A Report On:
FLEXIBLE WORK HOURS

VE Adjunct:
SOCIAL VALUE ANALYSIS

Productivity:
SUCCESS IS A HIGH I(P)Q

Part I:
HOW TO SUCCEED AT DESIGN-TO-COST BY REALLY

Computerization:
AUTOMATED REPORTING OF EMPLOYEE SUGGESTION

Think It Over:
SHOULD SS ADMINISTRATORS MANAGE BY OBJECTIVE?
TWO NEW EDUCATIONAL PROGRAMS

- SUGGESTION SYSTEM CONCEPTS and OPERATION
- SUGGESTION SYSTEM ENRICHMENT

DESIGN FOR PRODUCTIVITY

Productivity Improvement and Cost Reduction are important to every manager in any type of enterprise — whether in the public or private sector. Improved competitive position, increased profitability, and more efficient operations are the result. A well-run suggestion system is an effective vehicle for achieving positive, tangible results in these important areas.

A Great Reservoir of Good Ideas is present in hidden recesses of the minds of your current employees. But a formal, structured system is needed to get usable, cost-cutting ideas surfaced and put into operation...and it has to be done correctly.

That's what a suggestion system, and these educational programs, are all about: profits, efficiency and ideas.

To be truly effective, a suggestion system must get started on the right track...and to remain effective it must be responsive to changing needs and objectives...and this means periodic review and appropriate modification. So you will find great value in these NASS educational programs in terms of techniques for System-results improvement for an established system, too.

Both Programs are loaded with meaningful concepts and highly successful techniques and may be used towards fulfilling NASS Certification requirements. They are presented in an educationally impactive manner by experienced, nationally known experts...leaders who have a depth of knowledge, understanding and presentation ability.

"SUGGESTION SYSTEM CONCEPTS AND OPERATION" is specifically designed for those who are: (1) relatively new to the suggestion "field"; (2) starting a suggestion system — and want positive, measurable results achieved quickly; (3) evaluating potential System implementation; (4) revising an ineffective, archaic System; and (5) administrator-assistants, evaluators, analysts, supervisors and interested members of general management.

"SUGGESTION SYSTEM ENRICHMENT" is for senior-level, experienced administrators who manage an established System. Those certified by the National Association (as CSSA or RSSA) are encouraged to attend this session. This brand-new session covers a limited number of key topics in depth; adequate time — and a structured approach — is built-in for specific problem solving.

New trends and highly refined techniques are stressed throughout a discussion much beyond general System design and administration. Included is very recent information on Legal Guidelines and Safeguards — which could literally save your System from extinction and your employer big $$$ in legal fees.

WHERE: Los Angeles
April 26-27

Chicago
May 10-11

Washington, D.C.
June 9-10

FEES: Suggestion System Concepts and Operation:
$150 - NASS Members
$165 - NASS Nonmembers

Suggestion System Enrichment:
$150 - NASS Members
$165 - NASS Nonmembers

For complete descriptive information and registration application, call or write NATIONAL ASSOCIATION OF SUGGESTION SYSTEMS, 435 North Michigan Avenue, Chicago, Illinois 60611 — Telephone (312) 644-0075.
The application of management skills and their constant improvement toward achieving “progress through people” is the theme of the 8th Annual National Conference of the American Society for Performance Improvement. It will be held May 19-21, 1976, at the Sheraton Hotel in Anaheim, California, in cooperation with the National Center for Productivity and Quality of Working Life, the U.S. Department of Commerce, and the Defense Supply Agency. Current ongoing developments, such as the trend toward raising the status of executives in charge of managing human resources, have sparked a much more intensive interest in this conference than in any of those held to date.

“We are confident that the summary of the contributions by the speakers and seminar participants will provide an in-depth analysis of management failures and successes in coming to grips with the factors that work and do not work in improving productive performance,” said W. Michael Richardson, national ASPI president. “A topflight administration figure will be one of the major speakers,” he added. “We have a pretty good idea who he will be, but just cannot say until we receive clearance from Washington. Several acceptances, including one from a well-known labor union leader, are still outstanding, but those who have already accepted our invitations assure us of rich knowledge inputs of benefit to the conference attendees.” These include:

