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SUMMARY AND CURRENT EXPERIENCE (1998-PRESENT)

Joseph M. Firestone, Ph.D. is CKO of Executive Information Systems (EIS), Inc. Joe has varied experience in consulting, management, information technology, decision support, training, and social systems analysis. Currently, he focuses on product, methodology, architecture, and solutions development in Knowledge Management and Enterprise Information and Knowledge Portals, where he performs knowledge and knowledge management audits, training, and facilitative systems planning, requirements capture, analysis, and design.

Joe was the first to define and specify the Enterprise Knowledge Portal Concept, and is the leading writer, designer, commentator, and trainer in this area. Along with his colleague and frequent co-author, Mark W. McElroy, Joe is reconstructing the foundations of the discipline of Knowledge Management, and developing the prescriptive model of The Open Enterprise.

Joe is widely published in the areas of Decision Support (especially Enterprise Information and Knowledge Portals, Data Warehouses/Data Marts, and Data Mining), and Knowledge Management, has completed a full-length industry report entitled "Approaching Enterprise Information Portals". He is also the author of *Riskonomics: Reducing Risk by Killing Your Worst Ideas* (forthcoming, 2008), *Knowledge Management and Risk Management; A Business Fable* (UK: Ark Group, 2008), *Enterprise Information Portals and Knowledge Management* (KMCI Press/Butterworth-Heinemann, 2003), and the co-author (with Mark W. McElroy) of *Key Issues in the New Knowledge Management* (KMCI Press/Butterworth-Heinemann, 2003), and *The Open Enterprise: Business Architectures for Openness and Sustainable Innovation* (Hartland Four Corners, VT: KMCI Online Press, 2003).

Joe is a founding member of the Knowledge Management Consortium International (KMCI), and is its Managing Director and CEO. He is also the Director of the KMCI

Knowledge and Innovation Manager Certificate (CKIM) Program (http://www.kmci.org/ckimcertificateprogram.html), and Director of the KMCI Research Center. Joe is a frequent speaker at national and local conferences on KM and Portals, and a trainer in the areas of Enterprise Information Portals, Enterprise Knowledge Portals and Knowledge Management (KM). He is also current developer of the web sites http://www.dkms.com, and http://www.dkms.com, and http://www.adaptivemetricscenter.com, and of the KM Blog "All Life is Problem Solving" (http://radio.weblogs.com/0135950 and http://www.kmci.org/alllifeisproblemsolving).

Dr. Firestone has experience as a Chief Executive Officer, Chief Knowledge Officer, Chief Scientist, Director, Project Manager, Trainer, Researcher/Author and Systems Integrator with skills in Enterprise Information and Knowledge Portal Development, Distributed Knowledge Management Systems (DKMS), Data Warehousing and Data Mining, Business Process Reengineering (BPR), Executive Information Systems (EIS)/Decision Support Systems (DSS), Statistical, Neural and Fuzzy Systems Modeling, Group Decision Process Design and Management (including Joint Application Design, Focus Group, Group Value Measurement Technique, and Delphi), Database Marketing, RFP response writing, and Sales.

In addition to his work in KM, Dr. Firestone has consulted and trained in the area of three-tier client/server based Decision Support Systems, including Portal Solutions Development, Data Warehouse and Data Mart development, Knowledge Discovery in Databases (KDD)/Data Mining, and Database Marketing Systems. Earlier in his career he performed strategic planning, design, development and implementation of hardware and software aspects of information systems. These activities included technical leadership of a major multi-year project in needs assessment for the Census Bureau and the Farmers Home Administration. Still earlier he completed a wide variety of consulting assignments in program evaluation, and policy analysis, performed as Vice-President of a management and policy analysis consulting organization he co-founded, and served as a Teacher and Researcher at a number of major universities and research centers.

ACCOMPLISHMENTS (1991-1997)

As Director of Data Mining, Object-Oriented Data Warehousing, and Database Marketing at DMR, Dr. Firestone consulted on data warehousing, data mart, and data mining projects both internally and for clients of the data warehousing practice. Areas of consulting included distributed system architecture, data modeling, data warehouse/data mining use case analysis, database sizing for data marts, strategic product enhancement and development, data mining product review and evaluation, data mining analytic workbench requirements, design, and analysis, development of strategic alliances with vendors, data warehousing method and process development, and practice promotion activities. Clients included Fortune 500 telecommunications and insurance companies.

Earlier, as President of Firestone Associates, and Chief Scientist on Computer Business Methods, Inc.'s, U.S. Department of Education IRM Technical Support Contract, he designed the Trio Decision Support System (TDSS), a data mart for supporting program monitoring, impact measurement and evaluation in a \$600 million Grant Program. and

also conducted Focus Groups and JADS in two Federal reengineering efforts. One of these, in which he also managed the project, involved development of a new client/server-based Customer Registry System (CRS). The other focused on selecting and implementing a uniform identifier for higher education databases. In the area of Database Marketing, Dr. Firestone developed an acquisition model for a major health insurance provider, and also developed retention models for an environmental association and a Fortune 500 prepared foods firm. He served as Project Manager in all three of these data mining projects. Methods used in his work as an independent consultant included Rapid Application Development (RAD), Joint Requirements Planning (JRP), Joint Requirements Modeling (JRM), and Joint Application Design (JAD), all user participation mechanisms for planning, requirements analysis and design.

Dr. Firestone's proposal work focused on client/server and software life cycle approaches to technical support work. Five winning RFP responses (in five attempts) dealt with new information technology and its introduction into U.S. agencies in the framework of generalized information systems support contracts.

