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ABSTRACT

This bibliography is intended to provide recommended readings and videotapes on managing organizations for quality improvement. The target audience consists primarily of managers and leaders for quality in the Department of Navy activities. The aim of this volume is to bring together a collection of materials drawn from a wide variety of sources, some of which are not typically associated with quality improvement. This is because the Navy Personnel Research and Development Center has long recognized the need for an understanding and application of principles and concepts from such areas as organizational change, leadership team functioning, reward systems, statistical thinking, and accounting to effect a major transformation in organizations. The integration of theories and knowledge from these areas will serve as the basis for orienting an organization toward quality and for designing organizational systems for the future. The document is divided into 11 sections that include such titles as: (1) "The Competitive Position of U.S. Industry"; (2) "The Quality Philosophy and Management Principles for Improvement of Quality, Productivity, and Competitive Position"; (3) "The Management of Organizational Change and Transformation"; and (4) "The Roles of Management and Leadership in Improvement of Organizational Quality." (RR)

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Managing for Organizational Quality–Theory and Implementation: An Annotated Bibliography

Nida Backaitis
Harold H. Rosen

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MANAGING FOR ORGANIZATIONAL QUALITY-- THEORY AND IMPLEMENTATION: AN ANNOTATED BIBLIOGRAPHY

Nida Backaitis
University of Southern California
School of Business Administration

Harold H. Rosen
Navy Personnel Research and Development Center

Reviewed by
Linda M. Doherty

Released by
Richard C. Sorenson
Technical Director (Acting)

Navy Personnel Research and Development Center
San Diego, California 92152-6800

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13. ABSTRACT (Maximum 200 words)

This annotated bibliography is being published under the auspices of the Department of the Navy's Quality Support Center (QSC), Navy Personnel Research and Development Center. The QSC was chartered by the Department of Navy's (DON) Executive Steering Group for Total Quality Management in April 1990. One primary function of the QSC is to serve as a DON clearinghouse for TQM information.

The aim of this volume is to provide a resource to those interested in learning about managing organizations for quality improvement. The materials examine the organizational improvement effort from many different angles: the crucial role of the quality philosophy in the guidance of improvement efforts, the role of top management and of quality professionals in organizational improvement efforts, the effect of reward systems on the process of improvement, the use of the scientific method and of statistical thinking in the definition and improvement of organizational processes, and the development of accounting figures that will be more useful in making strategic decisions. Major sections cover the competitive position of U.S. industry; the quality philosophy and management principles for improving quality, productivity, and competitive position; management of organizational change and transformation; roles of management and leadership; tools for improving work processes; the effect of reward systems on behavior and motivation; teamwork and quality circles; customer-supplier relationships; strategic accounting practices; and statistical education. Materials describing implementation efforts and case histories are included.

14. SUBJECT TERMS
Quality, process improvement, productivity, competitive position, management, leadership, Total Quality Management, (TQM), organizational change, organizational transformation, organizational culture, customer-supplier relationships, statistical thinking, performance appraisal, motivation, quality circles, teamwork, reward systems, quality function deployment, variation, special causes, common causes.

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FOREWORD

This annotated bibliography is being published under the auspices of the Department of the Navy's Quality Support Center (QSC), Navy Personnel Research and Development Center (NRPDC). The QSC was chartered by the Department of Navy's (DON) Executive Steering Group for Total Quality Management in April 1990, and tasked with providing three important services to the Navy--a clearinghouse, education and consultation, and training and development of TQM managers in specific commands. This product was sponsored by the Office of the Under Secretary of the Navy and funded under Operations and Maintenance, Navy (O&M, N), Work Unit No. 98-9P0C0012.

This bibliography is the second such volume published by NPRDC (HFOSL Technical Note 72-86-07) and is intended to provide recommended readings and videotapes on managing organizations for quality improvement. The target audience consists primarily of managers and leaders for quality in DON activities.

The aim of this volume is to bring together a collection of materials drawn from a wide variety of sources, some of which are not typically associated with quality improvement. This is because NPRDC has long recognized the need for an understanding and application of principles and concepts from such areas as organizational change, leadership team functioning, reward systems, statistical thinking, and accounting to effect a major transformation in organizations. The integration of theories and knowledge from these areas will serve as the basis for orienting an organization toward quality and for designing organizational systems for the future.

It is particularly important at this time that DON leaders have guidance in how to proceed with quality efforts within field and headquarters activities in support of the DON ESG's recent decision to follow the Deming philosophy for quality improvement as well as the NPRDC organizational transformation approach. This bibliography is one such guide, citing articles consistent with both the theories of Deming and the implementation strategies of NPRDC.

For questions about this publication, contact Mr. Harold H. Rosen, Quality Support Center, NPRDC, (619) 553-7952 (AUTOVON 553-7952).

RICHARD C. SORENSON
Technical Director (Acting)

PREFACE

The readings and videotapes described in this bibliography are intended to provide a resource for those interested in learning about the emerging philosophy of management for improvement in quality, productivity, and competitive position. Each section of the bibliography is preceded by an introduction that characterizes the types of materials contained in it. In most instances, recommendations are made for those short on time. These recommended materials, in general, are representative of the books, articles, and tapes annotated in that section.

Management of organizations for improvement in quality, productivity, and competitive position involves far more than the application of statistical tools and methods to manufacturing processes. Many authors (e.g., Deming, Juran) assert that the application of the scientific method and of statistical thinking to all organizational processes--manufacturing, administrative, and service areas--is vital to organizational improvement. The same authors emphasize that organizational change cannot be effected without the support of top management, whose job it is to create a climate and an infrastructure supportive of organizational improvement efforts.

Therefore, this bibliography contains readings and tapes that examine the organizational improvement effort from many different angles: the crucial role of the quality philosophy in the guidance of improvement efforts, the role of top management and of quality professionals in organizational improvement efforts, the effect of reward systems on the process of improvement, the use of the scientific method and of statistical thinking in the definition and improvement of organizational processes, and the development of accounting figures that will be more useful in making strategic decisions.

Although the materials have been classified by the major topics they address, several are useful for gaining insight into more than one topic. Therefore, an appendix to the bibliography contains a cross-reference guide to direct the reader to materials that delve into these other topics.

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SECTION I: THE COMPETITIVE POSITION OF U.S. INDUSTRY

The materials in this section analyze the competitiveness of U.S. industry. The broadest description of the overall condition of industry is contained in the Scientific American article by Berger et al. Dynamic Manufacturing by Hayes et al. contains an excellent analysis of the problems that face managers of U.S. corporations in their efforts to reassert the competitive positions of their corporations.

SECTION I: THE COMPETITIVE POSITION OF U.S. INDUSTRY

Berger, S., Dertouzos, M. L., Lester, R. K., Solow, R. M., & Thurow, L. C. (June 1989). Toward a new industrial America. Scientific American, 160(6), 39-47.

Key words: U.S. competitive position, implementation, organizational change.

Abstract: A report from the M.I.T. Commission on Industrial Productivity summarizes the findings from its study on U.S. industrial performance. The findings reveal weaknesses in U.S. business institutions as well as some successful efforts at organizational improvement.

Garvin, D. A. (September-October 1983). Quality on the line. Harvard Business Review, 61(5), 64-75.

Key words: U.S. competitive position.

Abstract: The author reports the results of his study, a comparison of the U.S. and Japanese air-conditioning industries. His findings indicate that failure rates of U.S. products were 500 to 1000 times higher than those of the Japanese. Production and quality control policies are explored. The programs, policies, and attitudes of the Japanese and U.S. companies are compared. The differences give support to the argument that the U.S. needs to adopt quality management practices to regain a competitive edge.

Halberstam, D. (1986). The reckoning. New York: William Morrow.

Key words: U.S. competitive position.

Abstract: Halberstam describes the decline of U.S. competitive position over the past 25 years, in his words, from "the American century to the American crisis." He describes the cultures and managements of U.S. and Japanese companies as embodied by Ford and Nissan, from their founders and owners to the workers on the factory floor.

Hayes, R. H., Wheelwright, S. C., & Clark, K. B. (1988). Dynamic manufacturing: Creating the learning organization. New York: The Free Press, Macmillan.

Key Words: Management, U.S. competitive position.

Abstract: An outstanding overview of the challenges facing management in the new economic age. A thorough first glance at the weaknesses of traditional management practices and current authoritarian, hierarchical

organizations. Most importantly, the authors address the new types of relationships that are being established between departments within organizations as well as between customers and suppliers.

If Japan can . . . why can't we? (NBC White Paper) [Two videotapes, 80 minutes total]. (1980). New York: NBC. Available from Films Incorporated, 5547 North Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: U.S. competitive position.

Abstract: Reporter Lloyd Dobbins presents an introduction to Deming's role in the improvement of Japanese quality and productivity. Other topics include the relationship of this improvement to the decline in American automotive and electronic industries and Deming's early work with the Ford Motor Company.

Mitroff, I. I. (1988). Business not as usual: Rethinking our individual, corporate, and industrial strategies for global competition. San Francisco: Jossey-Bass.

Key words: Organizational change, U.S. competitive position.

Abstract: This is an outstanding account of the new rules governing competition and of the many changes that must take place to make U.S. industry more competitive. These changes constitute no less than a shift to a new paradigm of management and include changes in product development, marketing strategies, labor relations, management of technology, the design of organizations, and adoption of a new management philosophy.

Mitroff explains that global competition has changed so radically that management practices developed and refined over the past few decades have become inadequate and, in fact, can bring disastrous results in the current business environment.

Skinner, W. (July-August 1986). The productivity paradox. Harvard Business Review, 64(4), 55-59.

Key words: Implementation, U.S. competitive position.

Abstract: The author asserts that the very definition of productivity improvement thwarts its achievement. U.S. companies that have focused on cost reduction have experienced deterioration in quality, while efforts that have targeted improvements in quality have resulted in reduced costs. Many efforts to improve productivity in U.S. corporations have centered on cost reduction efforts, especially in direct labor. These measures improve bottom lines in the short term, but they may ultimately hurt the organization. At the same time,

companies have missed opportunities to compete in the marketplace through improvements in quality, delivery, and customer service, and through rapid product introduction, etc.

Starr, M. K. (1988). Global competitiveness: Getting the U.S. back on track. New York: W.W. Norton.