E. Gary Anderson, director, Industrial Relations, Boeing Aerospace Company, New Insights into Performance in Industry and the Community; William E. Bright, manager, Manpower Planning and Development, Union Oil Company, The Management of Human Resources; Dr. Rosemary Fraser, Department of Educational Psychology, Miami University, Engineering Work Environment for Performance; Erwin H. Klaus, president, Global Operations Incorporated, The Management Development Needs of Multinational Companies; Dr. Konji Kobayashi, president, Nippon Electric Company, Limited, whose topic will be announced later; Ernest L. Loen, president, Ernest L. Loen & Associates, Why Performance in an Organization is Proportionate to its Communications; Dr. Norman Paris, management consultant, Managing for Objectives; Herbert Rosen, director, Technology Utilization, Systems Group, TRW, Incorporated, Cost Effectiveness of Matching New Technology with Human Demands; John Schmid, director, Operations Improvement,Ralston Purina Company, People Making the Difference with Different Management Methods; Robert Wood, director of Training, American Telephone and Telegraph Company.

A registration form to this ASPI Conference is printed below. Firms interested in exhibiting products or services should contact F. Cecil Hill, Hughes Aircraft Company, Centinela and Teale Streets, Mail Station X-125, Culver City, California 90230; Telephone 213/391-0711, Ext. 4555.

Members of the Conference Organization Committee are Marvin Wasserman, chairman; R.S. Bailey, Adela F. Harris, D.W. Harris, F. Cecil Hill, Erwin H. Klaus, Joseph E. Martelli, Scotty Roberts, Louise Russ, Larry Shifflett, Anthony R. Tocco, and ASPI President W. Michael Richardson, ex officio.


Name ___________________________ Firm/Agency/Orgn. ___________________________

Division __________________________ Street __________________________

City __________________________ State __________ Zip __________ ASPI Corporate Member — Yes ( ) No ( )

Full Registration includes: All sessions, two lunches, banquet, coffee breaks, proceedings and conference materials.

Make checks payable to: 1976 ASPI National Conference — Mail to: Scotty Roberts, Hughes Aircraft Bldg. 322, Mail Station M-190 Centinela Ave. & Teale St. Culver City, CA 90230

Advance Registration $80.00 $95.00
Registration after May 1, 1976 $98.00 $113.00

ADVANCE REGISTRATION discount applicable only if accompanied by payment or billing instructions.
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SUBSCRIPTIONS — Single Issue $2. Yearly Rates: U.S. and possessions $12; Canada $12.60; Foreign countries $13.20. (Make all checks payable in U.S. dollars.) Write for organizational bulk rates.

EDITORIAL POLICY: PERFORMANCE Magazine umbrellas those performance factors which improve the competitive advantage and excellence of American Consumer/Defense products and services for the markets of the world. PERFORMANCE is dedicated to the effective exchange of innovative technology and ideas as they relate to quality, reliability, safety, maintainability, cost reduction, value engineering, life cycle cost, management improvement, cost-to-produce, standardization, cost engineering, integrated logistics support, defect prevention, suggestion systems, motivation and productivity.

Contributions in the form of articles, photos, letters to the editor, etc., are welcome. Editorial policy dictates the right to edit or reject any material submitted for publication. Views and comments of contributors do not necessarily constitute the endorsement or opinion of the American Society For Performance Improvement, the Society of American Value Engineers, the National Association of Suggestion Systems, nor that of the National Property Management Association.

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PERFORMANCE UPDATE
PERFORMANCE SUBSCRIBERS are invited to contribute.

Lewis W. Lehr (holding award), president of 3M Company, U.S. Operations, expresses appreciation to company employees Richard Aspensen (left), manager of energy conservation, and Robert Owens (right), senior traffic engineering specialist, for their efforts in developing a comprehensive energy conservation program that recently earned 3M the Federal Energy Administration’s Energy Conservation Excellence Award. The award was presented by Roger A. Sant (second from left), assistant administrator of the FEA.

3M’S COMMUTE-A-VAN PROJECT CITED

The 3M Company of St. Paul, Minnesota, was honored by the Federal Energy Administration for its pioneering energy conservation program, including its innovative Commute-A-Van Project, and for its generosity in promoting engineering standards for energy savings throughout the United States. Since the inception of 3M’s energy conservation program in 1971, it has been expanded to the company’s present worldwide operations encompassing more than 78,000 employees.

3M’s conservation program resulted in energy savings of at least fifteen percent during 1975, compared with 1973 as the base year. This savings represents the equivalent of enough energy to provide electricity to approximately 36,000 homes in the Twin Cities of Minneapolis-St. Paul.

