PROGRAM/PROJECT MANAGEMENT RESOURCES

A COLLECTION OF 50 BIBLIOGRAPHIES FOCUSING ON CONTINUAL IMPROVEMENT, REINVENTING GOVERNMENT, AND SUCCESSFUL PROJECT MANAGEMENT
[Second edition]

By Jeffrey Michaels

Code FT Project Management Librarian at NASA Headquarters Library

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INTRODUCTION TO THE SECOND EDITION

These Program/Project Management Resource Lists were originally written for the NASA project management community. Their purpose was to promote the use of the NASA Headquarters Library Program/Project Management Collection funded by NASA Headquarters Code FT, Training & Development Division, by offering introductions to the management topics studied by today's managers. Lists were also written at the request of NASA Headquarters Code T, Office of Continual Improvement, and at the request of NASA members of the National Performance Review. This is the second edition of the compilation of these bibliographies; the first edition was printed in March 1994.

Although the audience for these bibliographies has extended beyond NASA, each citation includes its availability to NASA readers, especially those at Headquarters. Call numbers for books are those found at NASA Headquarters Library; a "PM" before the call number indicates it is in the Program/Project Management Collection, a "QM" indicates the Quality & Productivity Awareness Collection funded by Code T, and books without those indicators are in the main circulating collection. The majority of articles cited are available in the NASA Headquarters Library collection. Articles preceded by an asterisk (*) are available on the ProQuest CD-ROM system in the library; a "BPO" number indicates the article is in the Business Periodicals On-Disc file, an "INSPEC" number indicates the IEEE file. Books and articles preceded by a # are not available in the library but may be ordered on interlibrary loan by NASA registered borrowers. Some books have an "on order" status, which means they had not been received as of the printing of this compilation.

We hope these lists prove useful to employees throughout NASA as well as all others who obtain copies in print or electronic format. It must be noted, however, that employees of other agencies should utilize their own libraries to obtain the materials cited. NASA employees and contractors interested in borrowing items should contact me at the address below.

Additional resource lists continue to be written at the rate of one or two per month. The 50 lists included in this compilation are also updated regularly to keep them current. Please telephone, write, or e-mail any questions, comments, or suggestions you may have to:

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Introduction

The following titles are available in the Program/Project Management Collection at NASA Headquarters Library and provide general introductions on the subject. This list represents but a sampling of the PPM collection which covers all aspects of project management, including many that also deal with total quality management. Additional resource lists will cover specific areas of program and project management and total quality management.


Introduction

Warren Bennis, an author cited below, writes: "Managers are people who do things right, and leaders are people who do the right thing." In his book The Leader-Manager, William Hitt explains that leadership training is "based on the premise that every manager has a certain amount of leadership potential and that this potential can be further developed." That is also the premise of this resource list, and the material cited below offers an introduction to the topic.


Introduction

Meetings and presentations are an unavoidable part of any type of management system, and the items listed below offer insight into how to sharpen skills in these areas to prevent valuable work time from being wasted. The following list is but an introduction to the topic, you may wish to find articles on other aspects on this subject, including teleconferencing, meeting costs, speaking skills and personality styles at meetings.


Deep, Samuel D. Smart Moves: 14 Steps to Keep Any Boss Happy, 8 Ways to Start Meetings on Time, and 16,000 More Tips to Get the Best from Yourself and the People Around You. Reading, MA: Addison-Wesley, 1990. PM HF5549.5 .C6 D37 1990


*Wiesendanger, Betsy. "We Have to Stop Meeting Like This." Sales & Marketing Management 145 #6 (June 1993):30-32. [BPO 00734850]


Program/Project Management Resource List #4

Selected Articles on Public Sector TQM Efforts
Pre-National Performance Review

Provided by the Code FT Program/Project Management Librarian
at NASA Headquarters Library

Introduction

Public and private sector TQM efforts are often implemented very differently. The following articles focus on quality improvement efforts in the public sector--local, state and federal--and provide case studies and strategies. PPM Resource List #23 "Reinventing Government" should be consulted for additional references on this subject since the National Performance Review began its activities in late 1993.


Introduction

The following items focus on the essentials of successful teamwork, for, as Peter Scholtes writes in *The Team Handbook*, there are many skills required of team members:

> Expertise in the subject at hand is indispensable. But participants in a successful project must also know how to work as a team, plan, conduct good meetings, manage logistics and details, gather useful data, analyze the data, communicate the results and implement changes.

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<th>Location</th>
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<tr>
<td>Wellins, Richard S.</td>
<td>Inside Teams: How 20 World-Class Organizations are Winning Through Teamwork</td>
<td>San Francisco: Jossey-Bass</td>
<td>[on order]</td>
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Introduction

The following items focus on writings by and/or about W. Edwards Deming. This quality guru, perhaps most famous for his 14 points and the quality prize named for him in Japan, passed away on December 20, 1993. His legacy will be the writings and videos he left behind which have helped spark quality improvement efforts around the world. The Japanese began taking his approach to quality after WW II, and American industry finally began to follow suit in the 1980s. What his impact on the public sector will be is still to be determined.