As Director of Statistical Services for Xcel Computer Services, Inc., a full-service Direct Mail service bureau to Marketing Departments of Fortune 1000 Corporations, major associations and computer software firms, Dr. Firestone (a) performed design, systems configuration and specification of mainframe and client/server LAN and WAN-based Database Marketing Systems for Direct Marketing departments; (b) developed targeting and promotion models useful for augmenting Marketing Databases with forecasts of Sales, Net Profits and Lifetime Value of Customers, Members and Donors who are periodically the object of direct marketing promotions; (c) developed marketing materials including Corporate Position/Capability Statements and Brochures; (d) managed all modeling projects; and (e) played a key role in corporate presentation, bid and sales activities. Methods used in developing the targeting and promotion models were diverse and included various forms of regression (multiple, logistic, survival modeling), log-linear as well as neural network modeling.

ACCOMPLISHMENTS (1983-1991)

As President and Chief Executive Officer, Dr. Firestone developed Responsive Computer Technology, (RCT) Corporation, a metropolitan area Systems Integrator from a Sales level of Zero to one of \$4.9 Million in Fiscal 1987 with 20 employees on the Staff. At its height in 1987 and 1988, the organization was widely known for its technical expertise in IBM PC Compatible hardware systems integration and microcomputer-based Novell local area networking .

ACCOMPLISHMENTS (1977-1982)

Co-founded Center for Management and Policy Research (CMPR), Inc. a research and consulting organization. Sponsors included: U.S. Department of Justice, U.S. Department of Agriculture and U.S. Department of Defense. As Vice President and Senior Research Fellow, participated in all planning, budgeting, marketing and major presentations, and managed CMPR consulting engagements and projects.

Developed Strategic Evaluation and Planning System (STEPS) and Needs Assessment Capability (NAC) for U.S. Farmers Home Administration (FmHA). This four year project produced a computer-based targeted resource allocation and program evaluation system. The system was based on social indices measuring five types of need for FmHA program assistance at the state and county levels. These indices were derived from extensive multivariate statistical analysis employing both expert panel and census data. In connection with STEPS, NAC and other work performed for the U.S. Census Bureau, designed a new group decision technique (called Group Value Measurement Technique) and implemented it in 21 separate decision panels composed of high-level managerial, economic and political leaders.

As an independent consultant completed numerous planning, program evaluation and multivariate statistical modeling studies for such organizations as: U.S. Census Bureau, U.S. Department of State and the General Research Corporation. Author or co-author of numerous papers and reports. Co-author of paper presented at President's Conference on Balanced Growth (1978).

EXPERIENCE (prior to 1977)

Extensive consulting, project management, proposal writing, research and university-level teaching in: design, management and implementation of multivariate statistical model building utilizing survey and census data, multiple regression and principal components, psychometric ratio scaling and reliability analysis; gaming and simulation; international and domestic conflict; and civil strife; foreign policy; value theory; and other areas. Employment at Center for Management & Policy Research, General Research Corporation, Cornell Aeronautical Laboratory (now Veridian), State University of New York at Binghamton (Associate Professor), Brandeis University, University of Hawaii, State University of New York at Buffalo and Michigan State University. Graduate School teaching experience: Graduate Seminars in Comparative Foreign Policy, and Theories of Influence Power and Authority (Department of Political Science, SUNY at Buffalo); Graduate Seminar in Introduction to Descriptive, Inferential, and Correlational Statistics (Department of Political Science, University of Hawaii): Graduate Seminars in Methodology and Political Statistics, and Urban Civil Strife (SUNY-Binghamton, Department of Political Science).

PUBLICATION

Publication (over 150 items) in above areas in both the open literature and in research monographs and reports prepared for government agencies and private companies. Publications deal with such subjects as enterprise information portals, knowledge management, data warehousing, database marketing, resource allocation and targeting, needs assessment, program evaluation, measurement modeling, factor analysis applications, social indicators, civil strife, time series analysis and model validation. A listing of publications and reports follows.

• Open Literature

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"KM 2.0 and Knowledge Management: Part Twelve"
"KM 2.0 and Knowledge Management: Part Eleven"
"KM 2.0 and Knowledge Management: Part Ten"
"KM 2.0 and Knowledge Management: Part Nine"
"KM 2.0 and Knowledge Management: Part Eight"
"KM 2.0 and Knowledge Management: Part Seven"
"What Is A Knowledge Management Software Application?"
"What Is A Knowledge Processing Software Application?"
"Statements, Beliefs, Justifications, and "the Burden of Proof""
"Why Don't We Write More About How We Ought to Evaluate Knowledge Claims?"
"Why Don't We Write Much About KM Metrics?"
"Doing KM and Calling It Something Else"
"Collaboration, KM 2.0, and Knowledge Processing"
"Why Don't We Write Much About KM Approaches?"
"Why Don't We Write Much About KM Policies?"
"Why Don't We Write Much About KM Strategies?"
"Why No Impact Modeling?"
"KM 2.0 and Knowledge Management: Part Six"
"KM 2.0 and Knowledge Management: Part Five"
"KM 2.0 and Knowledge Management: Part Four"
"Creating High Performance Adaptive Teams Through KM: Part Two"
"Creating High Performance Adaptive Teams Through KM: Part One"
"The Second Theme: Clear Definitions of KM and KCE, and "Complexity Science""
"The Empire Need Not Repeat"
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"KM 2.0 and Knowledge Management: Part Three" "Knols Aren't Units of Knowledge and What Google Can Do About It" "KM 2.0 and Knowledge Management: Part Two" "Interpreting Popper's Three Worlds Ontology for Knowledge Management: A Guest Reply by Richard Vines" "KM 2.0 and Knowledge Management: Part One" "Interpreting Popper's Three Worlds Ontology for Knowledge Management: Part Two" "Interpreting Popper's Three Worlds Ontology for Knowledge Management: Part One" "National Governmental Knowledge Management: A Guest Reply By Richard Vines" "National Governmental Knowledge Management: KM, Adaptation, and Complexity: Part Two" "National Governmental Knowledge Management: KM, Adaptation, and Complexity: Part One" "A Correct Interpretation of a Musical Composition?" "Remarks on Truth and Theories of Evaluation" "Does Partial Constructivism Make Sense?" "Untrue Knowledge" "Problems of Shifting from KM to "Knowledge Sharing"" "Knowledge Sharing Is Not As Transparent As It Seems" "Knowledge Sharing and the World Bank" ""Knowledge Sharing:" IBM's Change In Philosophy" "OODA, the DEC, the KLC, and Recognition-Primed Decision Making" "OODA, the DEC, and the KLC" "The OODA Loop and Double-loop Learning"