The FEA Excellence Award cites in particular the 3M Commute-A-Van Project, popularly known as vanpooling. The project began as an experiment in April 1973, with six twelve-passenger vans. Today, seventy-five vans carry more than eight hundred employees to and from work daily at the 3M Center in St. Paul. Over 3000 employees, or thirty-three percent, of those at the center participate in vanpooling, carpooling or subscription buses.

3M officials estimate that vanpooling, carpooling and subscription bus participation by their employees save over 250,000 gallons of gasoline each year. Without these efficient means of transportation, it is further estimated that an additional 750 parking spaces would be required at the Center.

3M has shared its energy conservation success story with more than 4000 public and private organizations. As a result, more than forty vanpooling programs similar to 3M’s are known to be in operation throughout the U.S. Among companies now using some form of vanpooling are General Mills in Minneapolis, Conoco in Houston, the Tennessee Valley Authority in Knoxville, Chrysler Corporation in Detroit, Texas Instruments in Dallas, and Aerospace Corporation in El Segundo, California.

SEARCH FIRM NAMES

LOS ANGELES MANAGER

Gordon L. Davis, executive vice-president of Davidson-Kernan Corporation, Fort Worth, Texas, has assumed management of the Los Angeles office of the international executive search/management consulting firm. The Los Angeles office, established in 1969, is located at One Wilshire Boulevard, Suite 2321.

Davis joined Davidson-Kernan in 1970 after having previously held senior executive positions with Computer Sciences Corporation, Electronic Specialty Company, and Litton Industries, all in Los Angeles.

Continued on next page
ASQC MANAGEMENT COURSES

A group of courses to help managers and associated technical and manufacturing personnel understand the modern systems approach to solving quality management problems is being offered by the Education and Training Institute of the American Society for Quality Control (ASQC). The courses, all of which will be held in Milwaukee, Wisconsin, during mid-1976, now supply Continuing Education Units (CEUs) for their satisfactory completion. (The CEU is a nationally recognized standard of measuring noncollege-credit learning experiences.) Faculty members include many world-renowned authors, lecturers, teachers and consultants whose backgrounds include consumer, industrial and military goods markets.

For more information on these courses or on ASQC Certification, contact Education and Training Institute, American Society for Quality Control, 161 West Wisconsin Avenue, Milwaukee, Wisconsin 53203.

PHELPS DODGE NAMES EDWARDS WESTERN MANAGER

Henry M. Edwards has been named Western Manager for Phelps Dodge Communications Company, it was announced by Frederick W. DeTurk, president. Edwards joined Phelps Dodge in 1954 and has held various positions within the company. His most recent position was regional manager, West Coast. Edwards, 38, is a member of the Annual Forces Communications and Electronics Association; IEEE and Rotary International.

PRESENTING A PROGRAM FOR SUGGESTION SYSTEM PROFESSIONALS

NASS CERTIFICATION

The National Association of Suggestion Systems has a Certification Program which assures that participants acquire the knowledge, skills and techniques essential to full professional stature as a Suggestion System Administrator. Upon successful completion of the required study and examination, participants receive a certificate recognizing their attainment as:

Certified Suggestion System Administrator

OR

Registered Suggestion System Administrator

depending upon years of experience.

Your organization stands to gain an improved Suggestion System. You benefit from increased skills, demonstrated professional stature and recognition designed to share your attainment of certification with others.

Seventy-four persons from a great variety of organizations and governmental units in several countries are now certified as CSSA or RSSA. Other qualified Suggestion System personnel should plan now to be listed among them.

To obtain your certification application and a brochure explaining the program fully, write today to J. Alan Carter, Chairman NASS Certification, c/o NASS Headquarters, 435 N. Michigan Ave., Chicago, Illinois 60611.

Commander W. E. Hoffmann, chief of the Defense Contract Administration Services Office in Fort Wayne, Indiana, and Paul Halberg, manager of marketing for the Magnavox Government and Electronics Company, discuss features of the improved sonobuoy unit that netted the Fort Wayne firm more than $2 million in VECP payments and saved the Navy about $6 million. Photo courtesy of Fort Wayne News-Sentinel.
FAST, EASY LOGIC TROUBLESHOOTING — Designed to simplify and speed logic circuit testing, this new $125 Model 545A Logic Probe from Hewlett-Packard indicates digital states and pulses in both high level (CMOS) logic and low level (TTL) logic. An unambiguous single lamp indicator displays high or low level or detects bad level and open circuit conditions. CMOS and TTL operation is selected with a slide switch. CMOS logic threshold levels are variable and set automatically. Now, nearly all positive logic up to +18 volts dc can be sensed using one probe. These families include: TTL, DTL, RTL, CMOS, HTL, HiNIL, NMOS and MOS.