Introduction

Measuring quality is often very difficult, but metrics are continuous improvement tools, not an end in themselves. A common pitfall in TQM efforts is becoming bogged down with graphs and fishbone charts, which are merely visual representations of work processes. The following titles cover how to measure quality in various office settings, as well as how to present the data. They will not, however, tell you *what* to measure, because that determination is often best left to the employee who knows best what tasks are measurable.


*Barrier, Michael. "Learning the Meaning of Measurement."* *Nation's Business* 82 #6 (June 1994):72-74. [BPO 00870894]


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**Introduction**

Cost control is an essential part of project management, and the following items either deal solely with budgeting and cost control, or include useful chapters on the subject. A search of the NASA RECON database using the terms cost analysis, cost reduction and cost effectiveness will result in thousands of other papers on the subject as it relates to NASA. See PPM Resource List #15 "Program Control" for related material.


Introduction

Francis T. Hoban and William M. Lawbaugh write in their recent NASA publication *Readings in Systems Engineering* that the designers of the pyramids practiced a form of systems engineering, but it was not until after World War II that the modern discipline emerged. As weapons systems became more complex, design and development requirements increased the need for systems engineering practices. NASA's goal of exploring space better, cheaper and faster only increase the need for improved systems engineering. A search of the RECON database will find thousands of papers, what follows is simply a place to start.


Introduction

Innovation and creativity are key elements of successful project management. The only difference between creative people and those who believe they lack such ability may be that the former see themselves as innovators. As journalist/poet, Edgar Guest (1881-1959) wrote in *It Couldn't Be Done* (cited in *The Manager's Book of Quotations* NY: American Management Association, 1989):

```
Somebody said that it couldn't be done,
But he with a chuckle replied
That "maybe it couldn't" but he would be one
Who wouldn't say no till he'd tried.
So he buckled right in with the trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.
```

Please see PPM Resource List #28 "Creative Problem Solving" for additional material.


Blohowiak, Donald W. *Mavericks!: How to Lead Your Staff to Think Like Einstein, Create Like Da Vinci, and Invent Like Edison*. Homewood, IL: Business One Irwin, 1992. PM HD53 .B58 1992


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ORGANIZATIONAL CHANGE
Revised September 1994

Provided by the Code FT Program/Project Management Librarian at NASA Headquarters Library

Introduction

The following titles deal with planning and/or initiating organizational change and offer some fine analysis on the subject. Read them, keeping in mind the following passage from Don Juan by Lord Byron, quoted from The Manager's Book of Quotations:

Well, well--the world must turn upon its axis;
And all mankind turn with it, heads or tails;
And live and die, make love and pay our taxes,
And, as the veering wind shifts, shift our sails.

Please refer to PPM Resource Lists #36 "Change Management" and #44 "Change Agents" for additional material.


Amburgey, Terry L. and others. "Resetting the Clock: the Dynamics of Organizational Change and Failure." Administrative Science Quarterly 38 #1 (March 1993):51-73. [BPO 00698719]


PM HM101 .P558 1985

PM HD58.8 .B473 1993


HD58.5 .B75 1991

[BPO 00824950]

PM HD58.8 .C47 1992

PM HD58.8 .C652 1993

[on order]


[BPO 00649323]

PM HD58.8 .G627 1994

PM HD58.8 .G89 1989

PM HD58.7 .H3683 1993

PM HD58.7 .H376 1988


*Marshak, Robert J. "Managing the Metaphors of Change." *Organizational Dynamics* 22 #1 (Summer 1993):44-56. [BPO 00746924]


*Stewart, Thomas A.  "Rate Your Readiness to Change."  *Fortune* 129 #3 (February 7, 1994):62-64.  [BPO 00809932]


33
Introduction

Empowerment is seen by some as an essential part of TQM and project management because it can lead to both increased productivity and employee satisfaction. It is also referred to as participative management, high involvement management and/or employee involvement, and since there may be as much written about the negatives of worker empowerment as there are the positives, the list that follows covers both. Whatever its advantages, it is clear that empowerment does not work for all organizations, and is one of the most difficult aspects of continual improvement to implement.


Mills, Daniel Q. *Empowerment Imperative.* Amherst, MA: HRD Press, 1994. [on order]


Introduction

Benchmarking is, to put it simply, the search for the best methods used by other agencies and/or companies that an organization can utilize to improve its performance and productivity. Because it is a category of the Malcolm Baldrige National Quality Award, benchmarking is a widely accepted means of information gathering and analysis, although it should be noted that W.E. Deming is opposed to it (see his writings for more detail).

References:


Camp, Robert C. *Benchmarking (NASA TQM Colloquium #13)* QM Video TL521.C36


*Sheridan, John H. "Where Benchmarkers Go Wrong." Industry Week 242 #6 (March 15, 1993):28-34. [BPO 00688068]


Introduction

Why duplicate the mistakes others have made in TQM? By studying specific case studies, or recognized failures in the TQM process, implementation can proceed much more smoothly. There may be no one right way to initiate total quality, but there are certainly steps which have been known to cause stumbling on the road to success. The following items include specific case studies as well as general rules for most productive continuous improvement efforts.