"Some Comments on Safe-Fail Experiments"

"On Cynefin as a Sensemaking Framework: Part Three"

"On Cynefin as a Sensemaking Framework: Part Two"

"On Cynefin as a Sensemaking Framework: Part One"

"On Classifying "Systems:" Part Two"

"On Classifying "Systems:" Part One"

"The President Should Be the One With the Highest Risk Intelligence"

"Potpourri: Categories and Other Issues"

"Is Knowledge Paradoxical?"

Riskonomics: Reducing Risk by Killing Your Worst Ideas (forthcoming, 2008)

"On Doing Knowledge Management," *Knowledge Management Research and Practice* **6** (2008), 13–22

Knowledge Management and Risk Management: A Business Fable (Ark Group, February, 2008)

"Part II – Lack of agreement on knowledge processing and knowledge metrics," *Inside Knowledge*, **12, no. 1** (February 2008), 5.

"Part I -- State of KM: Growing but lacking agreement," *Inside Knowledge*, **11, no. 4** (January 2008), 5.

"From the Balanced Scorecard to the Adaptive Scorecard: An Adaptive Maturity Model"

Business-IT Strategies Advisory Service, Executive Report, Vol. 9, no. 10, Cutter

Consortium, Arlington, MA: 2006. Available at:

http://www.cutter.com/offers/adaptivescore.html

"The Open Enterprise Software Template: An Analytic Hierarchy Framework for Measuring Aspects of Organizational Adaptive Functioning" (An Adaptive Metrics Center Industry Report Bundle), KMCI Online Press, 2006. Available at: http://www.adaptivemetricscenter.com/openenterprisetemplateamcreport.html

"The Balanced Scorecard: Developments and Challenges" KMCI Online Press, September, 2006. Available at:

http://www.adaptivemetricscenter.com/media/BSCdevelopmentsandchallenges.pdf

"A Review of David Apgar's *Risk Intelligence: Learning to Manage What We Don't Know.*" Available at: http://www.adaptivemetricscenter.com/Review%20of%20Risk%20Intelligence.html

Risk Intelligence Metrics: An Adaptive Metrics Center Industry Report, KMCI Online Press, 2006. Available at:

http://www.adaptivemetricscenter.com/riskintelligencemetricsamcreport.html

"What Every Information Manager Should Know about Data Mining," *Information Management Journal*, **39**, **no**. 5 (September-October, 2005), 47-52

"The Partners HealthCare Case for Improved KM" (with Mark W. McElroy), *KM Review*, **8, no. 1** (March - April, 2005), 6-7.

Guest Editor (with Mark W. McElroy), *The Learning Organization*, **12**, **no. 2** (April, 2005).

"Has Knowledge Management Been Done?" (with Mark W. McElroy), *The Learning Organization*, **12**, **no. 2** (April, 2005), 105-111.

"Doing Knowledge Management" (with Mark W. McElroy), *The Learning Organization*, 12, no. 2 (April, 2005), 189-212 (Winner of 2006 Emerald Literati Network Award for Excellence as the outstanding paper of 2005 published by *The Learning Organization* Journal).

"The Need to Know and the Need to Share", *All Life is Problem Solving*, July 23, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Summing Up Act-KM", *All Life is Problem Solving*, July 18, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- Incident Two", *All Life is Problem Solving*, July 15, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- The Road to Incident Two: Part Three", *All Life is Problem Solving*, July 14, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- The Road to Incident Two: Part Two", *All Life is Problem Solving*, July 09, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- The Road to Incident Two: Part One", *All Life is Problem Solving*, July 04, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- Troubled Participation: Part One", *All Life is Problem Solving*, June 29, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- Incident One: Part Two", *All Life is Problem Solving*, June 28, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism: Act-KM -- Incident One: Part One", *All Life is Problem Solving*, June 25, 2004, available at: http://radio.weblogs.com/0135950/

"The Poverty of Communitarianism" *All Life is Problem Solving*, June 3, 2004, available at: http://radio.weblogs.com/0135950/

"Ad Hominems, Personal Attacks, Labeling, and Learning in List Serv Communities" *All Life is Problem Solving*, June 3, 2004, available at: http://radio.weblogs.com/0135950/