Key words: U.S. competitive position.

Abstract: A collection of 11 thoughtful articles about the state of U.S. global competitiveness. The articles center on three themes: the U.S. macroeconomic system, competitive issues faced by American industry, and societal factors that influence competitiveness of U.S. industry. Included is the final report of the 74th American Assembly, "Running Out of Time: Reversing America's Declining Competitiveness" (1987).

SECTION II: THE QUALITY PHILOSOPHY AND MANAGEMENT PRINCIPLES FOR IMPROVEMENT OF QUALITY, PRODUCTIVITY, AND COMPETITIVE POSITION

Challenges to U.S. industry from new competitors require new types of responses; lessons learned from successes in battling yesterday's competitors are not necessarily applicable to the challenges posed by competitors today.

Many authors of readings in this section assert that improvement of quality, productivity, and competitive position of U.S. industry requires no less than a transformation of current management theory and practice.

Out of the Crisis by W. Edwards Deming is the classic in this series of readings. Scherkenbach's book and papers by Joiner are extremely helpful in clarifying many aspects of Deming's theory, philosophy, and its application to industry.

SECTION II: THE QUALITY PHILOSOPHY AND MANAGEMENT PRINCIPLES FOR IMPROVEMENT OF QUALITY, PRODUCTIVITY, AND COMPETITIVE POSITION

Deming library [16 videotapes]. (1987-1989). Washington, DC: CC-M Productions. Available for preview, rental, or purchase through Films Incorporated, 5547 Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: Quality philosophy, leadership, management, suppliers.

Abstract: Deming has been described as a legendary business strategist and statistician whose analytical ingenuity and advice have been credited by Japanese as one source of their post-war industrial success. Below is a description of the content of each videotape, intended to help the viewer understand the Deming philosophy.

Volume I. The new economic age (33 minutes): Deming and Robert Reich, political economist from Harvard University, discuss the evolution of the new global economy and the changes in management thinking and practice that must take place to accommodate it.

Volume II. The 14 points (40 minutes, 2 parts): A discussion of Deming's 14 points for management.

Volume III. Corporate leadership (25 minutes): Donald Petersen, CEO of Ford Motor Company, discusses his personal experience with leading organizational change at Ford and with the beginnings at Ford of implementation of Deming's 14 points.

Volume IV. Adoption of the new philosophy (21 minutes): Members of top management at Ford Motor Company discuss some of the changes at Ford that helped the company achieve record profits in 1987 after record losses in 1980 and 1981. Many of these changes occurred as a result of Deming's counsel and teaching at Ford, which began in 1981.

Volume V. Communication of the new philosophy (22 minutes): A continuation of the discussion with top management at Ford about implementation of the Deming philosophy, with emphasis on teamwork and motivation.

Volume VI. Application of the new philosophy (24 minutes): A continuation of the discussion with top management at Ford, with emphasis on the relationship between management and labor.

Volume VII. The red bead experiment and life (25 minutes): An edited tape of Deming's demonstration of the "red bead" experiment.

Volume VIII. Lessons of the red bead experiment (25 minutes): A discussion of the implications of the "red bead" experiment for management practices, such as performance appraisal systems, setting of prices and quotas, and relationships with suppliers. The experiment also helps to understand statistical variation.

Volume IX. The funnel experiment (23 minutes): Deming demonstrates the "funnel" experiment in order to illustrate the costs of overcontrol. He also discusses the scientific method and the Shewhart or Deming cycle as a means of planned experimentation for incremental improvement or insight into design.

Volume X. How managers and workers can change (25 minutes): Members of top management of Vernay Laboratories in Yellow Springs, Ohio, discuss their experiences with implementation of the Deming philosophy.

Volume XI. Cooperation--The key to quality (25 minutes): A continuation of the discussion with top management of Vernay Laboratories.

Volume XII. The dangers of buying on price tag alone (25 minutes): A continuation of the discussion with top management at Vernay Laboratories, with emphasis on the structuring of the relationship between customer and supplier.

Volume XIII. America in the global market (25 minutes): Reporter Lloyd Dobbins talks about the U.S. competitive position and how it has been weakened by Japan, other Pacific Rim nations, and the European Economic Community. This tape addresses the realities of the new economic age through a history of U.S. industrial growth and economic competition.

Volume XIV. Understanding profound knowledge (25 minutes): Deming explains the need for "profound knowledge"--an understanding of the entire system--to achieve quality at a cost that will convince customers to buy a company's products and services. This videotape also examines why established concepts such as "zero defects" and "just-in-time" may be good practices, but alone cannot lead to improved quality and increased productivity.

Volume XV. Competition, cooperation, and the individual (25 minutes): Deming attacks competitive forces--grades, ratings, merit systems--that keep American companies from higher profitability. He explains that individuals, companies, and countries can cooperate in research and development while they compete to produce the best quality at the lowest price and to increase the size of the market--a win-win situation.

Volume XVI. The quality leader (25 minutes): Deming describes the attributes of a successful leader and defines leadership's role in achieving improved quality and increased productivity.

Deming, W. E. (1967). What happened in Japan? Industrial Quality Control, 24(2), 89-93.

Key words: Quality philosophy, implementation, case history.

Abstract: Deming describes the development and implementation of statistical quality control in Japan. Examples from Japanese manufacturers of steel, pharmaceuticals, and insulated wire and cable are provided. Other topics he discusses include the use of the plan-do-check-act cycle in process analysis and improvement, the differences between special and common causes of variation, and the role of the statistician within the organization.

Deming, W. E. (Winter 1981-82). Improvement of quality and productivity through action by management. National Productivity Review, 1, 12-22.

Key words: Quality philosophy, management, statistical thinking, implementation.

Abstract: Deming outlines his 14 obligations of management (also known as his 14 points or principles) to improve the quality and productivity of organizations. Topics include a discussion of the interrelationship of the 14 points and some strategies for their implementation.

Deming, W. E. (1985). Transformation of Western style of management. Interfaces, 15(3), 6-11.

Key words: Quality philosophy, management, leadership.

Abstract: Deming discusses the shortcomings of management practices in the U.S. and suggests that management policies change to reflect an understanding of his 14 points of management commitment and of the use of statistical controls for managing quality.

Deming, W. E. (1986). Out of the crisis. Cambridge, MA: Center for Advanced Engineering Study, Massachusetts Institute of Technology. Phone: (617) 253-7444.

Key words: Quality philosophy, management, leadership.

Abstract: The classic and seminal work. Deming's philosophy of management laid the foundation for Japan's industrial Renaissance and is continuing to be studied and implemented by American industry. This book contains Deming's criticism of some management practices and of what American managers must do to improve the global competitiveness of U.S. industry. Managers must assume a leadership position in the creation of a climate for improvement of quality and productivity.

Deming, W. E. (July 24, 1989). Foundation for management of quality in the Western World. Paper presented at the 1989 meeting of The Institute of Management Sciences (TIMS), Osaka, Japan. Available from Dr. W. Edwards Deming, 4924 Butterworth Place, Washington, DC 20016.

Key words: Organizational change, quality philosophy, statistical thinking.

Abstract: Deming emphasizes the role of leadership and organizational innovation in the transformation and improvement of American industry. A vital role of management is to create the conditions whereby people can take pride in their work and are able to contribute to continuous improvement efforts. Deming describes the environment that stimulates creativity and gives people the power to contribute to their organizations. He argues that companies can encourage innovation by the design of their organizational systems and policies; today, management practices of most companies stifle innovation and ignore the potential contributions by employees.

Imai, M. (1986). Kaizen, the key to Japan's competitive success. New York: Random House Business Division.

Key words: Quality philosophy, management, tools, suppliers, quality function deployment.

Abstract: An account of how the Japanese have used the process of continuous improvement of all organizational systems to improve quality and productivity and to reduce costs. Issues addressed include the Deming or Shewhart cycle, just-in-time production, small-group activities, cross-functional management, supplier relations, quality function deployment, suggestion systems, and others.

Ishikawa, K. (1985). What is total quality control? The Japanese way (D. J. Lu, Trans.). Englewood Cliffs, NJ: Prentice Hall.

Key words: Philosophy, management principles, tools.

Abstract: An excellent account of how the quality movement took root and flourished in Japan, written by a man at the forefront of Japan's quality revolution since World War II. Ishikawa provides a comprehensive treatment of issues that top management should be acquainted with to initiate improvement in quality and productivity in their organizations.

Jessup, P. T. (June 1985). The value of continuing improvement. Proceedings of the International Communications Conference. New York: IEEE. Available from the Engineering Society Library, 345 E. 47th, New York, NY 10017. Phone: (212) 705-7611.

Key words: Statistical thinking, variation.

Abstract: An outstanding introduction to the Taguchi loss function. Jessup compares the traditional "goal-post" view of quality, wherein all that is produced within upper and lower specifications limits is acceptable, with Taguchi's approach to quality, which defines and measures loss as any deviation from a customer-specified target.

A videotaped version entitled Value of continuing improvement (1986) was produced by the Ford Motor Company. It is available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Quality philosophy, statistical thinking.

Abstract: This videotape documents a presentation by Peter Jessup of the Ford Motor Company on the meaning and importance of loss functions and target values. The presentation is an excellent introduction to the Taguchi loss function.

Joiner, B. (1985). Total quality leadership vs. management by results. Madison, WI: Joiner Associates, Inc. Available from Joiner Associates, Inc., P.O. Box 5445, 3800 Regent St., Madison, WI 53705-0445. Phone: (608) 238-8134.

Key words: Quality philosophy.

Abstract: Joiner describes a system of management for improvement of quality, productivity, and competitive position of a company. He suggests that improvement efforts are more effective if they are focused on the processes by which work gets done rather than on areas of functional or individual accountability.

Joiner, B. (August 1985). The key role of statisticians in the transformation of North American industry. The American Statistician, 39(3), 224-227.

Key words: Organizational change, management.

Abstract: Joiner discusses the role of statisticians and statistical thinking in bringing about changes in management practices.

Joiner, B. L. (1989). Stable and unstable processes, appropriate and inappropriate managerial actions. Madison, WI: Joiner Associates, Inc. Available from Joiner Associates, Inc., P.O. Box 5445, 3800 Regent St., Madison, WI 53705-0445. Phone: (608) 238-8134.