*"The Cracks in Quality." Economist 323 #7755 (April 18, 1992):67-68. [BPO 00610755]


*Kendrick, John J. "Companies Continue to Embrace Quality Programs--But Has TQ Generated More Enthusiasm Than Results?" Quality 31 #5 (May 1992):13. [BPO 00613963]

Leibman, Michael S. "Getting Results from TQM." HRMagazine (September 1992):34-38.


*Stevens, David P. "Avoiding Failure with Total Quality." Quality 32 #12 (December 1993):18-22. [BPO 00799807]


*Yandrick, Rudy M. "Corrosive Effects of Failed TQ Efforts." Quality 33 #3 (March 1994):26-29. [BPO 00836789]
Introduction

According to A Project Management Dictionary of Terms, by Cleland and Kerzner, program control is:

The Program management element responsible for providing program plans and schedules; schedule visibility and control; and detailed support in the areas of performance, cost, and schedule status.

Program control is not a RECON subject term, but additional papers on the subject may be found using such terms as cost analysis, cost effectiveness, cost reduction and project planning. Related material may be found on PPM Resource List #8 "Project Budgeting and Cost Control."


Introduction

Some of the following authors will tell you that organizational planning of any kind is most successful when a vision is in place first. Definitions of vision vary, but in Charles Handy's *The Age of Unreason* there is the following:

> A vision has to "reframe" the known scene, to reconceptualize the obvious, connect the previously unconnected dream.

Others may prefer the term mission, but rather than getting bogged down in semantical discussion of vision and mission in this short introduction, both may be seen as goals that unite an organization and help create a plan for the future that can inspire and put all staff members on the same wavelength. Reading the listed books and articles will illustrate more clearly the differences between vision and mission, as well as their potential impact upon strategic planning.

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Introduction

Project success often depends upon small group decision-making, which is in turn influenced by the communication and other interpersonal skills of group members. Please refer to PPM Resource Lists #5 "Teams and Teamwork," and #29 "Interpersonal Relations and Team Success" for related material.

*Anderson, Douglas R. "Increased Productivity via Group Decisionmaking." Supervision 51 #9 (September 1990):6-10. [BPO 00514871]


Logan, Linda R. "Team Members Identify Key Ingredients for Team-Building Success." National Productivity Review 12 #2 (Spring 1993):209-223. [BPO 00678325]


*Wilson, Donald O. "Diagonal Communication Links Within Organizations." Journal of Business Communication 29 #2 (Spring 1992):129-143. [BPO 00625507]
Introduction

R. Roosevelt Thomas, an author listed below, writes that managing diversity is "managing people who aren't like you and who don't necessarily aspire to be like you." That is but one useful definition. Reading the following items will provide more background on this subject which should become more crucial to study as the American work force grows even more culturally diverse.


PM HD63.4 H37 1991

[BPO 00741328]


PM HF5549.5 .M3 J36 1991

[section has several articles]

[BPO 00614027]


HD8072.5 .J64 1987


PM HF5549.5 .M3 L64 1991

video HD58.9 .M345 1993

PM HD30.3 .M45 1992

PM HD62.4 .M658 1993

HD38.2 .M67 1992


*Williams, Mary. "Managing Work-Place Diversity...the Wave of the '90s." Communication World 7 #1 (January 1990):16-19. [BPO 00481132]
Introduction

It can also be called downsizing or rightsizing, cost containment or cost reduction; doing more with less has different meanings and involves different processes. The most relevant meaning to NASA may be doing more (or at least the same) with less funding. Reducing costs, in general, involves at least two kinds of costs: the cost of bureaucracy and the cost of not being entrepreneurial enough. NASA costs also include operational and development costs.

The following books and articles cover these various areas of restructuring and budget savings. Additional PPM Resource Lists may also be referred to: "Project Budgeting and Cost Control" [8], "Innovation and Creativity in the Workplace" [10] and "Program Control" [15].


Muller, E.J. "Doing More With Less." *Distribution* 88 #2 (February 1989):29-30,34. [BPO 00440375]


Introduction

J.M. Juran has been a guru of the quality improvement movement for decades. This list, therefore, only purports to cover most recent items by and about J.M. Juran. Reading the books and articles that follow show that his approach to TQM is based on "The Juran Trilogy": quality planning, quality control and quality improvement, and that his writings deserve some attention.

Recent Writings By J.M. Juran


"Assessing Quality Growth in the U.S." Quality 32 #10 (October 1993):48-49. [BPO 00772308]


**Writings About J.M. Juran**


Introduction

An essential part of project management and TQM that often gets overlooked is the human element. Other TQM procedures and processes can do little without the involvement of those doing the jobs. Actively seeking out the suggestions of employees who often know how to improve their jobs but have never been asked is one form of motivation, and can only benefit continuous improvement efforts. Motivation can also include cash and non-cash awards. See PPM Resource List #12 "Creating the Empowered Organization" for related material, for as W.C. Fields wrote about motivation:

Remember, a dead fish can float downstream, but it takes a live one to swim upstream.