- "On Definition" *All Life is Problem Solving*, May 19, 2004, available at: http://radio.weblogs.com/0135950/
- "K-STREAM™ and The New Knowledge Management?" (With Mark W. McElroy) *All Life is Problem Solving*, May 12, 2004, available at: http://radio.weblogs.com/0135950/
- "Are There Core Tools and Techniques of Knowledge Management?" (With Mark W. McElroy) *All Life is Problem Solving*, May 12, 2004, available at: http://radio.weblogs.com/0135950/
- "Knowledge Management: Taking It From the Top" *All Life is Problem Solving*, May 12, 2004, available at: http://radio.weblogs.com/0135950/
- "The Importance of Knowledge Claim Evaluation" *All Life is Problem Solving*, May 9, 2004, available at: http://radio.weblogs.com/0135950/
- "What About Knowledge Claim Evaluation?" *All Life is Problem Solving*, May 5, 2004, available at: http://radio.weblogs.com/0135950/
- "Storytelling and Knowledge Management" *All Life is Problem Solving*, May 1, 2004, available at: http://radio.weblogs.com/0135950/
- "A Governance-based Approach to Knowledge Management: A KMCI Position Paper" (With Mark W. McElroy) *All Life is Problem Solving*, May 1, 2004, available at: http://radio.weblogs.com/0135950/. Also available at: http://www.kmci.org/media/KMCI Governance Based KM.pdf
- "Storytelling and Knowledge Integration" *All Life is Problem Solving*, April 22, 2004, available at: http://radio.weblogs.com/0135950/
- "Storytelling and Problem Solving: Part 2" *All Life is Problem Solving*, April 19, 2004, available at: http://radio.weblogs.com/0135950/
- "Storytelling and Problem Solving: Part 1" *All Life is Problem Solving*, April 18, 2004, available at: http://radio.weblogs.com/0135950/
- "Has KM Been Done? Part 3" *All Life is Problem Solving*, April 14, 2004, available at: http://radio.weblogs.com/0135950/
- "More on Knowledge Management and Strategy", All Life is Problem Solving, April 13, 2004, available at: http://radio.weblogs.com/0135950/
- "Has KM Been Done? Part 2" *All Life is Problem Solving*, April 13, 2004, available at: http://radio.weblogs.com/0135950/
- "Has KM Been Done? Part 1" *All Life is Problem Solving*, April 11, 2004, available at: http://radio.weblogs.com/0135950/
- "Viewpoint: Organizational Learning and Knowledge Management: the Relationship", *The Learning Organization*, **11, no. 2** (April, 2004), 177-184.

"Knowledge Management and Strategy", *All Life is Problem Solving*, April 4, 2004, available at: http://radio.weblogs.com/0135950/

"Personal Knowledge Processing and Knowledge Management", *All Life is Problem Solving*, March 25, 2004, available at: http://radio.weblogs.com/0135950/

Organizational Problem Solving," *All Life is Problem Solving*, March 22, 2004, available at: http://radio.weblogs.com/0135950/

"All Life Is Problem Solving: Learning and Knowledge Making in an Evolutionary and Critical Perspective," *All Life is Problem Solving*, March 20, 2004, available at: http://radio.weblogs.com/0135950/

"Corporate Epistemology" (with Mark W. McElroy), November, 2003, available at: http://www.dkms.com/papers/corporateepistemologyandkm.pdf.

"Response to Denham Grey's Posting of 23rd September, 2003 entitled "Truth and Knowledge" (with Mark W. McElroy) available at: http://www.dkms.com/white_papers.htm.

EIS Collected Papers, (Wilmington, DE: EIS Online Press, 2003), available at: http://www.dkms.com/white_papers.htm.

"The New Knowledge Management, The Open Enterprise, and Knowledge Technology," *KTWeb*, September, 2003, available at: http://www.ktweb.org/doc/Firestone-tnkmpt2.pdf

"The New Knowledge Management : A Paradigm and Its Problems," *KTWeb*, August, 2003, available at: http://www.ktweb.org/doc/Firestone-tnkmparadigm.pdf

(with Mark W. McElroy), "The New Knowledge Management," *Knowledge Management*, *6, no. 10* (June, 2003), 12-16,

Key Issues in The New Knowledge Management (with Mark W. McElroy) (Burlington, MA, KMCI/Press Butterworth-Heinemann, 2003).

Excerpt #1 From The Open Enterprise: Building Business Architectures for Openness and Sustainable Innovation, (with Mark W. McElroy) (Hartland Four Corners, VT: KMCI Online Press, 2003), available at: http://www.dkms/com, http://www.macroinnovation.com, and http://www.kmci.org

"Eliminating Medical Errors," (with Mark A. Notturno, Mark W. McElroy, and Arthur J. Murray), *A KMCI Research Center Paper*, Hartland Four Corners, VT: KMCI, 2003, available at: http://www.dkms.com/white_papers.htm, http://www.macroinnovation.com, and http://www.kmci.org

"DKMS Brief No. Eleven: My Road to Knowledge Management through Data Warehousing," prepared for *Executive Information Systems, Inc.*, Wilmington, DE, May 28, 2003, 11 Pp. Available at: http://www.dkms.com/white-papers.htm

"Portal Progress and Knowledge Management: Hummingbird Enterprise," *KMWorld*, **12**, **no. 3** (May, 2003), 20-21.

"Minding The (Knowledge) Gap," Knowledge Management, 6, no. 8 (April, 2003) 20-24.