For additional information, write Inquiries Manager, Hewlett-Packard Company, Dept. P, 1501 Page Mill Road, Palo Alto, California 94304.

HOW TO MEASURE PARAMETERS OF AUDIO PRODUCTS — How to use low-frequency wave and spectrum analyzers to measure distortion, frequency response, wow and flutter, signal-to-noise ratio and cross talk of high-quality audio products is detailed in a new application note from Hewlett-Packard. The sixteen-page brochure discusses various types of distortion that occur in audio amplifiers, tape recorders, equalizers and loudspeakers. Methods of measurement are shown. Frequency response measurements of these products are explained in detail.

An analysis of harmonics in musical instruments illustrates the use of the spectrum analyzer in synthesizing voices of various instruments. Sections are devoted to acoustic response of rooms, signal-to-noise ratio and cross talk.

Application Note 192 “Using a Narrow Band Analyzer for Characterizing Audio Products” is available free of charge from Inquiries Manager, Hewlett-Packard Company, 1501 Page Mill Road, Palo Alto, California 94304.

QUALITY MOTIVATION — A 10-foot x 42-inch red, white and blue cloth banner featuring the Bicentennial message “Maximum Quality Production in our 200th Year” with a row of thirteen stars between the dates 1776 and 1976 is one of ten different quality motivational messages available from L.G. Harkins & Company, Incorporated, Dept. P, 345 Fourth Avenue, Pittsburgh, Pennsylvania 15222. The Bicentennial message is part of a tie-in true story in the FACTS folder “Quality Keeps Us Independent” to hand out to employees. The message is also imprinted on a ball-point pen to add to the impact of “Maximum Quality Production in Our 200th Year.” Nine other giant banners available cover a variety of quality motivational messages to stimulate quality production. They are available for display outdoors or indoors. Each has a tie-in true story FACTS folder. All are included in the free literature available from the company.

FREE STEEL BUILDINGS’ BROCHURE — A newly published brochure, “Sales/Service Centers,” offers ideas and suggestions on the utilization of steel building systems at inexpensive construction costs. The four-color piece contains five sample buildings that could easily be adaptable to sales service centers.

The brochure is available at no cost.

Continued on page 15
By Kenneth C. Dorking

Band Width, Core Time, Minimum Coverage, Flexible Time, Basic Workweek, Time Accumulators and Flextime all became part of Design-Drafting's daily jargon in early 1974, as plans were completed to initiate a trial of flexible work hours. Design-Drafting is one of six departments reporting to the Pacific Gas and Electric vice-president of engineering and provides staff assistance to functional engineering departments in design of the company's facilities, including hydro, nuclear and fossil fueled power plants, gas and electric transmission facilities, sub-stations and office, service center and maintenance buildings.

Flexible work hours is a radical departure from our traditional concept of fixed work hours and a change of this magnitude must be based on the potential for tangible benefits accruing to both the employees who want more freedom and the employer who seeks lower costs, increased productivity and a high level of customer satisfaction. For this reason, operating rules or guidelines (see chart) must be carefully prepared before implementing the flexible work hour concept.

The first consideration is band width or the total portion of the workday during which employees will be permitted to work. In Design-Drafting, the band width is 7 a.m. to 6 p.m.

Core time is the portion of the workday when all employees are expected to be on the job. Our department core times are 9:30 to 11:30 a.m. and 1:30 to 3:30 p.m. and are based on the needs of project engineers for personal contact with the design organization.

Flexible time is the period during the band width when the employee has the choice of starting and finishing work as well as eating lunch or taking care of personal business.

Minimum coverage is the fewest number of employees who are required to be on the job in each work group during the normal 8 a.m. to 5 p.m. business day. Each first-level supervisor is responsible for determining the minimum coverage for his own work group. This minimum is based on the requirement of providing satisfactory customer service.

