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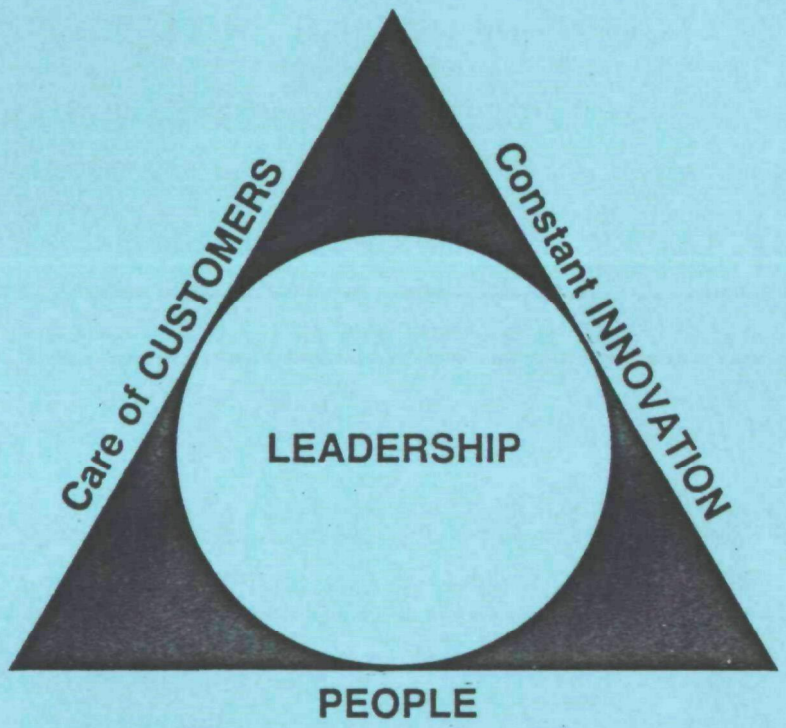
Selected Management Articles

Project Management



Project Management

JUNE 1990

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Project Management

INTRODUCTION

Effective project management is one of the most important components for successfully completing projects on schedule and within budget. Project management involves a coordinated effort that takes into account the project's scope, cost, manpower, schedule, resource requirements and strategic impacts.

This bibliography, **Project Management**, was developed for EPA managers and staff for use in understanding and implementing project management. Citations with descriptive abstracts identifying journal articles and books are grouped under the following topics: Project Management in the Public Sector, Project Planning, Project Management Techniques, Project Management Skills, Environmental Project Management, Project Management Software and Project Management Readings: Management Books.

Citations were selected for their relevance to the special interests of EPA staff. This bibliography was compiled using the following databases, accessed through DIALOG, a commercial database vendor: ABI/INFORM, Management Contents, NTIS, Pollution Abstracts, Compendex and Library and Information Abstracts. The source of each citation is indicated following the abstract.

Other EPA Headquarters Library Management Bibliographies are listed at the back of this bibliography. For additional management information services, contact Anne Twitchell, Head Reference Librarian, EPA Headquarters Library, 382-5922, or E-mail address A.TWITCHELL.

I. PROJECT MANAGEMENT IN THE PUBLIC SECTOR

MIS in the Federal Government: The Debate Over Project Proportion
Robins, Gary
Computerworld v23 n9 pp.87-92 March 6, 1989

In the grand design approach to projects, a government entity undertakes a complex project and attempts to combine all requirements into a single procurement. As the General Services Administration (GSA) points out in a report released in September 1988, many problems exist with this approach. The GSA's Francis McDonough feels few grand design projects are successful based on what he considers 3 fair measures: 1. whether they come in on time, 2. whether they accomplish stated goals, and 3. whether they come in at budget. The GSA recommends a more modular and incremental approach, so that original requirements can be improved through feedback based on experience. The US Patent and Trademark Office's Tom Giammo points to some problems with the approach, including substantial pressure from the US government to use the grand design method. The Department of Commerce's Lee Mercer, who has used both the grand design and a more modular approach, says the grand design approach forces users to wait for years for results. Graphs. (ABI/INFORM)

Systems Project Management: A Case Study at the IRS
Kerzner, Harold
Journal of Systems Management v40 n1 pp.7-9 January 1989

Over the past 12 months, the achievements of the US Internal Revenue Service's (IRS) Information Systems Development (ISD) have exceeded those that took several industrial corporations 5 years or more to accomplish. The IRS' ongoing commitment to quality is the basis of its commitment to excellence in project management. This commitment to excellence has resulted in a redefinition of "success," which now includes 3 agency variables: scope changes, culture, and work flow. Since the IRS implemented the project management philosophy without restructuring, the line managers within ISD provide the necessary commitments for project success, and organizations outside ISD cooperate quite readily during integration activities. At the IRS, executive support at the assistant commissioner levels is visible. Assistant commissioners are project sponsors for more than one project at a time. A policy and procedure manual, known as a "Project Management Guide," was developed. It is comprehensive, covering all generic aspects of a project, all life cycle phases, and the expected roles of the participants. Charts. (ABI/INFORM)

Issues in NASA Program and Project Management
Hoban, F. T.
National Aeronautics and Space Administration, 1989 57p.
(Report No. NASA-SP-6101(02))

This new collection of papers on aerospace management issues contains a history of NASA program and project management, some lessons learned in the areas of management and budget from the Space Shuttle Program, an analysis of tools needed to keep large multilayer programs organized and on track, and an update of resources for NASA managers. A wide variety of opinions and techniques are presented. (NTIS)

Megaproject Management Tool
Fairweather, Virginia
Civil Engineering v58 n5 pp.72-74 May 1988