"Portal Progress and Knowledge Management: Hyperwave eKnowledge Portal," *KMWorld*, **12**, **no. 3** (April, 2003), 20-21.

"Smart Enterprise Suites and Enterprise Information Portals," *An EIS Professional Paper*, Wilmington, DE: Executive Information Systems, Inc., 2003, available at: http://www.dkms.com/professionalpapers.htm.

"How Knowledge Management Can Help Identify and Bridge Knowledge Gaps," *An EIS Professional Paper*, Wilmington, DE: Executive Information Systems, Inc., 2003, available at: http://www.dkms.com/professionalpapers.htm.

"Knowledge Management and Information Technology: The Relationship," *Intelligent KM* (March, 2003) available at: http://www.intelligentkm.com.

"Portal Progress and Knowledge Management: Sun ONE™ Portal Server," *KMWorld*, **12**, **no. 3** (March, 2003), 16-17.

"Portal Progress and Knowledge Management: CA's CleverPath," KMWorld, 12, no. 2 (February, 2003), 20-21.

"Defining the Enterprise Information Portal" *Intranet Strategist*, 1, no. 4 (February 2003), available at: http://www.intranetstrategist.com/xq/asp/sid.85EB0F25-E9CA-11D7-9D5B-00508B44AB3A/articleid.A54E30F9-71D1-4E6B-B552-EE45261C4C95/qx/display.htm

"Portal Progress and Knowledge Management: The Plumtree Portal System," *KMWorld*, **12**, **no. 1** (January, 2003), 19, 27.

Enterprise Information Portals and Knowledge Management (Burlington, MA: KMCI Press/Butterworth-Heinemann, 2003)

"Portal Progress and Knowledge Management: The Framework," *KMWorld*, *11*, *no.* 9 (November, 2002).

"Response to Denham Grey's Posting of 29th September, 2002 entitled "Missing Claims?" (with Mark W. McElroy) available at: http://www.knowledgeboard.com/doclibrary/knowledgeboard/generations_of_km.pdf.

"Response to Denham Grey's Posting of 14th September, 2002 entitled "To Strong a Knowledge Claim?" (with Mark W. McElroy) available at: http://www.knowledgeboard.com/doclibrary/knowledgeboard/generations of km.pdf.

"Response to George Kanof's Posting of 12th September, 2002 entitled "Poorly Researched Book" (with Mark W. McElroy) available at: http://www.knowledgeboard.com/doclibrary/knowledgeboard/generations of km.pdf.

"Generations of Knowledge Management" (with Mark W. McElroy). White Paper published Jointly by *Executive Information Systems, Inc.* Wilmington, DE, and *Macroinnovation Associates*, LLC, Hartland Four Corners, VT, July 1, 2002, 51 pp. available at http://www.dkms.com/white_papers.htm and www.macroinnovation.com.

"Key Issues in Knowledge Management," *Knowledge and Innovation: Journal of the KMCI*, **1, no.** 3 (2001), 8-38, http://www.dkms.com/white_papers.htm.

"Estimating Benefits of Knowledge Management Initiatives: Concepts, Methodology, and Tools," *Knowledge and Innovation: Journal of the KMCI*, **1**, **no. 3** (2001), 110-129. Available at: http://www.dkms.com/white_papers.htm.

"Enterprise Knowledge Portals, Knowledge Processing and Knowledge Management," in Ramon Barquin, Alex Bennet, and Shereen Remez, (eds.) *Building Knowledge Management Environments for Electronic Government* (Vienna, VA: Management Concepts, 2001).

Knowledge and Innovation: Journal of the KMCI, 1, no. 3 (Editor) (April 15, 2001).

"A Multi-function EIP," Smart Commerce Executive, (April 2001) 4-6.

"Evolution of the Portal Space," Smart Commerce Executive, (January 2001) 63-68.

"Knowledge Management Process Methodology: An Overview," *Knowledge and Innovation: Journal of the KMCI*, **1**, **no. 2** (2001), 55-91. Available at: http://www.dkms.com/white papers.htm.

Knowledge and Innovation: Journal of the KMCI. 1. no. 2 (January 2001) (Editor).

"Enterprise Knowledge Portals: What They Are, and What They Do," *Knowledge and Innovation: Journal of the KMCI*, **1**, **no. 1** (2000), 85-108. Available at: http://www.dkms.com/white_papers.htm.

Knowledge and Innovation: Journal of the KMCI, 1, no. 1 (October 2000) (Editor)

"Knowledge Management: A Framework for Analysis and Measurement," White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, October 1, 2000, 65 Pp. Available at: http://www.dkms.com/white_papers.htm.

"Enterprise Knowledge Portals and e-Business Solutions," White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, October 1, 2000, 25 Pp. Available at: http://www.dkms.com/white_papers.htm.

"The Enterprise Knowledge Portal Revisited," White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, March 15, 2000, 14 Pp. Available at: http://www.dkms.com/white-papers.htm.

"Accelerated Innovation and KM Impact," *Financial Knowledge Management*, February 1, 2000.

"Approaching Enterprise Information Portals," Industry Report Prepared *for Executive Information Systems, Inc.*, Wilmington, DE, November 1, 1999, 180 Pp. Available for purchase at: http://www.dkms.com/EIPMarketing.htm.

"Defining the Enterprise Information Portal," White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 31, 1999, 9 Pp. Available at: http://www.dkms.com/white_papers.htm. Reprinted in *Financial Knowledge Management* (October 1, 1999), 102-107.