The basic workweek describes the number of workdays and work hours per week plus the maximum number of hours that can be worked each day. Our basic workweek consists of five days per week, 37 1/2 hours of work time per week, and is limited to eight hours per day maximum due to prevailing labor laws and our agreement with the Engineers and Scientists of

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### DESIGN-DRAFTING DEPARTMENT

#### FLEXIBLE WORK HOUR GUIDELINES

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1. Basic workweek will consist of 5 days per week, 7 1/2 hours per day average or 8 hours per day maximum unless authorized to work overtime.
   a. Accumulated work time for the week must equal 37 1/2 hours.
   b. Work breaks for coffee and other personal business taken during 7 a.m. to 6 p.m. workday will not accumulate credit toward the 37 1/2 hours work time; and if taken during a core period, are not to exceed 30 minute in duration.
   c. Lunch breaks will be 1/2 hour minimum with no maximum, providing the employee meets the requirement of 1 (b).
   d. Employees may take lunch in work areas provided that they do not interfere with or disturb employees on work time.

2. While the basic goal is to provide employees with a maximum choice with regard to work hours, it may be necessary for the immediate supervisor to adjust an individual's work schedule in order to meet the requirements of his job. Time off during the core period in excess of 1/2 hour maximum work break must be approved by the immediate supervisor.

3. No employee will be required to adjust his present regular work schedule to hours which will be inconvenient or cause a hardship.

4. If restrictions, other than those set forth in these Guidelines, are imposed on an employee's schedule, company shall notify the union, not less than three working days prior to the effective date of such restriction, of the operational need requiring the change. Such changes shall be subject to consideration within the adjustment procedure.

5. Employees off sick must notify the immediate supervisor of the fact prior to 9 a.m.

6. Initial trial shall be for a period not to exceed six months and will be extended month by month unless at least 30 days written notice of termination is given by either party.
California who represent the designers and draftsmen.

After considering various alternatives to the problems of accounting for time worked under flexible hours, it was decided to rent an administrative system which provides each employee with a time accumulator register that is similar to a typical automobile odometer. A master clock permits time to be accumulated only during the band width. The time accumulator is activated by insertion of a plastic key coded for the particular register and logs time worked in increments of 1/100th of an hour.

Orientation meetings were held with all supervisors and employees prior to the start of flexible work hours to explain the intent and operation of the program. In order to measure the immediate effects of flexible hours, employee and supervisor attitudes were measured by opinion questionnaires completed prior to the start and after six weeks of operation. Because of the very favorable initial results, a decision was made to purchase the administrative system and to observe the results of one year of operation.

Utilizing data derived from payroll records, opinion research and personal observations, the following sections describe the impact of one year of flexible work hours.

Employee attitudes and perceptions

It is evident that the implementation of flexible work hours has resulted in a significant change in the employees' attitudes toward their jobs and their personal feelings of accomplishment. One hundred and ninety employees (41.5 percent) rated flexible time as a very important consideration while 212 (46.3 percent) considered it as somewhat important should they seek other employment. In addition, 98.9 percent of the employees want flexible hours to continue.

Among reasons frequently cited by employees for continuing flexible work hours were:
1. Improves productivity.
2. Decreases improper use of sick time.
3. Improves morale.
4. Prevents tardiness.
5. Motivates employees through feeling of greater personal independence and responsibility.
6. I like it.

Important advantages to employees of flexible work hours included:
1. I have time for personal business.
2. I don’t have to worry about being late.
3. I am more independent. I can plan my own schedule.
4. I have more time for my family.
5. I am less rushed to leave after work.
6. My commute is more convenient.
7. My commute takes less time.
8. I can start earlier, eat lunch earlier and go home earlier.
9. I can take classes in the evening.
10. I enjoy my work more.

A much improved relationship with the supervisor was reported by thirty percent of the employees. This can be largely attributed to the fact that employees are no longer questioned about tardiness, long coffee breaks and personal phone calls, since these items no longer detract from the expected work time. It also points out the significant advantage of recording only time worked and allowing the employee to manage the time previously allowed for work breaks.

Supervisor’s reactions and observations

The most radical change in attitude towards flexible work hours occurred among the first-level supervisors. During planning sessions prior to the implementation of the new system, many of these supervisors were uncomfortable about the added burden of supervisory coverage over the proposed eleven-hour work period and the idea of employees working unsupervised during part of the workday.

An anonymous survey taken just prior to the start of flexible hours showed that seventy-three percent of the supervisors were in favor of a ten-week trial. After three weeks of flexible hours a similar survey revealed eighty-four percent to be in favor of the new system and it also indicated that most of their concerns had been successfully resolved.