Key words: Variation, control charts, statistical thinking, management.

Abstract: Joiner explains why it is important for managers to understand common cause and special cause variation. Such an understanding facilities appropriate managerial action in a variety of circumstances. The use of control charts to interpret and analyze variation in data in a variety of contexts is discussed.

Juran on quality improvement [16 videotapes, 30 minutes each]. (1981). New York: McGraw-Hill.

Key words: Quality philosophy, tools.

Abstract: In this 16-part video series, Juran presents his action-oriented approach to problem solving. Each of the 16 tapes presents a different stage of problem solving, guidelines for action in that stage, and associated statistical and graphic techniques. Topics include project identification, organizing for improvement, organizing for diagnosis, brainstorming, data collection, the seven basic graphic tools, resistance to change, and continuous improvement.

McConnel, J. (1988). Safer than a known way. Dee Why, N.S.W. Australia: Delaware Books. Available from Delaware Books, Dee Why Centre, 27 Oaks Avenue, Dee Why, N.S.W. 2099 Australia. (Australia ISBN 0-9588-3243-9).

Key words: Quality philosophy, management, statistical thinking.

Abstract: An exposition on the management philosophy developed by Deming, based on Deming's 4-day seminar. While not a substitute for Out of the Crisis, this book is written in a comfortable style and the text is informative.

Ranney, G. (January 1989). The discipline of continuous improvement. OPQF Newsletter, 1(1). Available from the Ohio Quality and Productivity Forum, 1973 Edison Drive, Piqua, OH 45356. Phone: (513) 778-8600, ext. 262.

Key words: Quality philosophy.

Abstract: Ranney emphasizes the importance of understanding work as a process and results as outcomes of processes. Too often, results are acted upon as if they were causes. For example, management takes action to reduce inventory instead of examining the processes that cause the need for high levels of inventory. Ranney suggests that study and action on processes, rather than on outcomes, will afford management much greater leverage for improvement of results.

Sanders, R., Ranney, G., & Leitnaker, M. (Summer 1989). Continual improvement: A paradigm for organizational effectiveness. Survey of Business, 25, 12-20. Available from the University of Tennessee at Knoxville, Center for Business and Economic Research, College of Business, Suite 100, Glocker Building, Knoxville, TN 37996-4170. Phone: (615) 974-5441.

Key words: Implementation, organizational change, statistical thinking, U.S. competitive position.

Abstract: An outstanding exposition on the role of improving organizational quality in improving the competitive position of U.S. industry. The article discusses the use of the scientific method for achieving continuous, incremental improvement; methods for preventive problem solving; the role of continuous improvement and experimentation in innovation; and the role of management in the implementation of continuous organizational improvement.

Scherkenbach, W. W. (1987). The Deming route to quality and productivity. Rockville, MD: Mercury Press/Fairchild Publications. Available from Continuing Engineering Education, George Washington University, Washington, DC 20052. Phone: (800) 424-9773.

Key words: Quality philosophy, management principles.

Abstract: A short, very readable, and invaluable account of the Deming philosophy. The book concentrates on management theory rather than on tools or techniques. Many who have struggled to understand the 14 points have found this book to be of great help. The author has worked closely on implementation of the Deming philosophy in some divisions at Ford and General Motors.

Tribus, M. (1983). Creating the quality company through company wide quality control. Cambridge, MA: Center for Advanced Engineering Study, Massachusetts Institute of Technology.

Key words: Quality philosophy, tools, management.

Abstract: The author discusses management's role in deploying corporate assets effectively so that they improve quality and productivity. He covers the management of people, materials and machines, processes, information, organization, and policies and practices.

Tribus, M. (1983). Managing to survive in a competitive world. Paper presented at the 1983 meeting of the Society of Automotive Engineers, Detroit, MI. Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (412) 776-4970.

Key words: Quality philosophy, management.

Abstract: Tribus describes how the U.S. is in trouble due in part to the rapid rate of changing global conditions and how Deming's redefinition of management is a fundamentally different approach to running an organization.

SECTION III: THE MANAGEMENT OF ORGANIZATIONAL CHANGE AND TRANSFORMATION

It is helpful to any organization that undertakes a change effort to equip itself with the body of knowledge that has been developed about the process and stages of organizational change.

The readings and tapes in this section describe the organizational change process in both general and specific terms. Rosabeth Moss Kanter is the best-known expert on organizational change. In The Change Masters, she tracks the cultural changes in American business over a 20-year period. Edward Baker describes a process of organizational change that can lead to continuous, stable improvement of organizational quality. Edmund Metz analyzes the efforts of several organizations to implement quality programs, the stages of implementation of such programs, and reasons for their success or failure.

SECTION III: THE MANAGEMENT OF ORGANIZATIONAL CHANGE AND TRANSFORMATION

Baker, E. M. (Winter 1989). The evolution to total quality excellence. Dialogue, pp. 7-13. Available from E. M. Baker, Director, Quality Planning and Statistical Methods, Ford Motor Company, Detroit, MI 48121.

Key words: Organizational change, organizational culture, customer-supplier relationships.

Abstract: Baker discusses several aspects of Ford's efforts to improve organizational quality. Among these are the beginnings of changes in organizational culture, an altered view of the customer, changes in the relationship between industrial customer and supplier, and the vital role of employees in the organizational improvement effort.

Joel Barker, discovering the future: On the business of paradigms [Videotape]. (1984). Burnsville, MN: Charthouse. Available from Films Incorporated, 5547 North Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: Organizational change.

Abstract: This videotape is invaluable as an introduction to the concept of paradigms, which may be defined as sets of strongly held rules and assumptions that influence our judgments and our perceptions of reality.

An understanding of paradigms is key to issues surrounding organizational change, resistance to change, and the slowness of business to recognize and act on the changes occurring in the global marketplace.

Kanter, R. M. (1983). The change masters. New York: Simon and Schuster.

Key words: Organizational change.

Abstract: Kanter reports on the results of her study of the shift in the cultural context of American business from the 1960s to the 1980s, on assumptions about how a company should behave and norms and values about appropriate actions. She examines how companies have successfully responded to environmental change through innovation in products, processes, and management of employees. Change and innovation are impeded by vertical organizational structure and entrenched, but inappropriate, management beliefs.

Managing change (with Rosabeth Moss Kanter) [Videotape]. (1989). London: BBC. Available from Films Incorporated, 5547 North Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: Organizational change.

Abstract: Kanter, a critic of traditional management structures, believes that business success comes from innovation and creativity. In this videotape, she provides a fresh view of the feasibility of projects that are often overlooked because they take time and large investment before they pay off.

Metz, E. J. (1984). Managing change: Implementing productivity and quality improvements. National Productivity Review, 3(3), 303-314.

Key words: Organizational change, implementation.

Abstract: Metz describes three approaches used by organizations in implementation of programs for improvement of quality and productivity. He concludes that adoption of a strategic change management process is key to long-term improvements in quality and productivity. He compares the ineffectiveness of companies whose goals for productivity and quality are short-term with the slower but more effective approaches of companies that strive to attain these improvements through organizational change. The latter organizations take the view that long-term improvement will result only from the design and implementation of organizational systems within which improvements are gradual, continuous, and planned.

SECTION IV: THE ROLES OF MANAGEMENT AND LEADERSHIP IN IMPROVEMENT OF ORGANIZATIONAL QUALITY

Implementation of organizational change for improvement of quality, productivity, and competitive position cannot be successful without the leadership and support of top management (Deming, Out of the Crisis, 1986; Juran, 1989). Top management must create a climate and infrastructure that are supportive of organizational improvement efforts.

Baker's 1989 paper provides the broadest description of the role of the chief executive officer in organizational change. Other articles describe the vital, supportive roles of quality professionals and of management in organizational improvement efforts.

SECTION IV: THE ROLES OF MANAGEMENT AND LEADERSHIP IN IMPROVEMENT OF ORGANIZATIONAL QUALITY

Baker, E. M. (1987). The quality professional's role in the new economic age. Quality Progress, 20(11), 20-28.

Key words: Management, leadership.

Abstract: A brilliant exposition on organizational changes necessary to support efforts of continuous improvement of quality and productivity.

Baker, E. M. (April 19-21, 1989). The chief executive officer's role in total quality: Preparing the enterprise for leadership in the new economic age. Paper presented at the Dr. William G. Hunter Conference on Quality, Madison, WI.

Key words: Management, leadership, quality philosophy.

Abstract: Baker discusses the roles of the CEO and top management in an organization's strategic plans for improvement of quality and productivity. He compares elements of traditional leadership style with those that managers will need to make the transition into the new economic age.

Deming, W. E. (November 1953). Management's responsibility for the use of statistical techniques in industry. Advanced Management, 18, 8-12. New York: Society for Advancement of Management. Available from Dr. W. Edwards Deming, 4924 Butterworth Place, Washington, DC 20016.

Key words: Management, statistical thinking, organizational change.

Abstract: In this definitive article, Deming gives a short history of the growth and development of statistical techniques for quality control, tells of the impact of these techniques on industry since 1940, shows that the statistical method is actually a way of management thinking, and describes how statistical control of quality can help a company's production efficiency by affecting the product from raw material purchase to the final customer.

Joiner, B. (May 1986). Using statisticians to help transform industry in America. Quality Progress, 19(5), 46-50.

Key words: Management, leadership, organizational change, statistical thinking.

Abstract: Joiner describes the role of the statistician in promotion of rational, incremental organizational change and on the use of statistical and scientific methods to help guide such change.

Juran, J. M. (1989). Juran on leadership for quality. New York: The Free Press.

Key words: Management, leadership.

Abstract: Juran describes the responsibility of upper management to institutionalize quality improvement in the organization. The portions of the book on the importance of leadership and the involvement of top management are especially helpful.

Juran on quality leadership [Videotape]. (1987). Wilton, CN: Juran Institute. Available from Films Incorporated, 5547 North Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: Leadership, management, implementation.

Abstract: Juran discusses the main points of his theories for quality leadership. He defines the role of top management in organizational change and organizational improvement.

Loubert, S. (August 1988). Process management: The new role of managers. Presented at the Second Annual International Deming Users' Group Conference, Cincinnati, OH. Available from Process Management Institute, Inc., Suite 360, 7801 East Bush Lake Road, Minneapolis, MN 55439-3115. Phone: (612) 893-0313.