Public agencies of all sizes are hiring outside firms as program managers (PM) to help expedite large construction projects. For example, the City of Los Angeles has hired the firm, James M. Montgomery (JMM), as PM for a $2.3-billion, 10-year capital improvement program. This approach freed city designers to do design work while the PM worked on: 1. grants, 2. finance, 3. advanced planning, 4. environmental documentation, and 5. general project coordination. Gerard Schwartz of PM firm Sverdrup Corp. says that PMs can make maximum use of local talent by giving construction work to local firms and contractors. Many public agencies see this as an advantage. The City of Milwaukee hired the firm, CH2MHill, as PM for a $2-billion sewage treatment upgrade program. The job is on schedule and on budget. The PM approach was chosen because hiring similar experts using normal civil service procedures would have taken too long. (ABI/INFORM)

Project Management in a Federal Research and Development Laboratory: An Application of the Elusive Budgeted Cost of Work Performed
Oldham, Connisue B.; Ripberger, Carl T.; Cook, Judith E.
Project Management Journal v17 n4 pp.79-86 September 1986

A project management system (PMS) used in a federal research and development laboratory for 8 years was described as a real-life application of concepts referred to in project management articles. The laboratory's PMS included the management processes of planning and control with responsibilities split between the project officer and the contractor. The project was divided into 3 phases: 1. initial implementation, 2. manual revision, discontinuation of computer reports, and 3. reintroduction of PMS. After 8 years of experience, certain conclusions concerning the PMS were reached: 1. A carefully constructed Work Breakdown

Structure is necessary. 2. Budgeted Cost of Work Performed will be reported correctly by contractors only if the feedback system is reinforced strongly. 3. The key individual is the one who evaluates the project officer's performance. 4. Top management can develop management tools, but it can only enforce their use indirectly. Graphs. Equations. Diagrams. References.
(ABI/INFORM)

Financial Analysis of Military Capital Projects
Friedlob, George Thomas; Bryan, Edward Lewis
Project Management Journal v17 n2 pp.61-64 June 1986

Using examples, the 2 discounted cash flow models that are most applicable to decisions regarding the public sector capital projects are examined: 1. the net present value method, and 2. the equivalent annual charge method. Public sector project analysis differs from its private sector counterpart in that the public sector lacks an easily quantifiable measure of output. The main decision criterion in public sector projects may be that of minimizing the project costs rather than maximizing the difference between inflow and outflows. Capital costs may be divided into 5 types of cash flows: 1. research and development, 2. acquisition costs, 3. nonrecurring start-up costs, 4. recurring costs, and 5. termination values. Project life may be measured as useful life, physical life, or technological life. Analysis also is complicated by the changing value of money over time. The longer the time interval between project analysis and the expected incurrence of a project cost, the less the certainty that can be attached to any estimate. Tables. Equations.
(ABI/INFORM)

II. PROJECT PLANNING

Master Project Planning: Scope, Time and Cost
Prentis, Eric L.
Project Management Journal v20 n1 pp.24-30 March 1989

An important necessity for achieving project management goals is the development of a timely, realistic, and useful master project plan (MPP) that incorporates the project's scope, cost, activity networking logic, resource requirements, and resource availability. The 7 steps in the creation of a realistic MPP for any industry are: 1. Define the overall project objectives in a statement of work. 2. Divide the project into manageable components with a work breakdown structure. 3. Conceptually design and plan the project. 4. Develop a budget estimate. 5. Use a network diagram to identify what tasks must be performed and their logical relation so that cause and effect may be analyzed. 6. Allocate resources. 7. Consider additional (usually lower ranking) project priorities. Charts. References. (ABI/INFORM)

Uncertainty of a Research and Development Project
Manglik, P. C.; Tripathy, Arabinda
Project Management Journal v19 n5 pp.9-12 November 1988

Uncertainties exist throughout research and development (R&D) projects because they do not conform to a well-defined industry, their technology changes rapidly, and their products are nonstandard. There are 2 categories of uncertainties time estimates and technological factors. The confidence level to achieve success varies between activities in R&D projects. A work breakdown structure (WBS) defines the R&D project in detail, classifying systems, subsystems, and tasks within each subsystem. A confidence level, defined on a 5-point scale, should be assigned to each activity at the lowest level as described in the WBS. The confidence level should be adjusted by a factor based on the timing of the activity to arrive at a modified confidence level at a point of time for an uncertain activity. The probability of the project's completion is based on the completion of all its systems, which is based on the subsystem's completion. Tables. Equations. Diagrams. References. (ABI/INFORM)

Effective Project Management
Owens, Thomas
Small Business Reports v13 n9 pp.45-52 November 1988

Project management begins with carefully defining the assignment

to be undertaken and developing a project statement that focuses on the organizational objective. Then, the project team is appointed, beginning with the project manager, who becomes responsible for creating and implementing the project plan. The project plan includes tasks, activities, milestones, and paths. The Critical Path Method (CPM) is a modeling tool that clearly illustrates important elements of a special project plan. CPM focuses attention on key aspects of the project. It assists managers in setting time and cost limits and planning the most efficient use of material, financial, and human resources. Computer software can be used to construct computer models for CPM and other planning systems. A final requirement is a monitoring and control system that helps ensure that projects remain on schedule and within budget. Charts. Diagrams. References. (ABI/INFORM)

Establishing a Project Management Methodology
Stanley, Frank J.
Journal of Information Systems Management v5 n4 pp.15-24
Fall 1988

With advances in computer technology and broadening development efforts, the information system development process is becoming increasingly complex. In order to maintain control and ensure project completion within schedule and budget, sound project management methodology is required. Systems development should begin with a clear definition of objectives and timing, among other planning requirements. Predefined goals and responsibilities of staff members as well as preplanned problem-solving techniques can expedite and improve project results. Identifying and prioritizing tasks, organizing and ensuring the availability of resources, and plotting the path to completion are essential functions of effective project management. Communication is equally important. Reporting mechanisms to track progress, periodic review meetings, and acceptance procedures for the end product should be determined at the outset. Constant review and methodology refinement can yield improved results with each project. Charts. Diagrams. (ABI/INFORM)