A Supervisor’s Opinion Survey taken after one year of operation showed that thirty-six of the thirty-seven supervisors felt flexible hours should continue, one remaining neutral. However, a more significant observation is the fact that seventy-seven percent of these supervisors rated the overall benefit to the company as significant or great, and only two supervisors perceived no benefit.

A high percentage of the supervisors identified improved morale and feeling of independence for employees as significant gains under flexible hours. Most of them noted design squad productivity, relationship with their employees, their own level of job satisfaction and availability of time for personal business as being better or improved.

However, increases in supervisory time required and more difficulty in being available to their employees and in planning and scheduling work were cited by several supervisors. These certainly are concerns that need to be evaluated against possible benefits by any organization planning to introduce the use of flexible hours.

A significant correlation exists between the Employee and Supervisor Opinion Surveys in the areas of supervisor/subordinate relationships and effectiveness and availability of supervision. A majority saw these areas as being unchanged to slightly improved, but there was a sufficient number of positive responses to indicate an overall gain in these areas.
Productivity

From the position of management, a most important concern about flexible work hours is its impact on the productivity of the work group. In Design-Drafting, employees do not commonly perform short term, repetitive work tasks that lend themselves to easy productivity measurements. During the year of flexible work hours the department has continued to expand the use of scissors drafting, master and original drawings created by utilization of photographic processes, varityping and bills of material prepared from data on magnetic tapes. Therefore, it is not practical to compare the times to create similar type drawings such as wiring diagrams, substation arrangements, etc., as a basis for precisely measuring productivity under flexible work hours.

However, the recent questionnaire results on the question of productivity indicate that seventy-nine percent of the employees believe that their personal productivity has increased under flexible work hours. This is substantiated by the feeling of seventy-two percent of the first-level supervisors that, in fact, the productivity of their work group has increased. Our best estimate of productivity gain is in the range of two to three percent or over $250,000 per year.

Sick leave

Under the usual fixed work hours schedules, employees are forced to use sick leave time to cover medical appointments. Under the flexible work hour arrangements, employees at their option are able to adjust their work schedules and minimize this type of absence. One to four-hour sick leave absences averaged 3.0 hours per employee in 1973 compared to 9.53 hours in 1974. Five to seven-hour absences were reduced from 1.20 in 1973 to 0.83 hours per employee in 1974.

While the reduction in short-time sick leave absences was significant, the real savings must be correlated to total sick leave usage, since it is of little value to reduce this type of absence if full day paid absences increase. In 1973, the use of sick leave in the Design-Drafting Department averaged 42.4 hours in 1974.

Taking the combined net reduction of 6.9 hours per employees from both one to four and five to seven-hour absences for 1974 vs. the 3.9-hour reduction in total sick leave compared to 1973 usage, we have captured approximately fifty-seven percent of the partial day absences. Based on an average of 574 employees during 1974, this represents an annual savings of $19,950.

Time off for personal business

Because of the proximity of our downtown San Francisco work location to retail stores, financial institutions, government offices, and medical and legal services, our employees have a strong incentive to handle personal affairs during the normal workday. The availability of flexible work hours has freed the employee from concern about taking time off during work hours at the expense of the employer and the company has gained this productive time.

At the time flexible work hours were implemented, it was clearly pointed out that management's expectation was for each employee to put in 37½ hours of working time per week. Any personal business to be taken care of during the workweek would be handled only on the employee's own time with the exception of time off for specific emergencies or death in the family.

The supervisors surveyed were almost unanimous that a reduction in the use of company time for personal business had occurred while 68.4 percent of the employees concurred. In addition, 92.3 percent of the responding employees reported that time available for their personal business had improved under flexible hours.

A conservative estimate of actual time saved in this area is nine hours/employee/year or an annual savings of approximately $46,000.

Effect on department operations

The Design-Drafting Department has been a highly successful area in which to use flexible work hours. The nature of our work, as well as the relatively little need for travel, lack of public contact, close proximity of all our employees, and effective supervision are all factors that have prevented any really adverse operational problems from arising as a result of flexible work hours.