*(cited in The Manager's Book of Quotations)*


#Lacey, Miriam Y. "Rewards Can Cost Nothing? Yes They Can...Really!" Journal for Quality and Participation 7 #3 (June 1994):6-8.


Introduction

In recent Code FT courses on Project Management, risk management has been defined as:

*the process of balancing risk with cost, schedule, and other programmatic considerations. It consists of risk identification, risk assessment, decision-making on the disposition of risk...and tracking the effectiveness of the results of the actions resulting from the decisions.*

Risk management includes both qualitative and quantitative factoring. Reading the following articles and books will provide deeper insight into this major aspect of project planning. All space activities include risk; the following items cover how to analyze and minimize that risk.


*Esenberg, Robert W. "Risk Management in the Public Sector." Risk Management 39 #3 (March 1992):72-78. [BPO 00607821]


Introduction

The aim of "Reinventing Government", at least according to the book of the same name, is to transform the public sector by adding an entrepreneurial spirit to federal and state bureaucracies. This is, of course, currently a hot topic considering Vice President Gore's National Performance Review.

Reading the following books and articles can help us study the question of how viable the concept is of changing the mindset of federal and state bureaucracies for improved performance at lower cost to the taxpayer. Please see PPM Resource List #4 "Selected Articles on Public Sector TQM Efforts" for more material on this subject. As Marcel Proust wrote (per Osborne & Gaebler in Reinventing Government),

"The real voyage of discovery consists not in seeking new lands, but in seeing with new eyes."


Glenn-Ryan, Rebecca M. and Edward J. Guss. "Training and Organizational Change." [at OPM]  


Introduction

Reengineering (sometimes written as 're-engineering'), or business process reengineering, is currently a hot topic in management, but some would argue it is hardly a new concept. It is, rather, another term for evaluating internal management and business processes. As many of the following items state, reengineering is not simply process improvement; reengineering suggests questioning the value of an entire process, and combines breakthrough thinking with TQM. Michael Hammer, one of the authors listed below, writes:

“At the heart of reengineering is the notion of discontinuous thinking--of recognizing and breaking away from outdated rules and fundamental assumptions that underlie operations. Unless we change the rules, we are merely rearranging the deck chairs on the Titanic.”


PM HD58.8 .D44


Strassmann, Paul A. "The Hocus-Pocus of Reengineering." *Across the Board* 31 #6 (June 1994):35-38. [BPO 00869387]


Introduction

Many of the following articles deal with what traits make a good manager, others deal with the question of whether it is possible to develop a standardized competency assessment for managers. Richard Boyatzis, in his classic *The Competent Manager* cited below, put the matter clearly:

> Organizations need managers to be able to reach their objectives. They need competent managers to be able to reach these objectives both efficiently and effectively.

Core competence addresses the collective learning of an organization. Prahalad and Hamel, cited below, introduced the concept and said three tests can be applied to determine a core competency:

> First, a core competence provides potential access to a wide variety of markets...Second, a core competence should make a significant contribution to the perceived customer benefits of the end product....Finally, a core competence should be difficult for competitors to imitate. And it will be difficult if it is a complex harmonization of individual technologies and production skills.


*Buhler, Pat. "What Attributes Does the Better Manager Possess." *Supervision* 50 #7 (July 1989):8-10. [BPO 00457998]


*Field, Lloyd M. "How Competent are Your Managers?" Canadian Manager 18 #3 (September 1993):18-19+. [BPO 00767336]


*Owen, Gordon. "Vocational Qualifications and Management Services." Management Services 34 #8 (August 1990):6-10. [BPO 00510678]


Introduction

The "high-performance" organization, as discussed in the following books and articles, owes much of its success to its employees. It is not really a TQM term, but more an indication of a learning organization that provides training in the following areas: redesign of business processes, delegation of work, teamwork, company-wide communication, shared vision, and advanced technology skills. A high-performance business improves faster than its competition and sustains that rate, while satisfying all its stakeholders. Please refer to PPM Resource List #11 Organizational Change for related references.


Scott-Morgan, Peter B. "Barriers to a High-Performance Business." Management Review 82 #7 (July 1993):37-41. [BPO 00734329]

*Smith, Raymond W. "Moving Managers To a Higher Plane of Performance."* Business Forum 17 #4 (Fall 1992):5-8. [BPO 00678068]


Introduction

Peter Senge, one of the most eloquent proponents of learning organizations, defines them in *The Fifth Discipline* as:

> Organizations where people continually expand their capacity to create the results they desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.

Some of the following items focus on how to get adults to learn, others on what they need to learn. Of particular interest are those by Senge and Argyris, the latter of whom discusses single-loop learning (which maintains an organization) and double-loop learning (which redefines the organization). A main purpose of these resource lists is to facilitate organizational learning at NASA, as well as at any other organization which receives these bibliographies.

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Smith, Lee. "New Ideas From the Army (Really)." *Fortune* 130 #6 (September 19, 1994):203-212.