The Search for Perfect Project Management
Phan, Dien; Vogel, Douglas; Nunamaker, Jay
Computerworld v22 n39 pp.95-100 September 26, 1988

A recent survey of management information systems (MIS) professionals by the University of Arizona's MIS department addressed a variety of concerns. Respondents generally reported they spend too little time in early activities such as feasibility studies and planning and too much time in design, system development, debugging, and quality assurance. The respondents reported that their project goals and objectives are

frequently better defined than are problems and opportunities or the environmental interface of their software projects. However, nearly 3/4 of the respondents believe user requirements and expectations are always or usually met. Only 16.5% rarely or never have cost overruns on their software projects, while only 17.5% rarely or never experience late delivery of products. Overall, the survey respondents do not feel they are particularly effective in their use of software project management techniques and tools. Graphs. (ABI/INFORM)

The Management of Development Projects
Bowers, G. H., Jr.
International Journal of Technology Management (Switzerland)
v3 n6 pp.675-684 1988

A methodology for the management of development projects known as the Project Development Cycle--can be used to monitor the process of technical endeavors of any magnitude. This methodology provides management with a well-defined tool to assess design integrity, technical process, ease of manufacturing, and product competitiveness. The process establishes 5 phases common to all development projects: 1. the proposal, 2. detailed definition, 3. proven feasibility, 4. qualification, and 5. production. The comprehensive development plan (CDP), which is the central file for the development project, delineates the scope of the project, describes the end-product, shows the project schedule, and lists the resources needed to accomplish project goals. Effective use of the CDP necessitates much time, cooperation, and discipline, but its use will aid in maximizing success. The semiconductor industry can be used to illustrate the value and flexibility of this approach to technology management. Tables. References. (ABI/INFORM)

Project Management: Setting Controls.
Aptman, Leonard H.
Management Solutions v31 p.31(3) November 1986

Managing and controlling a business project depends upon the establishment of and adherence to six project standards: (1) deadlines for accomplishing phases of the work, (2) cost standards, (3) technical standards,(4) professional and ethical behavior standards, (5) standards of cash flow and other budgetary considerations, and (6) administrative standards. To ensure adherence to these standards, managers should conduct operational audits that measure the performance of employees and the project's progress toward its goals. Based upon such auditing procedures, managers can take effective actions to ensure that small problems detected early in the project work do not become larger and prevent the project from achieving its goals. (Management Contents)

III. PROJECT MANAGEMENT TECHNIQUES

Managing Projects Effectively: It's No Easy Task
Caldwell, Tom
Computing Canada (Canada) v16 n2 pp.30-31 January 18, 1990

In many cases, poor project management is the reason why projects fail. Effective project management is one of the most important components for completing projects on schedule and within budget. A systems development project is the same as any other project in that it requires project management. Some of the techniques that should be employed to ensure effective project management are: 1. the project plan, including accurate and complete estimates, 2. tasks designed with the "80-hour rule," 3. project milestones, 4. management against the project plan, and 5. post-implementation reviews. Through the application of these few simple techniques, project managers will be able to vastly increase the likelihood of successful project completion on time and within budget. (ABI/INFORM)

Strategic Issues in Project Management
Cleland, David I.
Project Management Journal v20 n1 pp.31-39 March 1989

Successful project management requires an awareness and management of the strategic issues that face the project during its life cycle. The nuclear plant construction industry is used to demonstrate the concept of strategic issues as applied to a particular industry. A project with as long a life cycle as a nuclear power generating plant is affected by many strategic issues, including licensability, power costs, nuclear fuel reprocessing, capital investment, advocacy, and safeguards. Since a strategic issue is inseparable from a project, such an issue should be treated as a project work package with someone in charge who, working with the project team, develops a plan for successfully coping with the strategic issue. The 4 basic steps for dealing with a project's strategic issues are: 1. issue identification, 2. assessment of the relevance of the issue, 3. analysis of action, and 4. implementation of action. Charts. References. Tables. (ABI/INFORM)

Systems Approach to Project Management
Medley, Larry G., Sr.
AACE Transactions pp.E.1.1-E.1.10 1989

In 1979, Union Carbide Corp.'s Nuclear Division (UCC-ND) operated 4 facilities for the US Department of Energy Oak Ridge Operations. At that time, UCC-ND's engineering management decided to develop a common framework for understanding the project management process. Systems methodology was chosen as the means for analyzing and integrating activities. The application resulted in the creation of a model that served as the desired framework. The model took the form of a 2-dimensional flow diagram, with the project cycle represented along the primary (horizontal) axis and the project participants along the secondary (vertical) axis. The detailed project activities were then placed within the model. The benefits of the system are that it: 1. provides a common framework for understanding project management, 2. facilitates the evaluation and implementation of changes, 3. assures the compatibility and completeness of procedures, 4. identifies the need for additional reference materials, 5. enhances the use of management tools, and 6. aids in a smooth transition for operating contractors. Tables. Charts. Graphs. References. (ABI/INFORM)

Management Change in the Project Environment
Martin, M. Dean; Owens, Stephen D.
AACE Transactions pp.P.6.1-P.6.7 1988