Key words: Management, leadership.

Abstract: Loubert discusses the role of management in the strategic change process for improved quality and productivity. She discusses the type and nature of management involvement necessary to support improvement efforts as well as some basic concepts about improvement of processes that should be understood by management.

Ohio Quality and Productivity Forum. (1989). Commentaries on Deming's Fourteen Points for Management: Deming's Point Seven: "Adopt and institute leadership." Piqua, OH: Author. Available from Ohio Quality and Productivity Forum, 1973 Edison Drive, Piqua, OH 45356. Phone: (513) 778-8600, ext. 262.

Key words: Leadership, quality philosophy.

Abstract: An excellent discussion of Deming's view on the expanded role of leadership at all levels of the organization, on constancy of purpose, and on the need for leaders to understand variation and the system they manage so that they may take appropriate action. Armed with an understanding of a manager's job and the system to be managed, the leader becomes coach and counsel, rather than judge and jury.

SECTION V: IMPROVEMENT OF ORGANIZATIONAL PROCESSES: THEORY, TOOLS, AND APPLICATION

A concept central to improvement of organizational quality and productivity is the recognition that organizations are comprised of interconnected networks of processes, or lateral, cross-functional flows of work and information. Statistical tools and the scientific method may be used to identify, study, and improve these processes.

In addition, once the interfaces between organizational processes (i.e., customer-supplier relationships within the organization) are identified, statistical tools may be used to identify opportunities for improvement of work flow and communication between them.

The readings in this section provide an excellent exposition on methods useful for identification, study, and improvement of organizational processes. The article by Moen and Nolan and the book by Victor Kane give the broadest and most valuable overview of what is involved in process improvement.

SECTION V: IMPROVEMENT OF ORGANIZATIONAL PROCESSES: THEORY, TOOLS, AND APPLICATION

American Supplier Institute. (1987). Quality function deployment: Executive briefing. Dearborn, MI: Author. Available from American Supplier Institute, 15041 Commerce Drive South, Dearborn, MI 48120. Phone: (313) 271-4200.

Key words: Statistical tools.

Abstract: An overview of one of many training programs for learning how to use the tool of quality function deployment.

Davis, C. (1988). Using the voice of the customer to establish product specifications (SAE Technical Paper Series). Presented at the SAE International Congress and Exposition, Detroit, MI. Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (412) 776-4970.

Key words: Statistical thinking, statistical tools.

Abstract: An excellent exposition on quality function deployment, a process by which an organization can translate customer desires into design parameters. Deployment is through product planning, engineering, manufacturing, assembly, marketing, and service.

Deming, W. E. (1944). Some principles of the Shewhart methods of quality control. Mechanical Engineering, 66(3), 173-177.

Key words: Statistical thinking, statistical tools, management.

Abstract: Deming discusses statistical quality control and the Shewhart control chart. Other topics include the interpretation of the control chart and management responsibility in its use.

Deming, W. E. (1959). Guide for quality control and control chart method of analyzing data. New York: American Standards Association, Inc. Available from Dr. W. Edwards Deming, 4924 Butterworth Place, Washington, DC 20016. (Original work published 1941)

Key words: Statistical thinking, statistical tools.

Abstract: One of the clearest, most informative, and most concise expositions on quality control and the use of control charts.

Deming, W. E. (November 1975). On probability as a basis for action. The American Statistician, 29(4), 146-152.

Key words: Statistical thinking, variation.

Abstract: Deming discusses the differences between enumerative studies and analytic studies and the appropriate uses of each.

Deming, W. E. (February 1980). The statistical control of quality: Part I. Quality, 19(2), 38-41.

Key words: Statistical thinking, quality philosophy.

Abstract: This is the first of a two-part article in which the key points from an interview with Deming are discussed. The main topic of this initial interview was the early history of statistical quality control in this country and in Japan.

Deming, W. E. (March 1980). The statistical control of quality: Part 2. Quality, 19(3), 34-36.

Key words: Statistical tools, quality philosophy.

Abstract: This is the second of a two-part article in which the key points from an interview with Deming are discussed. Deming presents his views regarding the current status and future of quality control and business in both the U.S. and Japan.

Dimensional control plan [Videotape]. (1986). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Statistical thinking.

Abstract: This 1986 case study of improvement efforts at the Livonia Transmission Plant demonstrates a methodology for achievement of customer focus through identification of important product and process characteristics for control and improvement.

Dodge, H. F., Ashcroft, A. G., Deming, W. E., Simon, L. E., Wareham, R. E., & Gaillard, J. (1959). Control chart method of controlling quality during production. New York: American Standards Association, Inc. Available as ASQC Standard B-1 (1985) from ASQC Quality Press, 310 Wisconsin Avenue, Milwaukee, WI 53203. Phone: (800) 952-6587.

Key words: Statistical thinking, variation.

Abstract: This American standard outlines the control chart method of controlling quality during production. The principles of procedure are given in

general terms, with illustrations showing how these principles might be applied. The methods outlined are especially appropriate for control and improvement of repetitive processes.

Fuller, T. F. (Autumn 1985). Eliminating complexity from work: Improving productivity by enhancing quality. National Productivity Review, 4(4), 327-344.

Key words: Statistical thinking, statistical tools, process improvement.

Abstract: Fuller introduces and develops one of the most important concepts for improvement of processes--reduction of complexity. He provides a method for systematic identification of the elements of a process that exist solely to remedy expected process breakdowns and for assessing their cost to the organization. The simple and elegant framework delineated by Fuller may be applied to identification of sources of waste in any process, whether in a service, manufacturing, or administrative environment.

Ginder, D. (1989). Case study: Quality function deployment (SAE Technical Paper Series). Presented at the SAE International Congress and Exposition, Detroit, MI. Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (412) 776-4841.

Key words: Statistical tools, quality function deployment, case study.

Abstract: A description of quality function deployment with examples.

Houston, A., & Dockstader, S. L. (December 1988). A Total Quality Management process improvement model (NPRDC Tech. Rep. 89-3). San Diego, CA: Navy Personnel Research and Development Center.

Key words: Plan-do-check-act cycle, process analysis.

Abstract: The authors describe a model for the systematic improvement of an organization's products or services through analysis and correction of the processes that create them. The model is an elaboration of the plan-do-check-act (PDCA) cycle developed by Shewhart and Deming for process analysis and improvement.

Ishikawa, K. (1976). Guide to quality control. Tokyo: Asian Productivity Organization. Available from UNIPUB, One Water Street, White Plains, NY 10601. Phone: (800) 247-8519.

Key words: Statistical tools.

Abstract: This is a best seller in the use of basic statistical approaches for quality improvement. It was originally written for factory foremen in Japan, but has a much wider appeal. It has good examples, including case studies.

Kane, V. (January 1986). Process capability indices. Journal of Quality Technology, 18(1), 41-52.

Key words: Statistical tools, statistical methods.

Abstract: Kane discusses the use of capability indices to measure process performance. A number of Japanese industries use the indices, and the U.S. automotive industry has begun to use these measures in a number of areas. Various applications of the indices are discussed along with statistical sampling considerations.

Kane, V. (1989). Defect prevention. Available from ASQC Quality Press, 310 West Wisconsin Avenue, Milwaukee, WI 53203. Phone: (800) 952-6587.

Key words: Statistical methods.

Abstract: An excellent introduction to the use of simple, economical, but powerful statistical tools for continuous improvement of organizational processes. The text contains many examples taken from Kane's experiences at Ford Motor Company. The text addresses the need for data collection and describes the analytical power of simple statistical tools, such as Pareto diagrams, Ishikawa diagrams, flow diagrams, and others.

The text is unique in that it stresses the importance of conceptual statistical thinking for effective use of statistical tools and for effective implementation of quality improvement programs. Kane offers stimulating discussions of the concepts of variation, common and special cause variation, and process stability. The book includes many exercises, and a solutions manual is available.

Kindlarski, E. (1984). Ishikawa diagrams for problem solving. Quality Progress, 17(1), 16-20.

Key words: Statistical tools, quality philosophy.

Abstract: Kindlarski emphasizes the importance of combining quality assurance, standardization, and Shewhart's control charts for an effective quality program. Other topics include quality by inspection and company-wide involvement in quality improvement.

Kume, H. (1985). Statistical methods for quality improvement. Tokyo: Association for Overseas Technical Scholarship. Available from UNIPUB, One Water Street, White Plains, NY 10061. Phone: (800) 247-8519.

Key words: Statistical tools.

Abstract: Perhaps the best book on statistics for manufacturing processes. The parts on hypothesis testing (especially Chapter 9) should be read with the

understanding that the appropriateness of these statistical methods for analyzing work processes over time has been questioned by Deming and other statisticians.

McElroy, J. (January 1989). QFD: Building the house of quality. Automotive Industries, 168(1), 30-32.

Key words: Quality function deployment, implementation, statistical tools.

Abstract: The author discusses the spread of the use of quality function deployment in the U.S. automotive industry.

Mizuno, S. (1988). Managing for quality improvement: The seven new QC tools. Cambridge, MA: Productivity Press. Phone: (617) 497-5146.

Key words: Statistical tools, organizational change.

Abstract: The "seven original" tools used in statistical quality control (cause-and-effect diagrams, Pareto charts, histograms, flow charts, run charts, control charts, and scatter diagrams) are used in data gathering and analysis. This book introduces the "seven new" tools for gathering information on the skills and efforts of many people across different departments over time. They address quality problems associated with communication, with organization of verbal data, planning, and implementation of improvement processes.

Moen, R. D., & Nolan, T. W. (September 1987). Process improvement: A step-by-step approach to analyzing and improving a process. Quality Progress, 20(9), 62-68.

Key Words: Statistical thinking, tools.

Abstract: This article provides an outstanding overview of the process of improving systems throughout an organization. The authors address many of the basic concepts and techniques for improvement of processes in any organizational environment: the definition of a process, the concepts of process stability and special and common cause variation, the prevention of defects through understanding processes and improving them, the importance and role of teamwork, the Taguchi loss function, cause-and-effect diagrams (Ishikawa diagrams), and others.

Moen and Nolan provide an excellent discussion of the improvement cycle (also known as the Deming or Shewhart cycle), guidelines for selection of improvement projects, and tools and techniques for use in each stage of the improvement cycle.