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Introduction

Ralph Waldo Emerson describes in his Journals how simple a solution to a problem may appear to be once it has been implemented:

I like people who can do things. When Edward and I struggled in vain to drag our big calf into the barn, the Irish girl put her finger into the calf's mouth and led her in directly.  
(cited in The Manager's Book of Quotations)

Some of the following items focus on finding ways to "drag the calf into the barn," others on the creative thinking that leads to such problem solving. See PPM Resource List #10 "Innovation and Creativity in the Workplace" for related material.


*Zemke, Ron. "In Search of...Good Ideas."* *Training* 30 #1 (January 1993):46-52. [BPO 00665545]
INTERPERSONAL RELATIONS AND TEAM SUCCESS
Revised September 1994

Provided by the Code FT Program/Project Management Librarian
at NASA Headquarters Library

Introduction

Team success depends in large part upon its members ability to interact with each other because of the myriad of different personalities involved. Personality assessment tests can be interpreted incorrectly, but those such as the MBTI (Myers-Briggs) do at least allow individuals to learn something about themselves and how a variety of personality types interact.

Team members may not be able to or even want to change their personality traits, but learning how to deal with others is an essential part of project management. Robert Bramson writes in his book Coping With Difficult People:

As a management consultant I have found that most of my clients spend more time talking about how to cope with problem employees, bosses, customers, and co-workers than about anything else.

The following items cover determining an individual's personality type and how to use such knowledge to improve project and team success. Please refer to PPM Resource List #17 "Group Dynamics and Decision Making for Project Success" for related material.


HF5548.8 .B683 1988

PM BF637 .N4 E29 1993

[BPO 00643004]

[BPO 00576540]


PM BF698.3 .H57 1989

[BPO 00584730]

PM HD42 .K39 1994

[BPO 00550961]

[BPO 00491764]

PM HD42 .N48 1988a

PM BF698.3 .R622 1994

PM HD42 .S65 1990


PM HD42 .T583 1993

[BPO 00609031]
Introduction

Listening to the "voice of the customer" is regarded by many as an essential part of all continual improvement efforts. Knowing who your customers are and what they need may allow the elimination of work processes not needed by the customer. As a result, operations can be streamlined leading to even greater customer satisfaction. John Guaspari, an expert on customer awareness, simplifies the problem in The Customer Connection, a book cited below:

They have the money, you want it.
They have the perception, you cause it.
You know what it's like, you've lived it.
You know what needs doing, so do it.

******************************************************************************


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Introduction

Statistical Process Control (SPC) is a method of monitoring, controlling and, ideally, improving a process through statistical analysis. Its four basic steps include measuring the process, eliminating variances in the process to make it consistent, monitoring the process, and improving the process to its best target value.

Much of the cited material covers how to collect the data necessary to SPC, and what charts might best portray that data. A common obstacle to successful use of SPC is getting bogged down with charts (fishbone, pareto, etc.), forgetting that visual representation of data is but a tool, not an end in itself.


*Stein, Robert E. "Beyond Statistical Process Control." *Production & Inventory Management Journal* 32 #1 (First Quarter 1991):7-10. [BPO 00569157]

Stone, Edward P. "Employee Support and Interaction are the Keys to an SPC Program." *Quality Progress* 24 #12 (December 1991):54-56.


Introduction

Genichi Taguchi developed a systematic approach for the application of experiments to improve product design and process quality. Reading the following books and articles will provide an introduction to Mr. Taguchi's approach, which he calls off-line quality control. He describes on-line quality control as control charts and SPC (see PPM Resource List #31 "Statistical Process Control" for more information) while off-line control methods include quality loss functions, never-ending improvement and parameter design experiments.


Carrasco, Hector R. "Use of Taguchi Design of Experiments to Optimize and Increase Robustness of Preliminary Designs." NASA Summer Faculty Fellowship Program, 1992. [93N26063*]


Deal, Don E. "An Exploratory Exercise in Taguchi Analysis of Design Parameters: Application to a Shuttle-to-Space Station Automated Approach Control System." NASA/ASEE Summer Faculty Fellowship Program, 1991. [92N21268*]


Introduction

Communication is such an important skill in the workplace that the following citations have been provided to accompany PPM Resource List #17 "Group Dynamics and Decision Making for Project Success" and List #29 "Interpersonal Relations for Team Success" to provide more readings on this subject.

Items below cover up-down communication, asking the right questions, proper listening skills, communication between different personality and job types, and many other such skills. Regular readers of management journals will find many more such articles, indeed some journals are devoted entirely to management communication.


*Drennan, David. "Can You Hear Me Down There?" Director 45 #12 (July 1992):44-46. [BPO 00628031]

*Freeland, David B. "Turning Communication into Influence." HRMagazine 38 #9 (September 1993):93-96. [BPO 00762938]


*Mitsch, Barry F. "You're Never Too Old to Hone L-i-s-t-e-n-i-n-g S-k-i-I-I-s." Chemical Engineering 98 #8 (August 1991):121-126. [BPO 00567144]


Young, Mary and James E. Post. "Managing to Communicate, Communicating to Manage: How Leading Companies Communicate with Employees." Organizational Dynamics 22 #1 (Summer 1993):31-43.
Introduction

As costs of megaprojects soar, international cooperation on such projects becomes more common. The following readings cover some of the issues involved with international cooperation in space—economics, legality, technology transfer and cultural diversity. NASA's international activities should continue to flourish, and more and more papers will appear on the topic. Please refer to PPM Resource Lists #48 and #49 for additional material related to U.S.-Japan and U.S.-Russia joint projects.