Stimuli of change in a project may come from a source that is external or internal to the project. External stimuli can stem from factors that are political, economic, social, technological, ecological, or international. These stimuli are basically beyond the project manager's control, although early detection may provide an opportunity to influence their final form. Internal stimuli can stem from people, philosophy, processes, or policy. These stimuli are not completely controllable, but they can be influenced more than external stimuli can. The key to dealing with stimuli is to detect the need for change, which is best accomplished during strategic planning. Resistance to change is common and can be dealt with by: 1. evaluating the organizational climate, 2. using the work group as an agent of change, 3. keeping employees informed, 4. seeking employee participation, 5. considering the timing of the change, 6. using managerial appraisal, and 7. practicing transition management. Charts. References. (ABI/INFORM)

Towards Excellence in Project Management
Hetland, Per Willy
AACE Transactions pp.P.1.1-P.1.4 1988

Two strategies must be considered if a project is to finish with an optimal facility. The first is to find the combination of technical concept and corresponding execution plan that results in the most profitable facility. The 2nd is to implement the project according to the execution philosophy and the schedule, within the budget in the execution plan. Concept optimization focuses on the optimum concept after evaluating broad concepts. Project execution planning seeks to find the most effective way of executing the project. Project definition describes and documents the concept so execution work can begin. Performance indicators and standards and performance measurement and control ensure that the work is carried out properly and on schedule. Organization philosophies, management style, and physical environment have an influence on the satisfaction of each project member. A small investment in motivational efforts might have great payoffs in terms of effective project work. Equations. (ABI/INFORM)

"Bottom Line" Project Management
Hamburger, David H.
AACE Transactions pp.O.3.1-O.3.9 1988

A project manager can affect a profit and loss (P&L) statement by: 1. performing design evaluations and trade-off studies, 2. controlling the use of safety factors, 3. controlling work execution, 4. managing the contingency budget, 5. preventing contingency misuse, 6. managing the procurement cycle, 7. having complete procurement data, 8. improving procurement performance, 9. controlling project changes, and 10. anticipating inflation effects. Interest expense can be reduced by: 1. timing purchase order placement, 2. considering the cost of vendor financing, 3. seeking favorable progress payment terms, 4. expediting invoicing, 5. pursuing retention reductions and timely project completion, and 6. managing the schedule to ensure early payback. Tax expense and profit can be affected by: 1. using percentage of completion revenue recognition practices, 2. preventing percentage of completion revenue recognition abuses, 3. ensuring timely receipt of investment tax credits, 4. supporting corporate P&L management, and 5. avoiding premature revenue accrual. Tables. Graphs. References. (ABI/INFORM)

Balancing Strategy and Tactics in Project Implementation
Slevin, Dennis P.; Pinto, Jeffrey K.
Sloan Management Review v29 p.33(9) Fall 1987

It is the rare project manager who is a brilliant strategist and a skilled tactician, but to manage projects successfully, both capabilities must be brought to bear. The authors propose ten critical success factors for projects, break them down into strategic and tactical subgroups, and place that model in a project-life-cycle framework. They discuss what problems are likely to occur if a project is well formulated strategically but mishandled tactically, or well executed but poorly conceived. (Management Contents)

Ideas to Action: A Project Blueprint
Hahn, Ron D.
Personnel Journal v66 p.66(12) February 1987

Century Companies of America, a financial services company, has devised a seven-phase blueprint for managing special projects. The seven phases of project management are: conceptualization; feasibility analysis; detailed project planning; development and construction; implementation; post-project implementation review; and sign-off. The steps required to complete each phase of the project are described. (Management Contents)

Effective Technical Project Reviews: Challenges in Communication
Thamhain, Hans J.
1987 IEEE Conference on Management and Technology -Proceedings. Management of Evolving Systems, Atlanta, GA, October 27-30, 1987 p.241 1987

Summary form only given. The author examines the various barriers to and drivers toward effective project tracking and self-forcing project control. He discusses the role of project reviews in this process, including specific suggestions of how to improve project status assessments, measurability of milestones, communications among team members, and commitment to agreed-on results. The discussion is based on a field study of 150 engineering managers and their project teams in mostly high-technology work environments. (Compendex)

Keys to Successful Project Management
Fleming, Mary M. K.
CMA the Management Accounting Magazine v60 p.58(4) November-December 1986

Proper scheduling of industrial projects and special business

projects can reduce costs by minimizing the time required for project completion. Methods of budgeting project time are discussed, including network and float diagram preparation and scheduling models. These project time management methods are also related to project quality control, budgeting procedures, and project progress assessments. To reduce the costs associated with project management itself, managerial accountants should consider: requiring progress reports only as projects fail to proceed as planned (known as exception reporting), classifying projects by risk in terms of dollar size and assigning management procedures according to these classifications, avoiding discipline of project directors for failures beyond their control, and staffing projects with employees who are self-motivated, resourceful, cooperative, and communicative. (Management Contents)

Avoid the Pitfalls of Implementing a System
Rossman, Russell J., Jr.
The Office v104 p.35(2) October 1986

Realistic goal-setting and the breaking down of projects into achievable tasks can greatly facilitate a data processing, word processing or record storage and retrieval system implementation. Implementation guidelines include: do not be ignorant of the system; allow ample time for implementation; use a chart to break the system down into components; identify the system's goals; be certain of understandings with the supplier; understand the system's capabilities; utilize good planning; and get user support prior to implementation. (Management Contents)

Why Projects Fail: The Effects of Ignoring the Obvious
Hughes, Michael William
Industrial Engineering v18 p.14(4) April 1986

The majority of project failures occur because certain basic principles of management were ignored. Reasons for project failures include: improper focus of the project management system, fixation on first estimates, either too much or too little detail in scheduling, attempting to take on too large a project too quickly, overstaffing, lack of communication of goals, and rewarding the wrong actions. Successful project management requires authentic communication among all levels of the organization. Principles which should be adhered to in order to achieve successful project management are detailed. (Management Contents)