Moen, R. D., Nolan, T. W., & Provost, L. P. (1989). Planned experimentation to improve quality. Available from Associates in Process Improvement, 8970 Dixie Highway, Clarkston, MI 48016. Phone: (313) 625-7285.

Key words: Statistical tools, quality philosophy, implementation.

Abstract: The authors describe methods for conducting both analytical studies of processes and experimental designs. Chapters cover one-factor experiments as well as multi-factor designs, quality by design, and a system of experimentation.

Monroe #1 stabilizer bar line [Videotape]. (1986). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Statistical tools, teamwork, case study.

Abstract: This videotape depicts a team approach to problem solving on the stabilizer bar frame at the Monroe Plant. Presentations are given by several hourly and salaried team members illustrating how productivity and quality were improved through use of statistical knowledge and methods and teamwork.

Nolan, T. (March 28, 1988). Analytic studies. Presented at the Deming Seminar for Statisticians, New York University. Available from Associates in Process Improvement, 8970 Dixie Highway, Clarkston, MI 48016. Phone: (313) 625-7285.

Key words: Statistical methods, variation.

Abstract: Nolan discusses the difference between enumerative and analytic studies and the proper use of each. He discusses the scientific method and the design of analytic studies to improve processes.

Nolan, T. W., & Provost, L. P. (May 1990). Understanding variation. Quality Progress, 23(5), 70-78.

Key words: Variation, common causes, special causes.

Abstract: An important exposition on the concept of statistical variation and its application to management decision-making. This article is fundamental reading for anyone interested in pursuing the study of quality management.

Relyea, D. (May 1989). The simple power of Pareto. Quality Progress, 22(5), 38-39.

Key words: Organizational change, statistical tools.

Abstract: The author describes how Pareto diagrams may be used to facilitate communication between management and operators who collect and present data to them.

Ross, P. (1988). Taguchi techniques for quality engineering: Loss function, orthogonal experiments, parameter and tolerance design. New York: McGraw-Hill.

Key words: Statistical techniques.

Abstract: This book is helpful in tying together the use of various statistical techniques and in explaining on-line and off-line quality control. Taguchi divides quality engineering into two parts: off-line quality control and on-line quality control. Both off-line and on-line quality control are related to minimizing cost and maximizing the consistency with which customer requirements are met. Off-line quality control helps to establish design targets for highest production consistency and lowest loss before the start of production. On-line quality engineering is used to hold the average of the manufactured product close to the established design targets, which is a fundamental purpose of statistical process control.

Ross, P. (June 1988). The role of Taguchi methods and design of experiments in QFD. Quality Progress, 21(6), 41-47.

Key words: Statistical thinking, statistical tools.

Abstract: This article describes the links between QFD and Taguchi methods, such as design of experiments, during the off-line phase of a process life cycle. He uses an engineering example to demonstrate how simultaneously improving quality and identifying key product characteristics before production will improve market competitiveness.

Scherkenbach, W. W. (March 1983). How to train employees in statistical techniques. Paper presented at the ASQC 24th Annual Quality Clinic, Knoxville, TN. Available from ASQC Quality Press, 310 West Wisconsin Avenue, Milwaukee, WI 53203. Phone: (800) 952-6587.

Key words: Statistical tools, training.

Abstract: The author of this article discusses Deming's 14 points of management commitment. The use of control charts, histograms, and several other statistical tools is related to each point where appropriate.

Schilling, E. G. (1984). The role of statistics in the management of quality. Quality Progress, 17(8), 32-35.

Key words: Statistical thinking, statistical tools.

Abstract: The author discusses the "how and why" of Shewhart's control charts and of statistical quality control in general.

Shewhart, W. (1980). Economic control of quality of manufactured product. Milwaukee, WI: ASQC Quality Press. A reprint of this classic 1931 work published by Van Nostrand-Reinhold of New York City is available from the ASQC Quality Press, 310 West Wisconsin Avenue, Milwaukee, WI 53203. Phone: (800) 952-6587.

and

Shewhart, W. (1986). Statistical method from the viewpoint of quality control. Mineola, NY: Dover Press. The original work was published in 1939 by the U.S. Department of Agriculture Graduate School, Washington, DC. Available from Dover Publications, Inc., 31 East 2nd Street, Mineola, NY 11501. Phone: (516) 294-7000.

Key words: Statistical tools, statistical thinking.

Abstract: Guides for understanding statistical variation as well as for the use of scientific methods for experimentation and improvement of processes.

Siegel, J. C. (February 22-26, 1982). Managing with statistical methods (SAE Technical Paper Series). Presented at the SAE International Congress and Exposition, Detroit, MI. Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (412) 776-4970.

Key words: Statistical tools.

Abstract: Siegel describes the rediscovery of statistical process control techniques by American management. The key concepts of variation, process control, special and common causes, and process capability are discussed.

Statistical methods [Videotape]. (1987). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Statistical tools, statistical thinking.

Abstract: A videotape of a presentation by Bill Scherkenbach, former director of Total Quality Planning and Statistical Methods at Ford, to the top executives of the company. The tape describes basic statistical tools that can be used to achieve continuous improvement.

Wadsworth, H., Stephens, K., & Godfrey, A. (1986). Modern methods for quality control and improvement. New York: John Wiley.

Key words: Statistical tools.

Abstract: An award-winning textbook that covers the history of quality control, statistical process control, and new approaches to acceptance sampling, with several examples drawn from the experience of the authors. The chapters on acceptance sampling should be read with the understanding that the appropriateness of these statistical methods for analyzing work processes over time has been questioned by Deming and other statisticians.

Wheeler, D. J., & Chambers, D. S. (1986). Understanding statistical process control (2nd ed.). Knoxville, TN: Statistical Process Controls, Inc. Available from Statistical Process Controls, Inc., 7026 Shadyland Drive, Knoxville, TN 37919. Phone: (615) 584-5005.

Key words: Statistical tools.

Abstract: A good book on statistics for manufacturing processes. Topics cover process capability, continuous improvement, variation, and advice on how to use control charts. The part on acceptance sampling should be read with the understanding that the appropriateness of these statistical methods for analyzing work processes over time has been questioned by Deming and other statisticians.

SECTION VI: THE EFFECT OF REWARD SYSTEMS ON BEHAVIOR AND MOTIVATION

Organizational reward systems, most of which are used in conjunction with individual performance appraisal systems, may encourage or encumber an organization's efforts to improve quality and productivity. Articles by Deming, Scholtes, Nelson, Kohn, and Tveite explain how current systems of performance appraisal in organizations may stand in the way of organizational improvement efforts and can be detrimental to individual employees.

SECTION VI: THE EFFECT OF REWARD SYSTEMS ON BEHAVIOR AND MOTIVATION

Baker, E. M. (1988). Managing human performance. In Juran's quality control handbook (4th ed.). New York: McGraw-Hill.

Key words: Motivation, performance appraisal.

Abstract: Possibly the best survey of theoretical literature on the subject. It focuses on changes in management practices in a learning, continuously improving organization.

Deming user's manual [Four videotapes]. (1989). Washington, DC: CC-M Productions. Available from Films Incorporated, 5547 Ravenswood Avenue, Chicago, IL 60640-1199. Phone: (800) 323-4222, ext. 381. No preview fee for government agencies.

Key words: Management, motivation, performance appraisal, leadership.

Abstract: This videotape manual is an ongoing series featuring students of Deming's philosophy. The tapes are intended to explain the philosophy and to demonstrate application. Following is a description of the series.

Volume I. The case against performance appraisal: P. R. Scholtes argues that current performance appraisal systems decrease productivity, interfere with quality, and demoralize the work force.

Volume II. What to do instead of a performance appraisal: Scholtes presents his views on how to replace damaging performance appraisals with methods that give feedback and direction to employees. He also discusses selection of people for promotion and determination of salaries.

Volumes III and IV. What to do instead of managing by objective: Brian Joiner examines the unintended negative consequences of management by objective and the limitations of the manner in which numerical data are used today. He suggests alternative uses of data and explains how data and goals can be used to stimulate continuous improvement.

Deming, W. E. (1987). The merit system. The annual appraisal: Destroyer of people. Available from Dr. W. Edwards Deming, 4924 Butterworth Place, Washington, DC 20016.

Key words: Performance appraisal, motivation, quality philosophy, statistical thinking, U.S. competitive position.

Abstract: Deming explains several adverse effects of the annual appraisal system--demotivation of employees, focus on short-term results, and creation

of impediments to an organization's achievement of its mission. He argues that leadership with knowledgeable feedback and empowerment of employees should replace the formal appraisal system.

The Galatea effect: What you think is what you are [Videotape]. (1988). Available from CRM Films, 2233 Faraday, Suite F, Carlsbad, CA 92008. Phone: (800) 421-0833.

Key words: Motivation.

Abstract: This tape illustrates the vital role that an individual's self-expectations play in the achievement of personal and organizational goals.

Glasser, W. (1986). Control theory in the classroom. New York: Harper & Row.

Key words: Motivation, education.

Abstract: Glasser provides valuable insights into some problems of the U.S. educational system. He identifies demotivating factors in the classroom or in any learning environment and discusses their detrimental effects, not the least of which concerns the development of the human resource in the U.S. He proposes changes to alleviate some of these problems.

Kohn, A. (1986). No contest: The case against competition. Boston, MA: Houghton Mifflin.

Key words: Motivation, cooperation, performance appraisal.

Abstract: Kohn draws extensively on psychological and sociological literature to examine the harmful effects of competition on human motivation, performance and achievement. He displays strong evidence that competition, in which success is gained at the expense of others, is an unproductive way to work or learn and is a behavior devastating to individuals and to society. Kohn suggests that improvements in business, society, and education would be facilitated by movement out of "win-lose" decision and behavioral structures and into "win-win" scenarios.

Kohn, A. (November 1987). No contest: Contrary to what you may think, your company will be a lot more productive if you refuse to tolerate competition among your employees. Inc., pp. 145-146; Peters, T. (November 1987). Letter to the editor: Incentives and competition deserve real cheers, says the guru of excellence. Inc., pp. 80-82; Kohn, A. (April 1988). The author replies and refuses to back down. Inc., p. 83.

Key words: Cooperation, performance appraisal.