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Introduction

What is the cost of quality? Does it raise the price of goods and services? Are huge savings possible by implementing continual improvement efforts? These questions are not easy ones, but quality is measurable, as are its costs. Philip Crosby, in *Quality is Free*, writes that the cost of quality is "the expense of nonconformance—the cost of doing things wrong." Some prefer the term "cost of poor quality" (COPQ) because that implies what happens when continual improvement efforts are derailed or postponed. As A.V. Feigenbaum, an early writer on the subject states in *Total Quality Control*:

> Today, we not only recognize the measurability of quality costs but that these costs are central to the management and engineering of modern total quality control as well as to the business strategy planning of companies and plants.


*Corradi, Peter R. "Is a Cost of Quality System for You?" *National Productivity Review* 13 #2 (Spring 1994):257-269. [BPO 00827254]*


Introduction

One definition of change management is found in Root Cause Analysis by Paul F. Wilson and others:

*The Process of modifying/revising a particular design, operation, technique, or system. Includes both hardware and software (such as procedures, organization, document revision, etc.), as well as transition planning.*

To others, change management can simply refer to the need to manage changes that occur, instead of allowing change to become a tidal wave that knocks down all who stand before it. Please see PPM Resource List #11 "Organizational Change" and #44 "Change Agents" for additional references.


*Burke, W. Warner and others. "Managers Get a 'C' in Managing Change."
*Training & Development* 45 #5 (May 1991):87-92. [BPO 00553219]

*Clark, G.J. "Managing Change: Back to Basics or Quantum Leaps?" *Management Services* 37 #9 (September 1993):12-15. [BPO 00760012]


*McKenna, Joseph F. "Change Must Be Managed." Industry Week 242 #2 (January 18, 1993):50. [BPO 00673722]


Introduction

Studying total quality management case studies is a useful endeavor. It not only helps prevent duplicating the mistakes of other organizations, it also often saves money and time by avoiding having to "reinvent the wheel." Some of the case studies listed below are from government, and others from business and industry. As with benchmarking, it is important to use case studies carefully. Public sector organizations might have ideas useful to the private sector, and vice versa, but different goals and customers might require some customizing of lessons learned.


Introduction

Many of the subjects covered in these resource lists can be disseminated throughout an organization through employee training programs. Code FT offers many such programs to NASA employees and contractors nationwide. Trainers often find it useful to break up a training session through the use of games. The following books and articles cover several different types of training games, including board games, outdoor experiential learning, simulation and roleplaying.

As Carolyn Nilson writes in *Team Games for Trainers*, games have many benefits for both trainer and trainee:

*Games can help create an atmosphere of playfulness, collegiality, and shared values. They can be used at the beginning of a training session or at the start of a tough new concept to "break the ice"... They can be used to summarize a training experience and form a bridge from what trainees learned in class to what they must do on the job. Games can be serious and not-so-serious, difficult and easy. Used at just the right moment, games can be the most appropriate and effective way of bringing a trainee to the brink of learning.*


*Scannell, Edward E. "Winning Strategies: Games People Play." Incentive 166 #10 (October 1992):64-66. [BPO 00643601]


Introduction

According to Everett M. Rogers, an early writer on this subject, innovation is "an idea perceived as new by the individual," and diffusion is "the process by which an innovation spreads." The following items cover this process as it deals with organizational change and technological improvements. For example, if we are to "reinvent" government, how should the diffusion of this concept progress? This might be the key to any successful innovation, for as Rogers writes in Diffusion of Innovations:


Martino, J.P. and others. *Predicting the Diffusion Rate of Industrial Innovations.* Dayton, OH: Dayton University, 1978. [79N16742]


Introduction

At some point in its continuous improvement efforts, an organization might wish to survey its employees to find out their impressions of the organizational climate. Often this is done during team-building efforts, sometimes during customer satisfaction surveys, both before and after changes are initiated. The following books and articles contain examples of such surveys, as well as examples of questions to ask and methods of optimum surveying. These examples include survey questions which are easily adaptable to many different target groups. Some include essay type questions, others multiple choice. Also included are books devoted solely to constructing proper surveys and how to best interpret them.


*Carney, Karen E. "Surveys of Substance." Inc. 16 #6 (June 1994):112. [BPO 00868002]


Organizational Culture Inventory. Plymouth, MI: Human Synergistics International, 1994. [on order]

*"Phone Technology Surveys Employees." Employee Benefit Plan Review 48 #8 (February 1994):17. [BPO 00825725]


*Romzek, Barbara S. "Personal Consequences of Employee Commitment." Academy of Management Journal 32 #3 (September 1989):649-661. [BPO 00465417]


Introduction

The Deming Prize was established in 1951 by the Japanese Union of Scientists and Engineers to honor W. Edwards Deming. The Malcolm Baldrige National Quality Award was signed into law in August 1987, named for the US Secretary of Commerce who died that same year. The George M. Low Trophy, NASA's Quality and Excellence Award, was established in 1985. Articles and books that follow cover the creation of these awards as well as the positive and negative impact winning such a prize may have on an organization's continual improvement efforts. The George M. Low Trophy, the first U.S. government quality award, was established to enhance public awareness of the importance of quality and productivity to U.S. competitiveness, recognize and promote outstanding quality among contractors and suppliers, and transfer quality methods to others in industry, government and academia.