IV. PROJECT MANAGEMENT SKILLS

10 Ways to Make Sure Your Projects Succeed
Woodard, William A.; Miller, Pamela
Working Woman v13 n12 pp.92-93,122 December 1988

Being placed in charge of a project offers an individual a chance to show mastery of the essence of a manager's job organizing people and resources to accomplish an objective. Ten suggestions will be of assistance to the person in charge in making the project a success: 1. Choose quality over quantity in assembling the project team. 2. Select the best equipment for the client, not just the job. 3. Establish client contact early. 4. Keep the project visible by letting the client know of progress. 5. Be on the line for some of the work so staff will consider the one in charge as more a part of the team. 6. Remove productivity obstacles. 7. Protect the project from personal weaknesses by deferring to the experts on the team in their respective area. 8. Do not let the team's deficiencies detract from its strong points. 9. Reidentify goals at all project reviews. 10. Keep the company's support. (ABI/INFORM)

The Project Manager: An Emerging Professional
Carter, Norman
Journal of Information Systems Management v5 n4 pp.8-14 Fall 1988

In information systems (IS) departments, project managers are faced with increasingly complex tasks which require more than a single set of management skills. In addition to technical knowledge, 2 types of management are needed: 1. line management (horizontal) to maximize production and quality, and 2. project management (vertical) to handle activities with a defined time period. Combining aspects of both results in a "T-manager" position, where differences in management skills, all of which are essential to today's IS projects, are recognized and utilized. Training to give managers a more total view of the many facets of their projects should simulate the real work environment and involve managers from outside the project. Several key steps should be followed to determine the appropriate level of training: 1. Define the project manager's position according to company needs. 2. Review existing training programs. 3. Create a plan to remove deficiencies using in-house, on-the-job, abnd outside help in training. 4. Plan time for development during projects. 5. Report accomplishments. Tables. Diagrams. (ABI/INFORM)

What Every Manager Needs to Know about Project Management
Randolph, W. Alan; Posner, Barry Z.
Sloan Management Review v29 p.65(9) Summer 1988

This paper offers ten commonsense principles that will help project managers define goals, establish checkpoints, schedules, and resource requirements, motivate and empower team members, facilitate communication, and manage conflict. (Management Contents)

Leadership and Influence: The Challenge of Project Management
Kezsbom, Deborah S.
AACE Transactions pp.I.2.1-I.2.4 1988

The degree of leadership and influence that a project manager has over the people involved in a project will affect the project's success significantly. The most important qualities of a project manager are those needed for working with and through other people. A project climate high in motivation and performance can be created by: 1. concern for project team members, 2. the ability to integrate the personal objectives and needs of project team members into the project goals, and 3. the ability to create enthusiasm for the project itself. Successful project managers must be aware of their sources of power and influence as they operate across multiple chains of command and amid conflicting priorities. They must: 1. respect the concerns and perspectives of others, 2. encourage views different from their own, and 3. be trustworthy. A key to effective project leadership is developing the ability to assess the needs of followers and behave accordingly. Be establishing internal and external relationships, project managers can enhance their authority and their power. References. (ABI/INFORM)

Achieving Project Goals in Contrasting Environments: The Value of a Strong Management Philosophy
Bradshaw, George B.; Derrickson, William B.
ASME Management Symposium 1988. Presented at the Eleventh Annual Energy-Sources Technology Conference and Exhibition, New Orleans, LA, January 10-13, 1988 pp.95-104 1988

This paper focuses on management principles that have been used successfully on two major nuclear construction projects to reach defined goals. On both projects the Project Manager (PM) directed efforts to develop a firm schedule, advertised his intentions that it would be achieved, and overcame numerous obstacles to project completion. He prevailed utilizing the principles described herein. These principles are generally applicable to any undertaking especially large complex projects. This paper

provides some useful approaches for managers, faced with challenges and associated decisions and choices, required to carry out their task of managing a large project. (Compendex)

Training the Engineer as Project Manager: How to Turn Technical Types into Top-notch Project Managers
Thornberry, Neal E.
Training & Development Journal v41 p.60(3) October 1987

The skills and talents needed by project managers are almost opposite to those for which engineers are typically rewarded. Engineers are supposed to be experts in specific areas, while project managers are expected to demonstrate a broad, cross-functional perspective. A 1983 study of 110 project managers and supervisors in high-technology firms in the Northeast found that interpersonal skills are often the difference between success and failure among project managers, but that there is often a lack of management support and transition training for these individuals. Suggestions are offered for project manager selection procedures, realistic job previews, skills-based training, and engineer assessment. (Management Contents)

Management Training for a Technical Population
Katz, Sally N.; Rosen, Leslie S.
Training & Development Journal v41 p.71(3) October 1987

Bell Communications Research Inc (Piscataway, NJ) used a specialized needs assessment to help technical staff develop into good managers. The target population consisted largely of people who had successfully managed complicated projects but who had almost no supervisory experience. The needs assessment included interviews with 41 key managers, and a later sampling of 432 mid-level managers company-wide. Surveys comprised the second phase of the needs assessment, with responses obtained from 293 managers. A third curriculum design phase followed, which resulted in two programs: an off-site workshop on managing professional people and a performance appraisal component. (Management Contents)

Effective Project Leadership in the Matrix Project Environment
Kezsbom, Deborah S.
1987 IEEE Conference on Management and Technology -Proceedings. Management of Evolving Systems, Atlanta, GA, October 27-30, 1987 pp.249-252 1987

Leadership within a project matrix is examined and a variety of techniques and mechanisms by which project managers can succeed in this type of environment are explored. The author argues that simply appointing a professional with technical expertise to a

project manager role is not enough. Achieving a unity of effort within the matrix project structure requires a firm appreciation of the problems and diverse needs facing the project team, and an ability to create enthusiasm and commitment for the work itself. This ability evolves from a clear understanding of the nature of project leadership and the identification and development of a variety of influence and power bases. (Compendex)