Abstract: This series of articles is a sample of the ongoing debate between organizational scientists and management theorists about the effect of contemporary reward and appraisal systems on human performance and motivation.

Nelson, D. (1988). Performance appraisal: Fact or fancy (PACER SHARE Civil Service Demonstration Project). Available from Mr. D. Nelson, SM-ALC/DS(2), McClellan Air Force Base, CA 95652-5999.

Key words: Implementation, performance appraisal, motivation.

Abstract: The author reviews current literature on performance appraisal systems and describes the findings as they relate to Deming's objections to performance appraisal processes in American organizations. Suggestions are made for how the appraisal system might be changed to be more effective. Since the writing of this article, the organization has implemented a new performance appraisal system.

Productivity and the self-fulfilling prophecy: The Pygmalion effect [Videotape]. (1987). Available from CRM Films, 2233 Faraday, Suite F, Carlsbad, CA 92008. Phone: (800) 421-0833.

Key words: Motivation, performance appraisal.

Abstract: This videotape explores the consequences of the Pygmalion effect (the effect of others' expectations on one's self) on human motivation and self-perception.

Scholtes, P. R. (1987). An elaboration on Deming's teachings on performance appraisal. Madison, WI: Joiner Associates, Inc. Available from Joiner Associates, Inc., P.O. Box 5445, Madison, WI 53705. Phone: (608) 238-8134.

Key words: Motivation, performance appraisal.

Abstract: The author discusses his interpretation of Deming's view of performance appraisal. He includes a definition of performance appraisal, the case against evaluating performance, and alternatives to performance appraisal.

Tveite, M. (1989). Performance appraisal: A statistician's perspective. Available from Dr. Michael Tveite, 819 W. 61st Street, Minneapolis, MN 55419.

Key words: Statistical thinking, variation, leadership.

Abstract: Tveite provides an explanation of Deming's views on performance appraisal in light of statistical theory. The discussion is both practical and theoretical. The paper provides an overview of the performance appraisal process, addresses some concerns that statistical theory raises about performance appraisal, and discusses Deming's proposed alternatives to current appraisal systems.

SECTION VII: TEAMWORK AND QUALITY CIRCLES

Teamwork and cooperation between individuals are essential to improving organizational processes and overall organizational quality.

Marks and Piczak analyze several cases of quality circle activity and conclude that their success depends critically on the manner and the organizational context in which they are implemented. Their success was also influenced to a great extent by the support and involvement of top management.

Scholes' handbook on teams provides a practical, step-by-step guide to the formation of teams and their subsequent work in improvement of organizational processes.

SECTION VII: TEAMWORK AND QUALITY CIRCLES

Hermann, J., & Baker, E. (July 1985). Teamwork is meeting internal customer needs. Quality Progress, 18(7), 12-16.

Key words: Cooperation, statistical thinking.

Abstract: Hermann and Baker discuss improvement in quality and productivity through the identification of customer-supplier relationships within organizations and the development of a better understanding between customer and supplier of each other's needs and capabilities.

Lawler, E. E., III, & Mohrman, S. A. (1985). Quality circles after the fad. Harvard Business Review, 63(1), 64-71.

Key words: Cooperation, teamwork, quality circles, implementation.

Abstract: The authors discuss different stages in the implementation of a quality circle program. Included in the article is a chart describing activities associated with each stage as well as of factors that contribute to failure of quality circle programs in each stage of implementation.

Marks, M. (March 1986). The question of quality circles. Psychology Today, 20(3), 36-46.

Key words: Quality circles, implementation.

Abstract: Marks reviews several studies on the effectiveness of quality circles and suggests several reasons for their success and failure in U.S. corporations.

Piczak, M. W. (December 1988). Quality circles come home. Quality Progress, 21(12), 37-39.

Key words: Quality circles, cooperation, implementation, teamwork.

Abstract: A discussion of problems that U.S. companies have experienced with quality circles suggests that proper implementation and management commitment are key to their success.

Scholtes, P. R. (1988). The team handbook. Madison, WI: Joiner Associates, Inc. Available from Joiner Associates, Inc., P.O. Box 5445, Madison, WI 53705. Phone: (608) 238-8134.

Key words: Teamwork, implementation.

Abstract: A practical guide to working in or with project teams tasked with quality improvement efforts. Included are step-by-step instructions, illustrations, and worksheets. It is a comprehensive, user-friendly guide that leads the reader through project selection from inception to closure. The guide also provides exposure to several tools used in the quality improvement process.

Tsuda, Y., & Tribus, M. (November 1985). Managing for quality: Does culture make a difference? Quality Progress, 18(11), 23-25.

Key words: Quality circles, implementation.

Abstract: The authors assert that the effectiveness of quality circles is determined by the organizational, not the national, culture into which they are introduced.

White, M. A., & Konoske, P. J. (April 1989). An evaluation of quality circles in Department of Defense organizations (NPRDC Tech. Rep. 89-9). San Diego, CA: Navy Personnel Research and Development Center.

Key words: Quality circles, goal achievement.

Abstract: Rather than attempt to provide a final analysis of the value of quality circle programs to the Department of Defense (DoD), this report describes the conditions and approaches necessary for a successful quality circle program. As such, this report should be used as a guide for future decisions concerning quality circle programs rather than as the final word on their utility to DoD.

SECTION VIII: MANAGEMENT OF THE RELATIONSHIP BETWEEN CUSTOMER AND SUPPLIER

The authors cited in this section argue that the traditional, adversarial relationship between customer and supplier impedes efforts to improve organizational quality and productivity. A closer, more cooperative relationship between the two should improve the competitive positions of both.

Cooperation between customer and supplier does not mean a relationship based on instantaneous trust. These readings describe the cooperative relationship as one that evolves over time, accompanied by a greater level of understanding between customer and supplier of each other's needs and capabilities and with a decreasing need for extensive verification.

The reading by Backaitis discusses the assumptions that underlie the adversarial relationship, why it has worked in the past, and why it is no longer sufficient. The types of cooperation between customer and supplier that would improve the competitive positions of both are discussed. Carlisle delves more deeply into the actual management of the cooperative relationship between customer and supplier.

SECTION VIII: MANAGEMENT OF THE RELATIONSHIP BETWEEN CUSTOMER AND SUPPLIER

Backaitis, N. T. (1989). Rethinking the relationship between customer and supplier: Some microorganizational considerations. Ph.D. dissertation, Columbia University. Available from Nida Backaitis, University of Southern California. Phone: (213) 743-0692.

Key words: Suppliers, variation.

Abstract: The traditional relationships between customer and supplier are based on the assumption that supplies that meet customer specifications will not adversely affect the operation of the customer's technological processes or the customer's product quality. In fact, supplies that meet customer specifications in many cases complicate the customer's production processes and impair product quality. When this is the case, a reduction in variation of supplies can help to simplify production and improve product quality for the customer. Strategies for reducing variation in supplies and the risks and benefits of single and multiple sourcing policies are discussed. The customer may also achieve improvement in product quality and productivity by increasing the robustness of production processes and product design.

Carlisle, J. A., & Parker, R. C. (1989). Beyond negotiation: Redeeming customer-supplier relationships. New York: John Wiley.

Key words: Cooperation, suppliers.

Abstract: Beyond Negotiation provides an excellent and convincing argument that cooperation between customer and supplier is a more powerful approach to management of the relationship than the competitive, adversarial relationship that now exists.

Carter, J., & Miller, J. (Fall 1989). The impact of alternative vendor/buyer communication structures on the quality of purchased materials. Decision Sciences, 20(4), 759-776.

Key words: Suppliers.

Abstract: An article on the type of communication structure between customer and supplier organizations that would facilitate quality improvement. Traditionally, customer and supplier communicate via the linkage between purchasing and sales. Improvement of quality, however, involves in many cases an entire network of communication between parallel departments of the customer and supplier organizations.

Davies, C. (July 1988). Japanese invasion: Transplant suppliers could force many U.S. companies to downsize, merge, or close. Ward's Auto World, 24(7), 45-49.

Key words: Suppliers, organizational change.

Abstract: This article describes the challenges that U.S. suppliers face from the Japanese transplants that supply Japanese O.E.M.'s (original equipment manufacturers) located in the U.S., as well as opportunities for U.S. suppliers to serve U.S.-based Japanese O.E.M.'s.

Flynn, M. S., & Andrea, D. J. (1989). Integrated sourcing: Issues of dependency, reliance, and innovation (SAE Technical Paper Series). Presented at the SAE International Congress and Exposition, Detroit, MI. Available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096. Phone: (412) 776-4970.

Key words: Suppliers.

Abstract: Dependence between customer and supplier fosters reliance and cooperation, but it also creates a power imbalance between them, which customer and supplier must learn to manage.

Hahn, C. K., Kim, K. H., & Kim, J. S. (Fall 1986). Costs of competition: Implications for purchasing strategy. Journal of Purchasing and Materials Management, 22(3), 2-7.

Key words: Cost structure, suppliers.

Abstract: An outstanding account of the effect of various types of purchasing policies on a supplier's cost structure. Many competitive purchasing practices actually raise the price of supplies in the long term by adversely affecting the supplier's cost structure.

Holt, D. (October 1988). Quality customer satisfaction. Automotive Engineering, 96(10), 41-60.

Key words: Implementation, suppliers.

Abstract: A description of supplier award and appraisal programs at General Motors, Ford, and Chrysler.

McCormick, J. R. (July 1988). Supplier to a transplant. Ward's Auto World, 24(7), 97-99.

Key Words: Suppliers, case history.

Abstract: This article relates some of the challenges that U.S. firms are faced with when supplying a Japanese O.E.M. (original equipment manufacturer).

Ohio Quality and Productivity Forum. (1989). Commentaries on Deming's Fourteen Points for Management: Deming's Point Four: A study. Piqua, OH: Author. Available from Ohio Quality and Productivity Forum, 1973 Edison Drive, Piqua, OH 45356. Phone: (513) 778-8600, ext. 262.

Key words: Suppliers, variation, cooperation.

Abstract: A discussion of this group's interpretation of Deming's theory for management of the relationship between customer and supplier.

Winter, D. (July 1988). The supplier as extended family. Ward's Auto World, 24(7), 55-87.

Key Words: Suppliers, case history.

Abstract: This article describes the changing nature of the relationship between customer and supplier firms in the U.S.