*Chen, Milton. "Japan's Profitable Prize." [The Deming Prize] Incentive 163 #9 (September 1989):82-86. [BPO 00466812]


*Eisman, Regina. "Impressive Results for Quality Cup Winners." [USA Today/RIT Quality Award] Incentive 168 #6 (June 1994):13. [BPO 00879566]


*Hart, Christopher W.L. "What's Wrong--and Right--with the Baldrige Award." Chief Executive 90 (November-December 1993):36-47. [BPO 00786907]*


Introduction

The following books and articles cover methods of delayering organizational structure, which has become fairly common as organizations strive to become lean and mean to improve productivity as well as workplace communication. A horizontal, rather than pyramid, structure not only allows greater worker empowerment, but also makes communicating vision throughout the organization an easier task. A flattened organization requires fewer managers, is less bureaucratic, and can produce more cross-functional employees. Achieving such an organizational structure is not always a simple task, as several of the cited articles cover in their case studies.

Please refer to PPM Resource List #26 "Creating the High Performance Organization" and List #24 "Reengineering" for related references.


*Austin, Nancy K. "Flattening the Pyramid." Incentive 167 #12 (December 1993):16. [BPO 00798593]


*Brokaw, Leslie. "Thinking Flat." Inc. 15 #10 (October 1993):86-88. [BPO 00768354]

*Byrne, John A. "The Horizontal Corporation." Business Week #3351 (December 20, 1993):76-81. [BPO 00792512]


"Farewell to the Pyramid Chart." Business Week # 3351 (December 20, 1993):122. [BPO 00792532]


Mapes, James J. "Learning from Each Other." Training & Development 47 #11 (November 1993):6,8. [BPO 00791737]


Introduction

Quality Function Deployment (QFD) is often referred to as listening to the voice of the customer. It is a method which takes into account customer requirements at each stage of product or process development. The following books and articles cover what QFD offers its practitioners, including the assessment by Michael Raynor in the article cited below which states:

As a formal process for quantifying, recording, and understanding the interactions between the various elements of a product or service, QFD proves its worth...QFD's power lies in the fact that it lays bare an organization's processes and how these processes interact to create customer satisfaction and profit.

The matrix which is often used to display these interactions is called the House of Quality, and is described in many of the cited items.


Havener, Clifton L. "Improving the Quality of Quality." *Quality Progress* 26 #11 (November 1993):41-44.


Kinni, Theodore B. "What's QFD?" *Industry Week* 242 #21 (November 1, 1993): 31-34. [BPO 00780645]


Introduction

The following books and articles cover the problems change agents face in bringing change to an organization. William Hitt, in The Leader-Manager, provides a list of attributes for effective change agents he derived from several other writers which is paraphrased below:

1. They view change as a friend; 2. They have power tools and know how to use them; 3. They are able to deal with both logical and psychological aspects of change; 4. They are able to establish a climate for change; 5. They start the change process with themselves rather than with others; 6. They do not force change, they facilitate it; 7. They create their own enthusiasm; 8. They are able to let go of old ideas and experiment with alternatives; 9. They seek out and accept criticism of their ideas; 10. They are able to get others to "buy into" their ideas for change.

These are certainly not easy tasks. Please refer to PPM Resource List #11 "Organizational Change" and List #36 "Change Management" for additional references. Research in this area may improve your chances at bringing about organizational changes, for as Machiavelli wrote in The Prince:

There is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things.


*Currid, Cheryl. "Test Yourself for the Seven Traits of 'Change Agent Syndrome'." InfoWorld 15 #11 (March 15, 1993):69. [BPO 00679903]


*O'Neill, Paul E. "Transforming Managers for Organizational Change." Training & Development Journal 44 #7 (July 1990):87-90. [BPO 00512910]


ISO 9000
Revised September 1994

Provided by the Code FT Program/Project Management Librarian at NASA Headquarters Library

Introduction

The ISO 9000 series of quality management standards was first issued in 1987 by the International Standards Organizations. ISO 9000 standards are seen by many as a tool for competing in the global marketplace, although some see the expensive registration process and reliance on consultants as yet another misunderstood management fad. NASA and DoD have recently stated they will use ISO 9000 to replace their own quality standards, simplifying contractors' and suppliers' compliance to standards. There are still questions about the impact of this requirement on the aerospace industry. The following books and articles focus on the good and bad of ISO 9000, including auditing and registration procedures.