"DKMS Brief No. Ten: Benefits of Enterprise Information Portals and Corporate Goals," Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 31, 1999, 8 Pp. Available at: http://www.dkms.com/white_papers.htm. Reprinted in Financial Knowledge Management (October 1, 1999), 56-60

"The Metaprise, The AKMS, and The Enterprise Knowledge Portal," Prepared for the *Knowledge Management Consortium*, May 5, 1999, 7 Pp. Available at http://www.dkms.com/white_papers.htm.

"The Age of The Metaprise," (with Edward Swanstrom, Mark W. McElroy, Douglas T. Weidner, and Steve Cavaleri) Prepared for the *Knowledge Management Consortium*, May 5, 1999, 7 Pp..

"DKMS Brief No. Nine: Enterprise Integration, Data Federation, and the DKMS: A Commentary", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, May 3, 1999, 11 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. Eight: Enterprise Information Portals And Enterprise Knowledge Portals", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, March 20, 1999, 10 Pp. Available at: http://www.dkms.com/white_papers.htm.

"The Artificial Knowledge Manager Standard: A "Straw Man" ". Prepared for the *Knowledge Management Consortium*, January 25, 1999, 28 Pp. Available at: http://www.km.org/Standards/AKMS.htm.

"Knowledge Base Management Systems and The Knowledge Warehouse: A "Strawman," " prepared for the *Knowledge Management Consortium*, January 25, 1999, 18 Pp. Available at: http://www.km.org/Standards/AKMS.htm.

"Enterprise Knowledge Management Modeling and Distributed Knowledge Management Systems", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, January 3, 1999, 33 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. Seven: DKMA and The Data Warehouse Bus Architecture", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, November 13, 1998, 7 Pp. Available at: http://www.dkms.com/white-papers.htm.

"DKMS Brief No. Six: Data Warehouses, Data Marts, and Data Warehousing: New Definitions and New Conceptions", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, November 12, 1998, 8 Pp. Available at: http://www.dkms.com/white-papers.htm.

"DKMS Brief No. Five: Is Data Staging Relational? A Comment", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, November 11, 1998, 7 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. Four: Business Process Engines in Distributed Knowledge Management Systems", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, August 28, 1998, 7 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. Three: Software Agents in Distributed Knowledge Management Systems", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 30, 1998, 7 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. Two: Prophecy: META Group and the Future of Knowledge Management", prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 15, 1998, 7 Pp. Available at: http://www.dkms.com/white_papers.htm.

"DKMS Brief No. One: The Corporate Information Factory or the Corporate Knowledge Factory?" prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 10, 1998, 9 Pp. Available at: http://www.dkms.com/white_papers.htm.

"Architectural Evolution in Data Warehousing", White Paper prepared for *Executive Information Systems, Inc.*, Wilmington, DE, July 1998, 36 Pp. Available at: http://www.dkms.com/white-papers.htm.

"Knowledge Management Metrics Development: A Technical Approach", White Paper prepared for *Executive Information Systems, Inc.*, Wilmington, DE, June 1998, 33 Pp. Available at: http://www.dkms.com/white_papers.htm.

"Basic Concepts of Knowledge Management", White Paper prepared *for Executive Information Systems, Inc.*, Wilmington, DE, June 1998, 17 Pp. Available at: http://www.dkms.com/white-papers.htm.

"Dimensional Modeling and E-R Modeling in the Data Warehouse", White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, June 1998, 11 Pp. Available at: http://www.dkms.com/white papers.htm.

"Dimensional Object Modeling", White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, April 1998, 21 Pp. Available at: http://www.dkms.com/white_papers.htm.

"Distributed Knowledge Management Systems (DKMS): The Next Wave in DSS", White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, August 1997, 36 Pp. Available at: http://www.dkms.com/white_papers.htm.

"Object-Oriented Data Warehousing", White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, August 1997, 44 pp. Revised and Condensed version

prepared for DMR Trecom and presented at ServerTech '97 conference, Washington, DC Convention Center, November 3, 1997. Available at: http://www.dkms.com/white_papers.htm.

"Data Warehouses and Data Marts: A Dynamic View", White Paper Prepared for *Executive Information Systems, Inc.*, Wilmington, DE, March 1997, 17 pp. Revised and Condensed version prepared for DMR Trecom and presented at ServerTech '97 conference, Washington, DC Convention Center, November 4, 1997. Available at: http://www.dkms.com/white_papers.htm.

"Data Mining and KDD: A Shifting Mosaic", White Paper Prepared For: *Executive Information Systems, Inc.*, Wilmington, DE, March 1997, 11 Pp. Available at: http://www.dkms.com/white_papers.htm.

"A Systems Approach to Dimensional Modeling in Data Marts", White Paper prepared for: *Executive Information Systems, Inc.*, Wilmington, DE, March 1997, 9 Pp. Available at: http://www.dkms.com/white-papers.htm.

"Evaluating OLAP Alternatives", White Paper prepared for: *Executive Information Systems, Inc.*, Wilmington, DE, March 1997, Pp. 14. Available at: http://www.dkms.com/white_papers.htm.

"Trends for Techies in Database Marketing," DM NEWS, February 8, 1993, pp. 21ff.

"Program Evaluation and Value Interpretation," (with S.H. Brounstein) *International Journal of Urban systems*, **4** (1979), 141-152.

"Review of Rom Harré's *Principles of Scientific Thinking," International Journal of General Systems*, **2** (1975)

"A New Procedure for Constructing Measurement Models of Ratio Scale Concepts," (with R.W. Chadwick) *International Journal of General Systems*, **2** (1975), 35-53.