SECTION IX: IMPLEMENTATION EFFORTS AND CASE HISTORIES

The entries in this section describe case histories and efforts to implement quality improvement programs.

The articles by Nash, Baker, and Scholtes et al. describe processes and guidelines for implementation of improvement efforts in service and administrative functions of an organization. The articles by Scholtes and Hacquebord discuss difficulties associated with implementation of quality improvement efforts.

SECTION IX: IMPLEMENTATION EFFORTS AND CASE HISTORIES

Artinian, H., & Baker. E. (1988). Improving quality: The critical hidden link. Paper presented at the 1988 ASQC Quality Congress Transactions, Dallas, TX. Available from ASQC Quality Press, 310 West Wisconsin Avenue, Milwaukee, WI 53203. Phone: (800) 952-6587.

Key words: Case study, implementation, statistical thinking.

Abstract: The article describes the formation of a cross-functional team at Ford to study and improve the claims processing system. The authors assert that since only a small portion of organizational resources are actually devoted to the manufacturing function, the greatest potential for improvement in organizational quality resides in the administrative, service, and support functions of the organization.

Baker, E. (1987). Achieving competitive viability in the new economic age: Quality excellence in administrative, service, and support systems. Available from E. M. Baker, Director, Quality Planning and Statistical Methods, Ford Motor Company, Detroit, MI 48121.

Key words: Statistical thinking, implementation, variation.

Abstract: Baker describes a process for continuous organizational transformation, which he calls "stable change." He also describes the impediments to change and improvement brought about by vertical, functionally oriented management structures found in most organizations today.

Baker, E. M. (Winter 1989). The evolution to total quality excellence. Dialogue, pp. 7-13. Available from E. M. Baker, Director, Quality Planning and Statistical Methods, Ford Motor Company, Detroit, MI 48121.

Key Words: Case history, implementation.

Abstract: A brief history of the beginnings of cultural change at Ford Motor Company through the 1980's.

Baker, E. M., & Artinian, H. L. (1985). The Deming philosophy of continuing improvement in a service operation: The case of Windsor Export Supply. Quality Progress, 18(6), 61-69.

Key Words: Implementation, case history.

Abstract: The authors present a case history of the implementation of Deming's philosophy of continuous improvement at Windsor Export Supply, Windsor, Ontario, which exports automotive parts to Ford Motor Company's foreign and North American operations. Improvement efforts on two processes--critical shipping status reports and notice of engineering change--are presented as examples of how flow analysis can guide improvement in quality without the use of control charts.

Bemowski, K. (September 1988). People: The only thing that will make quality work. Quality Progress, 21(9), 63-67.

Key words: Cooperation, implementation.

Abstract: A case history of quality improvement implementation efforts at Dow Chemical.

Burstein, C., & Sedlak, K. (October 1988). The Federal quality and productivity improvement effort. Quality Progress, 21(10), 38-41.

Key words: Case history.

Abstract: An account of efforts of several Federal agencies to implement quality improvement programs.

Delatore, J. P., Prell, E. M., & Vora, M. K. (January 1989). Translating customer needs into product specifications. Quality Progress, 22(1), 50-53.

Key words: Implementation, case history, quality function deployment.

Abstract: A case history of AT&T Bell Labs' efforts to establish a system that incorporates customer needs into the design of hardware and software.

Deming approach in action: Windsor Export Supply [Videotape]. (1986). Available from OCAPT, 46 Elderwood Drive, St. Catharine's, Ontario, Canada L2S3E7. Phone: (416) 688-2600.

Key words: Statistical methods, case study, service.

Abstract: This videotape describes quality and productivity improvement efforts at Windsor Export Supply. It focuses on the application of Deming's principles, basic tools, and a process improvement approach to a service organization that provides auto parts overseas for Ford Motor Company.

Hoffer, W. (April 1988). Errors on the job can be reduced. Nation's Business, 76(4), 62-64.

Key words: Implementation.

Abstract: The author suggests that significant improvement in organizations may be achieved through the analysis of processes and situations that cause error. Managers too often assign blame to people instead of to the systems in which they work.

Humphrey, W. S. (1989). Managing the software process. New York: Addison-Wesley.

Key words: Implementation.

Abstract: An application of the philosophy of management for quality to the software industry. The development of software is viewed as a process to be managed and improved; philosophy and tools associated with improvements of product quality are applied.

Juran, J. M. (June 1981). Product quality--A prescription for the West. Part I: Training and improvement programs. Management Review, 70(6), 9-14.

Key words: Implementation, quality philosophy.

Abstract: This is a part one of a two-part article. Juran discusses how the Japanese gained their present quality leadership through massive quality-related training programs and annual quality improvement programs.

Juran, J. M. (July 1981). Product quality--A prescription for the West. Part II: Upper-management leadership and employee relations. Management Review, 70(7), 57-61.

Key words: Leadership, management, quality philosophy.

Abstract: This is part two of a two-part article. Juran discusses the responsibilities of upper management in implementation of quality improvement efforts and in the development of a quality mission statement. Included is a discussion of common managerial pitfalls in the implementation of quality improvement programs.

Loubert, S. (1989). Facilitating continuous improvement: Actions for steering teams. Minneapolis, MN: Process Management Institute, Inc. Available from the Process Management Institute, Inc., One Paramount Plaza, Suite 360, 7801 East Bush Lake Road, Minneapolis, MN 55439-3115. Phone: (612) 893-0313.

Key words: Implementation, leadership, management.

Abstract: Loubert describes the challenges that face any team charged with development and implementation of quality improvement projects. She describes some common roadblocks and suggests practical ways around them.

McCabe, W. J. (1985). Improving quality and cutting costs in a service organization. Quality Progress, 18(6), 85-89.

Key words: Implementation, tools, teamwork, case history.

Abstract: In this article, the author discusses the application of statistical process control to a service organization (IBM, Kingston, NY). When IBM Kingston decided to use control charts to follow administrative processes, it was found that the process of *developing* charts produced more gains than the interpretation of the final charts by providing management with a different and more thorough description of its processes.

McDaniel, D. M., & Doherty, L. M. (February 1990). Total Quality Management case study in a Navy headquarters organization (NPRDC Tech. Note 90-10). San Diego, CA: Navy Personnel Research and Development Center.

Key words: Implementation, leadership, statistical thinking, case history.

Abstract: This report documents the efforts of a Navy headquarters organization to implement Total Quality Management (TQM). It describes the implementation plan and the selection of the engineering change proposal (ECP) as the first process to undergo continuing improvement using TQM methodology. The report chronicles the development of a TQM Executive Steering Committee and Quality Management Board (QMB), the education and training process, and the selection of the ECP process for analysis. Results of data analyses by the QMB are presented along with a description of continuing efforts. Recommendations concern process definition, work prioritization, just-in-time training, emphasis on immediate results, and documentation of future actions.

Nash, M. (1989). Quality improvement in administrative functions through process analysis. Minneapolis, MN: Process Management Institute, Inc. Available from the Process Management Institute, Inc., One Paramount Plaza, Suite 360, 7801 East Bush Lake Road, Minneapolis, MN 55439-3115. Phone: (612) 893-0313.

Key words: Implementation, statistical thinking.

Abstract: Nash presents guidelines for the use of statistical thinking and statistical methods in the improvement of administrative processes.

Nashua Conference [Videotape: 30-minute and 2-hour versions]. (1981). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key Words: Case history, statistical methods, leadership, management.

Abstract: This is a videotape of a 1981 presentation by William Conway, then Chief Executive Officer of Nashua Corporation, to Ford executives. Conway discusses his experiences and what his company learned by implementing the methods for improvement of quality advocated by W. Edwards Deming. Conway stresses the importance of top management commitment and the link between quality and productivity.

Scholtes, P. R., & Hacquebord, H. (July 1988). Beginning the quality transformation, Part I. Quality Progress, 21(7), 28-33.

Key words: Implementation, management.

Abstract: This article discusses the difficulties associated with organizational change and suggests some strategies to help management understand and overcome them.

Scholtes, P., & Hacquebord, H. (August 1988). Six strategies for beginning the quality transformation, Part II. Quality Progress, 21(8), 44-48.

Key words: Implementation.

Abstract: The authors suggest some strategies for implementation of organizational change to facilitate improvement of quality.

Scholtes, P., Weiss, L., & Reynard, S. (1988). Quality improvement in the office. Madison, WI: Joiner Associates, Inc. Available from Joiner Associates, Inc., P.O. Box 5445, Madison, WI 53705. Phone: (608) 238-8134.

Key words: Case study, service, implementation, statistical thinking.

Abstract: This article applies the scientific method for improvement of processes to an administrative situation, with suggestions on how to avoid common pitfalls in such improvement efforts. Steps in the improvement cycle are explained and illustrated. The authors also provide guidelines for management involvement and for the use of project teams.

The task before us [Videotape: 10-minute and 40-minute versions]. (1981). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Management, leadership, statistical thinking.

Abstract: This is a videotape of a 1981 discussion by members of Ford's Diversified Products Operation regarding the role of statistical methods in the improvement of their manufacturing operations. The tape contains statements by W. Edwards Deming on the necessity for top management commitment as well as a statement of Ford's commitment to improvement of organizational quality by then president, Donald E. Petersen.

Tribus, M. (1984). In improving the quality and decreasing the cost of America's defense, is DoD to be part of the solution or part of the problem? National Productivity Review, 3(4), 439-442.

Key words: Implementation.

Abstract: Tribus puts forward the observation that the DoD could give industry great incentives to increase the quality of products and service supplied to DoD, thereby causing an overall increase in productivity in industry. In academia, there are very few schools that have courses in quality and productivity. To promote the development of an integrated approach to quality, the DoD is encouraged to base its purchasing method on statistical quality control rather than on inspection.

Tribus, M. (February 1985). Creating the quality service company. Cambridge, MA: Center for Advanced Engineering Study, Massachusetts Institute of Technology.

Key words: Implementation, case history.

Abstract: This article discusses how Deming's 14 points of management commitment apply to a service industry. The organization used is a fictional newspaper publishing company. The importance of a clear statement of purpose is discussed as well as management commitment and process improvement.

WES 1.5 A.D. [Videotape]. (1987). Plymouth, MI: Ford Motor Company. Available from Ford Motor Company, c/o ADISTRA, P.O. Box 1000, Plymouth, MI 48170. Phone: (313) 425-2600, ext. 390.