IEE Colloquium on Management Consultancy and ISO 9000. London: IEE, 1993. [INSPEC 4383209]


Introduction

What follows is a list of books and articles dealing with chaos theory, sometimes called nonlinear dynamical analysis, as it applies to the management of organizations. Margaret J. Wheatley writes in the preface to her book *Leadership and the New Science*:

> Given a world where chaos and order exist in tandem, where stability is never guaranteed but chaos always conforms to a boundary, I propose my own hypothesis for the forces in organizations that create the structured shape that holds up through chaotic times. p. ix

Management guru, Tom Peters wrote *Thriving on Chaos* which looks at chaos less scientifically, and he warns us in a later book:

> [Chaos] certifies a notion dear to my heart – that the messy aspects of phenomena are the most important...But beware the inflated promise of chaos theory! Be warier still of adherents who propound its immediate application to business strategy. [Liberation Management p. 490-1]


*Berridge, A.E. "Chaos, Competitiveness & Control: The Qualities of Top Management and How to Blend Them into a Team." IEE Colloquium on Engineering Managers--Managing Engineers (1992):1-5. [INSPEC 4112779]*


*Odiorne, George S. "Chaos in Management."* Manage 43 #1 (August 1991):4-7. [BPO 00568943]


*Wheatley, Margaret J. "A Quantum Vision: Chaotic Organization Must Replace the Newtonian Bureaucracy."* Barron's 73 #12 (March 22, 1993):12. [BPO 00676807]

Introduction

Employee partnering, sometimes referred to as win-win work relationships, is similar to empowerment, in that workers become more involved in the team process. Duke Nielsen in Partnering With Employees, cited below, writes:

"Employee partnering is based on negotiated agreements for support and achievement that replace job descriptions and eliminate win-lose transactions between supervisors and employees. These agreements are not contracts. Instead, they recognize a covenant of good faith. They formalize the expectations that partners have of each other and the commitments they make to each other, and they transform supervisor-employee relationships into leader-direct report relationships. [p.1]

Articles and books listed below cover basic aspects of employee partnering, including lessons learned and case studies from various organizations. Partnering, like empowerment, is difficult to implement, as all kinds of interpersonal skills must be brought to bear for it to work. Employee partnering is different than that which involves teaming between suppliers and customers, and teaming between different suppliers for risk sharing and maximum productivity. Please refer to PPM Resource List #12 "Creating the Empowered Organization" and List #29 "Interpersonal Relations and Team Success" for additional and related material on this topic.


*Brown, Thomas L. "Is there Power is Partnering?" Industry Week 242 #9 (May 3, 1993):13. [BPO 00709593]


*Covey, Stephen R. "Win-Win Partnerships." Executive Excellence 10 #11 (November 1993):6-7. [BPO 00787419]


Moody, Patricia E. Breakthrough Partnering: Creating a Collective Enterprise Advantage. Essex Junction, VT: Oliver Wight, 1993. [on order]


*Shaffer, Jim. "Leading to Partnership." Executive Excellence 10 #11 (November 1993):11-12. [BPO 00787423]


Introduction

As more and more joint ventures become signed between the United States and Japan (including NASA International space projects) an understanding of possible problems owing to cultural differences might be a useful undertaking. The following books and articles offer an introduction to this topic, and cover various aspects of Japanese-American business cooperation.

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Moore, G. "Learning From Success - An Introduction to the Engineers to Japan Scheme." Engineering Management Journal 3 #5 (October 1993):197-199. [INSPEC 4557245]


Introduction

As more and more joint ventures become signed between the United States and Russia and/or the Russian Federation (including joint ventures with NASA), an understanding of possible problems owing to cultural differences might be a useful undertaking. The following books and articles cover differences on a variety of subjects: cultural, management, legal, and technical. Some references to the Apollo-Soyuz period have been included, since that experience may offer some useful lessons learned.

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*Lenorovitz, Jeffrey M. "Western Partnerships Key to Russian Industry Survival." *Aviation Week & Space Technology* 140 #22 (May 30, 1994):76-80. [BPO 00866453]


Introduction

The modern study of paradigms began in The Structure of Scientific Revolutions by Thomas Kuhn in 1962, and has been continued in the books and videos of Joel Barker. A paradigm, according to Barker, is theory or dogma that establishes boundaries and regulations. Paradigms filter data, and, as a result, often prevent anticipating new developments that come from outside the paradigm.

"What today is impossible to do in your business, but if it could be done would fundamentally change what you do?" asks Joel Barker. This is crucial to understand because of Barker's "Going back to Zero Rule": When a paradigm shifts everyone goes back to zero, your past success guarantees nothing. The Swiss invented the quartz movement watch, yet their paradigm for what a watch should be caused them to reject the new design. As a result, their market share fell from 80% in 1968 to less than 10% today. Their past success blinded them to the future of watch-making.

Barker's books and videos explore many examples of the paradigm effect, including the airplane, telephone, radio, and xerox machine. These ideas were developed by people who were open to new concepts and new ways of looking at the world. As Joel Barker says in the conclusion to his video The Business of Paradigms:

"Those who say it cannot be done should get out of the way of those who are doing it."

PPM Resource Lists #11 "Organizational Change" and #10 "Innovation and Creativity in the Workplace" cover related material.


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