"Manhattan Projects for the Study of Foreign Policy," *Fields Within Fields: Journal of the World Institute*, **No. 13** (1974), 73-80.

"On the Underlying Causes of Urban Riots," in *General Systems*, **19** (1974), 117-133.. After selection by a distinguished panel as one of the outstanding contributions of the year in General Systems research reprinted in C. West Churchman (ed.), *Systems and Management Annual-1975*. New York: Petrocelli Charter 1975.

"Continuities in the Theory of Violence," *Journal of Conflict Resolution*, **18** (1973), 179-182.

"Review of Alan Edward Bent's Escape From Anarchy", General Systems, **18** (1973), 179-82.

"Theory of the Riot Process." American Behavioral Scientist. 15 (1972), 859-882.

"An Exploration in Systems Analysis of Domestic Conflict," (with D. McCormick), *General Systems*, **17** (1972), 79-119.

"The Development of Social Indicators from Content Analysis of Social Documents," *Policy Sciences*, **3** (1972), 249-263.

"Social Responsibility and the Study of Social Conflict: Some Thoughts on the Ethical aspects of Scientific Social Research," (with R.W. Chadwick), *General Systems*, **17** (1972), 121-128.

"National Motives and National Attributes: A Cross-Time Analysis," (with G. Oliva), General Systems, **16** (1971), 93-124.

"Remarks on Concept Formation: Theory Building and theory Testing," *Philosophy of Science*, **38**, (1971) 570-604.

Global War, Limited War, and Peace, *International Studies Quarterly*, **14** (1970), 195-218.

"Motives and Behavior in Large-scale Political Systems: A Preliminary Analysis" *Buffalo Studies*, *4*, *no. 1* (1968), 59-90.

• Reports, Monographs, White Papers

"Knowledge Management Metrics Conceptual Framework", paper prepared for *Executive Information Systems, Inc.*, Wilmington, DE, March 1998, 76 pp. Submitted to KMC Metrics Task Force, Knowledge Management Consortium as a Working Paper.

"DataWorx Use Case Framework: Detailed Specification of Planning Use Cases," Paper prepared for *DMR Trecom, Data Warehousing Practice,* Edison, NJ, November 1997, 13 pp.

"DataWorx Use Case Framework", paper prepared for *DMR Trecom, Data Warehousing Practice,* Edison, NJ, October 1997, 42 pp.

"Use Case Analysis of the Insurance Selling Process", White Paper prepared for *Executive Information Systems, Inc.*, Wilmington, DE, June 1997, 36 pp.

"Trio Decision Support System: Work Plan", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, December 1996, 13 pp.

"Trio Decision Support System: Technical Design", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, December 1996, 82 pp.

"Predictive Modeling in Database Marketing, White Paper", prepared for: *Executive Information Systems, Inc.*, Wilmington, DE, June 1996, 7 pp.

"Feasibility Analysis of EDCAPS/PEPS as Alternative Locations for a Reengineered CRS", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, June 1996, 79 pp.

"Single Identifier Initiative: Draft Recommendation Document and Focus Group Proceedings, Meeting No. 4 -- June 7, 1996", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, June 1996, 55 pp.

"Single Identifier Initiative: Draft Recommendation Document and Focus Group Proceedings, Meeting No. 3 -- May 3, 1996", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, May 1996, 46 pp.

"Single Identifier Initiative: Draft Recommendation Document and Focus Group Proceedings, Meeting No. 2 -- March 28, 1996", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, April 1996, 39 pp.

"Single Identifier Initiative: Draft Recommendation Document and Focus Group Proceedings, Meeting No. 1 -- February 22, 1996", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, March 1996, 34 pp.

"Total Quality Management Improvement for the CRS: Report on the Second JAD Session and Requirements Gathering," prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, March 1996, 32 pp.

"Total Quality Management Improvement for the CRS: Report on the JAD "Breakout" Sessions and Requirements Gathering," prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, March 1996, 29 pp.

"Total Quality Management Improvement for the CRS: Instrument for the Second JAD Session", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, February 1996, 25 pp.

"Total Quality Management Improvement for the CRS: Instrument for the JAD Breakout Session", prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, February 1996, 25 pp.

"Total Quality Management Improvement for the CRS: Report on the First JAD Session and Requirements Gathering," prepared for: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, February 1996, 40 pp.

"Total Quality Management Improvement for the CRS: Task Work Plan," prepared For: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, November 1995, 9 pp.

"Total Quality Management Improvement for the CRS: Instrument for the First JAD Session," prepared For: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, November 1995, 12 pp.

Total Quality Management Improvement for the CRS: Findings from a Review of Documentation, prepared For: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, November 1995, 44 pp.

"Blue Cross/Blue Shield Acquisition Model Scores," prepared for: *Digital Connections Inc.*, Executive Information Systems, Inc., Wilmington, DE, September 1995, 7 pp.

"Blue Cross/Blue Shield Acquisition Model," prepared for: *Digital Connections Inc.*, Executive Information Systems, Inc., Wilmington, DE, August 1995, 43 pp.

"Functional Requirements for Association Database Marketing Systems", prepared For: *Computer Business Methods Inc.*, Executive Information Systems, Inc., Wilmington, DE, November, 1993, 9 pp.

"Database Marketing and Client/Server Systems," *Firestone Associates*, Alexandria, VA 22304, August 1993, 19pp.

