in a nationwide library and information service network. *Library Trends*, 31(2), 343–358.
- Wood, Helen M. (1989, October). Information technology standards: What determines success? *Computer [IEEE]*, 22(10), 67–68.
- World Wide Web Consortium. (1998). *About the World Wide Web Consortium*. Available: <http://www.w3.org/Consortium/>.
- X3, Strategic Planning Committee. (1989, October 4). *Standards life cycle planning document [Draft]*. Washington, DC: Computer and Business Equipment Manufacturers Association.
- X3, Strategic Planning Committee. (1993, May 1). *Standards life cycle*. Washington, DC: Computer and Business Equipment Manufacturers Association.
- Yin, Robert K. (1989). *Case study research: Design and Methods*, revised ed. Newbury Park, CA: Sage Publications.
- Yin, Robert K. (1994). *Case study research: Design and Methods*, 2nd ed. Newbury Park, CA: Sage Publications.
- Z39 Subcommittee D. (1979, October 19). *Meeting notes*.
- Z39 Subcommittee D. (1980, August). *Meeting notes*.
- Z39 Subcommittee D. (1983, February 28). *Subcommittee Status Report*.
- Z39.50 Implementors Group. (1990a, June). *Meeting Minutes*.
- Z39.50 Implementors Group. (1990b, September). *Meeting Minutes*.
- Z39.50 Implementors Group. (1992a, June). *Meeting Minutes*.
- Z39.50 Implementors Group. (1992b, September). *Meeting Minutes*.
- Z39.50 Implementors Group. (1993a, April). *Meeting Minutes*.
- Z39.50 Implementors Group. (1993b, July). *Meeting Minutes*.
- Z39.50 Implementors Group. (1994, September). *Meeting Minutes*.
- Z39.50 Implementors Group. (1995a, January). *Meeting Minutes*.
- Z39.50 Maintenance Agency. (n.d.). *Z39.50 Maintenance Agency: Terms of Reference and Procedures*.