Key words: Case study, statistical thinking, organizational change, service.

Abstract: This videotape examines Windsor Export Supply 1-1/2 years after Deming's visit. It shows how people at WES feel about change and illustrates that reduced momentum after the improvement effort launch period may be a natural transformation phase.

Wolak, J. (September 1988). Manage the process. Quality, 27, 14-15.

Key words: Implementation, statistical thinking.

Abstract: Wolak describes the improvements in quality that Ford has been able to achieve by viewing work as a process that spans several functional areas rather than by viewing portions of work as the responsibility of single functional areas of the organization.

SECTION X: THE EVOLUTION OF STRATEGIC ACCOUNTING PRACTICES

This group of articles describes the manner in which current systems of accounting distort cost information and preclude accurate strategic decision making for resource allocation, make-or-buy decisions, product costing, and choices of sites for production.

The authors assert that accounting figures are inaccurate because of the manner in which overhead is allocated and because they are driven, in many cases, by financial reporting requirements.

SECTION X: THE EVOLUTION OF STRATEGIC ACCOUNTING PRACTICES

Cooper, R., & Kaplan, R. (1987). How cost accounting systematically distorts product cost. In W. J. Burns, Jr., & R. S. Kaplan (Eds.), Accounting and management: Field study perspectives. Boston: Harvard Business School Press. Available from Harvard Business School Press, Publishing Division, Boston, MA 02163. Phone: (617) 495-6192.

Key words: Accounting.

Abstract: The authors describe why cost accounting practices do not provide information that is accurate and useful for making strategic decisions.

Face-to-face: Accounting critic Robert Kaplan (Interview). (April 1988). Inc., pp. 55, 56, 58-60, 63, 64, 67.

Key words: Accounting.

Abstract: An interview with Harvard accounting professor Robert Kaplan. Kaplan questions the relevance and meaningfulness of accounting numbers used to reflect the financial position of companies and to make strategic decisions such as the determination of production costs and other strategically important variables.

Johnson, T., & Kaplan, R. (1987). Relevance lost: The rise and fall of management accounting. Boston: Harvard Business School Press. Available from Harvard Business School Press, Publishing Division, Boston, MA 02163. Phone: (617) 495-6192.

Key words: Accounting, organizational change, reward systems.

Abstract: The authors argue that management accounting systems are generally 30 years out of date and need radical rethinking. Financial information in companies is still geared to legal requirements of disclosure to shareholders. As a result, information is often too late for effective cost control or irrelevant for cost control and product costing. The current process of allocation of overhead costs distorts costing data and information vital to strategic decisions.

Johnson, T., & Kaplan, R. (January 1987). The rise and fall of management accounting. Management Accounting, 68(1), 22-30.

Key words: Accounting, organizational change, reward systems.

Abstract: Internal accounting systems geared to monthly and quarterly earnings reports produce information that is too late, too aggregated, and too

distorted to be relevant for planning and control decisions. Quarterly financial reports fail to measure the actual increase or decrease in economic value that has occurred during the reporting period.

Kaplan, R. S. (October 1983). Measuring manufacturing performance: A new challenge for managerial accounting research. Accounting Review, 58(4), 686-705.

Key words: Accounting.

Abstract: The authors call for the development of a new, strategic accounting system.

Kaplan, R. (January-February 1988). One cost system isn't enough. Harvard Business Review, 88(1), 61-66.

Key words: Accounting, organizational change.

Abstract: Accounting systems designed to value inventory for financial and tax statements are not giving management the accurate and timely information they need to promote operating efficiencies and measure product costs.

Wurthy, F. (October 12, 1987). Accounting bores you? Wake up. Fortune, pp. 43-48.

Key words: Organizational change, accounting.

Abstract: Methods used by companies to allocate costs among many products are obsolete and often cause companies to make inaccurate make-or-buy decisions as well as to locate plants overseas when domestic production is actually cheaper.

SECTION XI: CHANGES IN THE PROCESS OF STATISTICAL EDUCATION

Joiner describes the use of the scientific method for improvement of the overall educational process. He suggests that curriculum changes are needed for effective teaching of statistical theory and methods and of their proper application.

SECTION XI: CHANGES IN THE PROCESS OF STATISTICAL EDUCATION

Joiner, B. (1989). Learning how to learn faster: The key to improvement and innovation. Presented at the Third Annual International Deming User's Group Conference, Cincinnati, OH. Available from Joiner Associates, Inc., P.O. Box 5445, Madison, WI, 53705. Phone: (608) 238-8134.

Key words: Implementation, education, statistical tools, statistical thinking.

Abstract: Joiner explains the value of the scientific method and the Shewhart cycle in learning about processes in any environment. He describes several statistical tools and the importance of a supportive environment for their effective use.

APPENDIX A

CROSS-REFERENCE GUIDE

CROSS-REFERENCE GUIDE

Although the readings have been classified by the major topics they address, several articles are useful for gaining insight into more than one topic. This cross-reference guide points the reader to those articles that cover multiple subjects.

For more on COMPETITIVE POSITION OF U.S. INDUSTRY, see:
Deming Library, Volume I, in QUALITY PHILOSOPHY
Sanders et al. in QUALITY PHILOSOPHY

For more on QUALITY PHILOSOPHY, see:
Baker (1989) in MANAGEMENT AND LEADERSHIP
Ohio Quality and Productivity Forum in MANAGEMENT AND LEADERSHIP
Deming (1987) in MOTIVATION
Deming (1980) in IMPROVEMENT OF PROCESSES
Houston & Dockstader in IMPROVEMENT OF PROCESSES
Kindlarski in IMPROVEMENT OF PROCESSES
Moen et al. in IMPROVEMENT OF PROCESSES
Juran in IMPLEMENTATION/CASES

For more on ORGANIZATIONAL CHANGE, see:
Berger et al. in U.S. COMPETITIVE POSITION
Mitroff in U.S. COMPETITIVE POSITION
Deming Library, Volume X, in QUALITY PHILOSOPHY
Joiner (all references) in QUALITY PHILOSOPHY
Deming in MANAGEMENT AND LEADERSHIP
Joiner in MANAGEMENT AND LEADERSHIP
Mizuno in IMPROVEMENT OF PROCESSES
Relyea in IMPROVEMENT OF PROCESSES
Johnson in ACCOUNTING
Davies in SUPPLIERS

For more on MANAGEMENT AND LEADERSHIP, see:
Hayes et al. in U.S. COMPETITIVE POSITION
Deming (all references) in QUALITY PHILOSOPHY
Deming Library in QUALITY PHILOSOPHY
Imai in QUALITY PHILOSOPHY
Joiner (all references) in QUALITY PHILOSOPHY
Juran on quality improvement [Videotape] in QUALITY PHILOSOPHY
McConnel in QUALITY PHILOSOPHY
Tribus in QUALITY PHILOSOPHY
Deming User's Manual in MOTIVATION
Tveite in MOTIVATION
Juran in IMPLEMENTATION/CASES
Loubert in IMPLEMENTATION/CASES
Scholtes & Hacquebord in IMPLEMENTATION/CASES

For more information on IMPROVEMENT OF ORGANIZATIONAL PROCESSES: THEORY, TOOLS, AND APPLICATION, see:
Deming (all references) in QUALITY PHILOSOPHY
Deming Library, Volume VII, in QUALITY PHILOSOPHY

Imai in QUALITY PHILOSOPHY
Jessup in QUALITY PHILOSOPHY
Joiner (all references) in QUALITY PHILOSOPHY
Juran on quality improvement [Videotape] in QUALITY PHILOSOPHY
McConnel in QUALITY PHILOSOPHY
Sanders et al. in QUALITY PHILOSOPHY
Tribus in QUALITY PHILOSOPHY
Deming in MANAGEMENT AND LEADERSHIP
Joiner in MANAGEMENT AND LEADERSHIP
Deming in MOTIVATION
Tveite in MOTIVATION
Hermann & Baker in TEAMWORK
Backaitis in SUPPLIERS
Ohio Quality and Productivity Forum in SUPPLIERS
Baker (1987) in IMPLEMENTATION/CASES
Delatore et al. in IMPLEMENTATION/CASES
McDaniel & Doherty in IMPLEMENTATION/CASES
Nash in IMPLEMENTATION/CASES
McCabe in IMPLEMENTATION/CASES
Scholtes et al. in IMPLEMENTATION/CASES
Joiner in EDUCATION

For more information on THE EFFECT OF REWARD SYSTEMS ON BEHAVIOR AND MOTIVATION, see:
Deming (all references) in QUALITY PHILOSOPHY

For more information on TEAMWORK AND QUALITY CIRCLES, see:
Baker in QUALITY PHILOSOPHY
Deming (all references) in QUALITY PHILOSOPHY
Deming Library, Volume XI, in QUALITY PHILOSOPHY
Backaitis in SUPPLIERS
Carlisle & Parker in SUPPLIERS
Ohio Quality and Productivity Forum in SUPPLIERS
McCabe in IMPLEMENTATION/CASES
Monroe #1 Stabilizer in IMPROVEMENT OF PROCESSES

For more information on CUSTOMER-SUPPLIER RELATIONSHIP, see:
Deming (all references) in QUALITY PHILOSOPHY
Deming Library, Volume XII, in QUALITY PHILOSOPHY
Imai in QUALITY PHILOSOPHY
Scherkenbach in QUALITY PHILOSOPHY

For more information on IMPLEMENTATION EFFORTS AND CASE HISTORIES, see:
Berger et al. in U.S. COMPETITIVE POSITION
Skinner in U.S. COMPETITIVE POSITION
Deming (all references) in QUALITY PHILOSOPHY
Deming Library, Volumes IV-VI, in QUALITY PHILOSOPHY
Sanders et al. in QUALITY PHILOSOPHY
Metz in ORGANIZATIONAL CHANGE

Moen et al. in IMPROVEMENT OF PROCESSES
Monroe #1 Stabilizer in IMPROVEMENT OF PROCESSES
Nelson in MOTIVATION
Lawler & Mohrman in TEAMWORK
Piczak in TEAMWORK
Tsuda & Tribus in TEAMWORK
Holt in SUPPLIERS

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Defense Technical Information Center (2)