Addressing Behavioral and Leadership Issues to Improve Project Management

Annett, P. L.; Wetherbe, J. C.
Information Strategy v2 n3 pp.26-31 Spring 1986

This article discusses characteristics of a successful project team in relation to information systems project management. A team-building model is provided. Leadership styles and necessary attitudes and skills of an effective team leader are also discussed. (Library and Information Science Abstracts)

V. ENVIRONMENTAL PROJECT MANAGEMENT

Enforcement Project Management Handbook
Environmental Protection Agency, Washington, DC. Office of Solid Waste and Emergency Response, July 1989 508p. (OSWER Directive no. 9837.2)

The publication is a basic reference and training manual to assist EPA Superfund field personnel (Remedial Project Managers and On Scene Coordinators) in planning, negotiating and managing potentially responsible party (PRP) searches and PRP-lead actions at Superfund sites. It provides an overview of each phase of the Superfund enforcement process and discusses specific roles and responsibilities of the RPM/OSC in the process. (NTIS)

Accuracy of Hazardous Waste Project Estimates
Hackney, John W.
Transactions of the American Association of Cost Engineers. pp.O.1.1-O.1.12 1989

The HAZRATE system has been developed to appraise the current state of definition of hazardous waste remedial projects. This is shown to have a high degree of correlation to the financial risk of such projects. The method employs a weighted checklist indicating the current degree of definition of some 150 significant project elements. It is based on the author's experience with a similar system for establishing the risk characteristics of process plant projects. Definition ratings for 15 hazardous waste remedial projects have been correlated with the excesses of their actual costs over their base estimates, excluding any allowances for contingencies. Equations are presented, based on this study, for computation of the contingency allowance needed and estimate accuracy possible at a given stage of project development. (Compendex)

Public Involvement, Conflict Management: Means to EQ and Social Objectives
Delli Priscoli, Jerome
Journal of Water Resources Planning and Management v115 n1 pp.31-42 January 1989

More and more of the water professionals' analytical work depends on people-oriented techniques either to relate their activities to outside interests or to build better internal team relationships. Frequently, the major problems that engineers and scientists face are not technical. They are problems of reaching agreement on facts, alternatives, or solutions. Public

involvement and conflict management techniques are keys to servicing such needs. After briefly describing public involvement and conflict mangement techniques, seven observations on why incorporating social and environmental objectives into water resources planning and management require these process techniques are presented. (Compendex)

Planning Ground Water Monitoring Field Projects
Lister, K. H.
Ground Water Monitoring Review v9 n3 pp. 101-111 1989

Project organization problems are not uncommon in ground water monitoring projects, particularly those which occur at sites remote from the office. Successful project management depends on coordination of the personnel, supplies, and equipment necessary to carry out each phase of the project. Procedures for planning and organizing field projects involving well installation, ground water sampling, and aquifer testing are outlined. Methods are suggested that will aid the Project Manager in planning and scheduling field work to make efficient use of personnel and material resources. Cautions are given regarding common pitfalls of projects involving operations at remote sites, and means of avoidance are enumerated. A checklist of commonly use field equipment and supplies is provided. (Pollution Abstracts)

Construction Management Keeps Costs Contained
Anonymous
Water Engineering & Management v135 n6 pp.31,40 June 1988

Under Environmental Protection Agency (EPA) guidelines, the city of San Diego, California, began a renovation, retrofit, and expansion of the Point Loma Wastewater Plant in 1981. For the project which cost about $35 million and took more than 3 years to complete, the city hired Heery Program Management in a joint venture with Brown and Caldwell to provide Step 3 construction management (CM) services. This CM team began work during the end of the design phase and performed the following functions: 1. assisted in managing the bid-award process, 2. managed all construction contracts, 3. provided quality control and the stringent construction inspections required by the EPA, and 4. verified progress payments to contractors, paying only when a segment of work had been satisfactorily completed. The CM team also reviewed change orders and made sure that the changes were necessary and that price and time extensions were in line with what the owner was receiving in return. (ABI/INFORM)

Managing Institutional Development Projects: Water and Sanitation Sector

Edwards, D. B.

Agency for International Development, Washington, DC. Office of Health, May 1988 67p. (Report No. AID-PN-AAZ-920)

Developing and managing institutional improvement projects in the water and sanitation sector is a difficult process. There are few successful models to draw from and almost no documentation of practical lessons learned. The drawing to a close of the United Nations International Drinking Water Supply and Sanitation Decade provides the opportunity to gather together some of these lessons from experience and make them available for those who are managing or thinking about creating institutional development projects. The focus of the manual is primarily on practical project management. A well-designed project sets the stage for successful implementation, but many projects fail during the implementation stage no matter how well-considered the project design. These guidelines are provided to help those implementing institution-strengthening projects. Guidance is also presented for linking project design with implementation. Some implementation problems are a legacy from the design stage. This is particularly true in areas where the design process has not included important individuals who will carry out the project or who are significantly affected by changes which the project seeks to make. The primary target of an institutional development project is the institution itself. The secondary target is the beneficiaries that the institution serves. (NTIS)

Project Control to Meet Project Change

Beyer, Mark W.