Response Modeling and Scoring Results, Prepared For: CCSI and National Parks and Conservation Association, Firestone Associates, Alexandria, VA, March 1993, 25 pp.

"Strategic Evaluation and Planning System (STEPS): The Needs Assessment Capability (NAC) - A Description of Products" (Co-authored with Sidney H. Brounstein). *Program Evaluation Staff, Farmers Home Administration, USDA*, September, 1981, 163 pp.

"Indices of Need: Theoretical Orientation, Alternative Approaches and Results". *Program Evaluation Staff, Farmers Home Administration, USDA*, September, 1981, 343 pp.

"Reliability and Validity of Panel Data," *Program Evaluation Staff, Farmers Home Administration*, USDA, September, 1981, 163, 45 pp.

"Alternative Measures of Need: An Evaluation." *Program Evaluation Staff, Farmers Home Administration, USDA*, September, 1981, 143 pp.

"Modeling the Impact of Resource Allocation" (Paul J. Werbos, Senior Author). *Program Evaluation Staff, Farmers Home Administration, USDA*, September, 1981, 184 pp.

"Suburban Classification Project: Phase I Report" (with Sidney H. Brounstein, Vance E. Clark, Patricia Kelly and Randall K. Spoeri). Prepared for the Office of the Secretary, U.S. Department of Commerce. Suitland, MD: *Center for Census Use Studies, Bureau of the Census*, December 29, 1977, 354 pp.

"The Psychological Burden of Federal Paperwork: Conceptualization and Measurement," (With Robert J. Eckert), Report to the Commission on Federal Paperwork, Washington, DC, January, 1977

"Empirical Classification of SICs," in W. Shepard Moore, (ed.) *Development of an Integrated OSHA Database and Statistical Analyses of Safety and Health Data,* General Research Corporation Final Report to, McLean, VA, September 30, 1976

Application of Factor Analysis to Generate Alternative Hazard Indices from Occupational Injury and Illness and Incident Rate Data," in W. Shepard Moore, (ed.) *Development of an Integrated OSHA Database and Statistical Analyses of Safety and Health Data,* General Research Corporation Final Report to, McLean, VA, September 30, 1976

"Discriminant Analysis for Predicting Compliant and Non-compliant Foundry Establishments," in W. Shepard Moore, (ed.) *Development of an Integrated OSHA Database and Statistical Analyses of Safety and Health Data,* General Research Corporation Final Report to, McLean, VA, September 30, 1976

"Principal Components Analysis of Occupational Injury and Illness Incident Rates in Foundry Establishments," in W. Shepard Moore, (ed.) *Development of an Integrated OSHA Database and Statistical Analyses of Safety and Health Data,* General Research Corporation Final Report to, McLean, VA, September 30, 1976

"Measurement of Significant Differences in Occupational Injury and Illness Incident Rates in Manufacturing SICs (1973-74)," in W. Shepard Moore, (ed.) *Development of an Integrated OSHA Database and Statistical Analyses of Safety and Health Data,* General Research Corporation Final Report to, McLean, VA, September 30, 1976

"Intra-State Socio-political and Empirical Conflict Models: A Selective Review and Appraisal," Research Report No. 20, *Center for Comparative Political Research*, SUNY-Binghamton, 1972

"Some Theoretical Issues in research on Urban Riots," Research Report No. 15, Center for Comparative Political Research, SUNY-Binghamton, 1972

"Three Frameworks for the Study of Violence," Research Report No. 11, Center for Comparative Political Research, SUNY-Binghamton, 1972

"The Causes of Urban Riots: A New Approach and a Causal Model," Research Report No. 12, Center for Comparative Political Research, SUNY-Binghamton, 1972

Concept Formation, Systems Analysis and Factor Analysis in Political Science, Cornell Aeronautical Laboratory Report No. VO-2653-G-2, 1969. Issued jointly with The Dimensionality of Nations Project, University of Hawaii.

National Motives and Domestic Planned Violence: An Examination of Time-lagged Correlational Trends in Cross-time Regressions, Cornell Aeronautical Laboratory Report No. VO-2653-G-4, 1969. Issued jointly with The Dimensionality of Nations Project, University of Hawaii.

Design and Analysis of CT Appeals/Behavioral Research, Cornell Aeronautical Laboratory Report No. VY-2466-H-11, 1969.

Intentions Analysis: A Methodological Component of Forecasting International Behavior, (editor and author), Cornell Aeronautical Laboratory Report No. VO-2483-G-1, March 1968, Office of Research Analyses (OAR) USAF

"Content Analysis and the Study of Intentions" in *Intentions Analysis: A Methodological Component of Forecasting International Behavior*, (editor and author), Cornell Aeronautical Laboratory Report No. VO-2483-G-1, March 1968, Office of Research Analyses (OAR) USAF

"Non-elite Survey Research" (With Patricia T. Semmelhack) in *Intentions Analysis: A Methodological Component of Forecasting International Behavior,* (editor and author), Cornell Aeronautical Laboratory Report No. VO-2483-G-1, March 1968, Office of Research Analyses (OAR) USAF

"Elite Survey Research" (With Jane S. Holland) in *Intentions Analysis: A Methodological Component of Forecasting International Behavior,* (editor and author), Cornell Aeronautical Laboratory Report No. VO-2483-G-1, March 1968, Office of Research Analyses (OAR) USAF

Psychological Studies in Social Interaction and Motives (SIAM) Phase 2: Group Motives in an International Relations Game (With Kenneth W. Terhune, Cornell Aeronautical Laboratory Report, Buffalo, NY: 1967

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