AACE Transactions pp.P.5.1-P.5.7 1988

The experiences of the Milwaukee Water Pollution Abatement Program (MWPAP) of the Milwaukee Metropolitan Sewerage District (MMSD) are used to show how project control can adapt to meet project change. A program management office (PMO) coordinates all planning, design construction, and start-up activities related to the MWPAP. The PMO's management structure is revised almost annually, with the organizational shifts occasionally being quite complex. The ability to be modified is a necessary characteristic of the organizational structure. Other aids in meeting change include a broad-based management information system structure and reporting formats that can change to fit conditions. The MMSD's need for accurate short-term cash flow forecasting has led the PMO to design and implement an integrated cost and schedule system. Projected cash flow is based upon the type of project and whether the work is active or future. The MWPAP should be substantially complete in 1992, and some of its projects will continue until 1996. Charts. Graphs. References. (ABI/INFORM)

Managing Waste-to-Energy: The Operators' Perspective
Brunner, Kenneth C.
World Wastes v30 n6 June 1987 p.32,34

This is Part I of a six-part series describing the components of a successful waste-to-energy project from the operator's viewpoint. In the new world of the 'waste-to-energy process,' the most forgotten ingredient is operator involvement. The first item that an experienced operator brings to the project team is that of attitude. The operator, has a 'total picture' before looking at the operation. The plant manager will always look for reduced speed. Slower speed reduces wear, creates less dust and operates on lower energy costs. Reduced speed means lower horsepower, and lower horsepower gives the project lower capital cost and lower operating cost. The plant manager also must determine if the material is being handled or worked in the process. These and other aspects of the subject are discussed. (Compendex)

Estuarine Rehabilitation a Management Perspective
Snyder, Robert M.; Landrum, Fred R.
Coastal Zone '87, Proceedings of the Fifth Symposium on Coastal and Ocean Management, Seattle, WA, May 26-29, 1987 pp.251-266

This paper discusses a proposed methodology consistent with proven management techniques that is derived, in part, by a critical analysis of currently published techniques and approaches. While there is considerable competent technical and scientific review in the permitting process, decisions are often made by non-technical officials that are not always immune to political pressures, especially when the project review lacks cogency. Successful management requires continuity, consistency and currency. The authors hope to begin a dialog that will lead to better management techniques for an important and changeable resource. (Compendex)

Environmental Management Model for the Upper Nile Lake System
Jorgensen, S. E.; Kamp-Nielsen, Lars; Jorgensen, Leif; Mejer, Henning F.
International Journal of Water Resources Development v3 n2 pp.142-147 1987

This paper presents an ecological model which provides detailed and accurate information about the important variables governing water quality in the Upper Nile basin. Four management issues urbanization, copper mining, the use of DDT and increased fishing activity are explored using the model. (Compendex)

VI. PROJECT MANAGEMENT SOFTWARE

Marshal Your Resources with Project Management Software
Miller, Robert
Today's Office v24 n8 pp.22-25 January 1990

The purchase of project management software typically is justified when it is necessary to: 1. supervise one or more projects, 2. report in detail on the status of projects, 3. juggle resources among conflicting priorities, and 4. review budget projections against actual events. Most project management software programs fall into one of 2 categories: high-end programs designed for use by project management personnel and low-end, business-oriented packages aimed at supervisors and midlevel managers. While an abundance of worthwhile packages are available, there are few standards or dominant products in this market. Suggestions for finding the most suitable package include: 1. Determine whether the projects have special requirements. 2. Test packages under consideration. 3. Look for a package that suits the computing environment. 4. Choose a package that offers comfortable interface and understandable language and produces needed reports with a minimum of redesign. 5. Ask about available training and vendor support. (ABI/INFORM)

Using Project Management Software in Planning
Page, G. William
Journal of the American Planning Association v55 p.494(6)
Autumn 1989

This article reviews the techniques of project management, including Gantt charts, the program evaluation and review technique (PERT), and the critical path method (CPM), as well as several project management software packages - MacProject II, Time Line, and ViewPoint. Project management software makes the rudiments of project management easy to achieve. It forces the user to plan and schedule the project. It produces useful charts and tables that help in managing the project and are extremely useful mechanisms for communicating with project team members, clients, and the public. The software greatly simplifies the effort necessary to evaluate alternative resource allocations and schedule changes. (Management Contents)

Project Management Ensures On-Time Completion
Hazan, Earl
Transmission & Distribution v41 n4 pp.24-27 April 1989

With the advent of large-scale computing power, the Program Evaluation and Review Technique has metamorphosed into the more general field of project management. The personal computer (PC) has entered the project-management arena to provide a versatile tool that can be used for projects varying in size from under $5,000 to more than $50 million. Pacific Gas and Electric Co. (PG&E) has been cited as a utility that uses PC-based project management on projects that include facilities design and construction, environmental studies, and research and development. A project life cycle is divided into 4 steps: conceptual, planning, implementation, and phase out. Electric utilities have begun designing smaller projects of shorter duration, and the effort to manage these small projects is intense since management requires analytical data quickly. PG&E, which illustrates the widespread use and acceptance of distributed project management, now uses PC project-management software on nearly all of its projects. Graphs. Charts. (ABI/INFORM)

Project and People Management with Tracking Software
Whitmyer, Claude F.
Office v109 p.24(2) February 1989

Project management software, which has been available for many years, has usually been designed to handle large, multiple projects. Desktop organizers, such as Borland's Sidekick Plus and Brown Bag's Homebase, were not really designed for projects unique to non-technical departments. Now, time management and project tracking has been integrated into the same software packages. Four packages are identified and briefly described: InstaPlan Corp's Instaplan; Chronos Software's Who-What-When; Primetime Software Inc's Primetime; and Information Research Corp's Action Tracker. Four 'people managers' are also mentioned: E. Trujillo Software's Contact Plus; Remote Control Inc's Telemagic; Conductor Software Inc's Act; and Pinetree Software Inc's Maximizer. Manufacturers' addresses for all eight programs are provided. (Management Contents)

Project Management Software Plots Progress
Hovey, Rich
Today's Office v23 n3 pp.25-27 August 1988

Project management software assists in the coordination of programs and personnel by designing a structure that allows planning of a project's separate tasks. A baseline plan and

schedule are used as a standard against the actual work. The program's benefits are realized with the monitoring and controlling of information gathered from updates. There are 4 kinds of outputs from this software. Network (PERT) diagrams present the logical order of tasks within the project. In Gantt (bar) charts, activities and time are represented in a compact, but sometimes confusing, manner. Time and activity reports focus on dates and duration for project monitoring and control. Resource-utilization reports monitor each resource to show actual use versus planned use. Resource leveling, subprojects, and resource accounting across project boundaries are advanced features found in some packages. Evaluating the agency's needs is a first step in using the software. Some project management packages concentrate on the project, while others focus on the people involved in the project. Diagrams. (ABI/INFORM)

Application of Expert Systems in Project Management Decision Aiding

Harris, R.; Shaffer, S.; Stokes, J.; Goldstein, D.
National Aeronautics and Space Administration, Washington, DC., August 1987 122p. (Report No. NASA-CR-180762)

The feasibility of developing an expert systems-based project management decision aid to enhance the performance of NASA project managers was assessed. The research effort included extensive literature reviews in the areas of project management, project management decision aiding, expert systems technology, and human-computer interface engineering. Literature reviews were augmented by focused interviews with NASA managers. Time estimation for project scheduling was identified as the target activity for decision augmentation, and a design was developed for an Integrated NASA System for Intelligent Time Estimation (INSITE). The proposed INSITE design was judged feasible with a low level of risk. A partial proof-of-concept experiment was performed and was successful. Specific conclusions drawn from the research and analyses are included. The INSITE concept is potentially applicable in any management sphere, commercial or government, where time estimation is required for project scheduling. As project scheduling is a nearly universal management activity, the range of possibilities is considerable. The INSITE concept also holds potential for enhancing other management tasks, especially in areas such as cost estimation, where estimation-by-analogy is already a proven method. (NTIS)

VII. PROJECT MANAGEMENT READINGS: MANAGEMENT BOOKS

(Those starred are available in the Headquarters Library Management Collection; please inquire about accessing the other titles.)

Essentials of Project Management
Gray, Clifford F.
Petrocelli, 1980 288p.

Human Factors in Project Management
Dinsmore, P.
AMACOM, 1984

Implementation of Project Management: The Professional's Handbook
Stuckenbruck, Linn C.-Editor
Addison-Wesley, 1981 304p.

Improving Project Management Skills & Techniques
Spinner, M. Pete
Prentice-Hall, 1988 320p.

**** Harvard Project Manager/Total Project Manager**
Kasevich, Lawrence
Tab Books, 1986 **HD69.P75K37**

Managing by Project Management
Adams, John; Barndt, Stephen; Martin, Martin D.
Univ Tech, 1983 168p.

Organization for Program Management
Davies, C.; Demb, A.; Espejo, R.
Wiley, 1980 240p.

Project Management
Al-Jarallah, M. I.; Nawara, G.
Wiley. 1984 350p.

Project Management 4th ed.
Lock, Dennis
Gower Publishing Company, 1988 367p.

Project Management: A Systems Approach to Planning, Scheduling, & Controlling
Kerzner, Harold
Van Nostrand Reinhold, 1989 1012p.

Project Management in the Information Technology Age
Brooks, H. E.,Jr.
Sterling Series, 1989 205p.

** **Secrets of Successful project Management**
Kleim, Ralph
Wiley, 1986 **T56.8.K55**

Software Project Management: Selecting & Using PC-Based Project Management Systems
Zells, Lois
QED Information Sciences, 1990 598p.

Successful Project Management: A Step-by-Step Approach with Practical Examples
Rosenau, Milton D.,Jr.
Van Nostrand Reinhold, 1981 266p.

** **Winning at Project Management: What Works, What Fails, and Why**
Gilbreath, Robert D.
Wiley, 1986 **HD669.P75G55**

EPA HEADQUARTERS LIBRARY
MANAGEMENT COLLECTION

List of Management Bibliographies

1. STRATEGIC PLANNING
   by Anne Twitchell, March 1990
   EPA/IMSD-90-005

2. TOTAL QUALITY MANAGEMENT
   by Anne Twitchell, December 1989
   EPA/IMSD-89-009

3. LEADERSHIP: QUALITY MANAGEMENT FOR THE FUTURE
   by Anne Twitchell, September 1989
   EPA/IMSD-89-005

4. COMMUNICATION SKILLS FOR EFFECTIVE MANAGEMENT
   by Anne Twitchell, June 1989
   EPA/IMSD-89-003

5. EFFECTIVE PERFORMANCE APPRAISALS
   by Anne Twitchell, March 1989
   EPA/IMSD-89-002

6. OFFICE OF THE FUTURE: THE MANAGER'S ROLE
   by Anne Twitchell, December 1988
   EPA/IMSD-88-013

7. OFFICE OF THE FUTURE: THE CHANGING ROLE OF SECRETARIES
   by Mary Hoffman and Anne Twitchell, revised May 1989

8. MANAGEMENT TRANSITION
   by Mary Hoffman and Anne Twitchell, September 1988
   EPA/IMSD-88-007

9. MANAGING IN THE PUBLIC SECTOR
   by Mary Hoffman, March 1988
   EPA/IMSD-88-003

10. RESISTANCE TO CHANGE
    by Mary Hoffman, December 1987
    EPA/IMSD-87-011

11. SUPERVISORS AND HUMAN RESOURCES MANAGEMENT
    by Mary Hoffman, June 1987
    EPA/IMSD-87-006

12. TECHNICAL EXPERT TURNED MANAGER
    by Mary Hoffman, March 1987