At the start of flexible work hours, a letter was written to all departments we frequently interface with asking that any problems caused by unavailability of Design-Drafting personnel be brought to our attention. To date, no formal concerns have been expressed by any of the departments. In addition, our Supervisors' Opinion Survey has given us no indication of problems in internal or external communications. Individual engineers have experienced occasions when the designer or draftsman was unavailable, but have stated that the trade-off of having squad members present after the former 4:40 to 4:50 p.m. quitting time is of value in leaving communications or information for individuals in the work group.

Use of building facilities

A major source of employee complaints prior to flexible hours were the long wait times for elevators during peak load periods and the heavy congestion in the cafeteria during inclement weather. Both the Supervisors' and Employee Opinion Surveys show a large reduction in elevator wait time.

While no specific question was asked about the cafeteria congestion, this has ceased to be a common complaint. Mitigation of these annoyances can only help to improve employee morale and upgrade the work environment.

Commuting to work

Since a high percentage of people who work in San Francisco live outside the city, a major employee benefit of flexible work hours is the advantage in commuting to and from work off the peak travel time. Changes in departure time of thirty to forty-five minutes can reduce the travel time by as much as fifty percent.

Since an employee can start work as early as 7 a.m., he can capture the advantages of early commute to avoid the rush-hour traffic without wasting time at the place of employment waiting for the start of the workday. Those who formerly chose to arrive just at the start of the workday can no longer attribute their tardiness to the myriad of excuses that were formerly used.

The fact that 62.6 percent of the employees reported a significant increase in commute convenience and sixty-five percent reported a decrease in commute time demonstrates clearly the impact flexible work hours can have in a congested metropolitan area. While the employee enjoys a tangible benefit, the community's problem of servicing the commute needs of the residents is alleviated by spreading the commute load over a longer time period.

Design-Drafting has also benefited because commute problems no longer have an impact on the workday. Under the fixed work hour concept, there was little that could be done when commute disruptions due to adverse weather conditions, traffic tie ups, or transit system strikes resulted in employees arriving late for work. Now, the employee has to cope with the problem of completing the allotted hours of work. No longer is there the expectation that the company will absorb time lost due to commute problems.

PERFORMANCE
Alternatives to the use of time accumulators

Manual timekeeping by each individual or an honor system with no time reporting are other methods that can be used with a flexible work hour system. Our experience with manual posting of weekly time cards on a daily basis for job control purposes has demonstrated that a large percentage of employees wait until Friday afternoon to make their entries for the week. We feel that this type of manual bookkeeping would be far less accurate and subject to much more dispute than the time accumulators maintained on an immediate work group basis which provide each employee with a simple summary of hours worked for the week.

The use of an honor system is impractical because we maintain records of time worked (four-hour minimum increments) on each engineering design assignment received by the department and use time cards for this purpose. It is also necessary to report sick leave, vacation time, time off for personal business and leaves of absence for payroll purposes. In addition to these considerations, an honor system, while idealistic in concept, eliminates the need most people have to be subject to a reasonable degree of imposed structure and discipline.

Conclusions

By providing our employees with a greater sense of independence and enabling them to better utilize their time, the department has been rewarded with a more responsive and satisfied work force. The operating guidelines have been well accepted by the employees, yet provide the supervisor with the means to control the work group and to set minimum levels of coverage during the 8 a.m. to 5 p.m. normal business day.

Properly administered in an appropriate work situation, flexible work hours can be a valuable asset for both the employee and the employer. However, this is not to suggest that it is the answer for all work situations. The purpose and role of organization needs to be clearly defined when evaluating the impact of flexible work hours and in developing the rules or guidelines for the work group. Neither is the flexible work hour concept a substitute for well-trained, competent and concerned management.

One note of caution. Once your employees experience flexible work hours, it will be very difficult to return to fixed work hours. However, if you try it, I think you will like it.
GIACOMO d'ASCANIO graduated from the University of Pisa with a doctorate in industrial engineering. He has constantly worked as a consultant in the field of mechanical design at the school of his father, Corradino, the helicopter pioneer (1930) and designer of the Vespa motor scooter. Since 1972, as associate professor of Value Analysis at the University of Pisa, he has been teaching the first graduate course in Italy of VA. He is a member of SAVE and British IVM, as well as of the Italian Association of Aeronautics and Astronautics.

Abstract
The author illustrates Value Analysis (VA) as a method of functional value optimization distinct from the classical method that he calls morphological optimization. Whenever optimization includes — besides the traditional use and esteem functions — the so-called social functions, that is those functions aiming to the welfare of the community, then the author introduces the term of Social Value Analysis (SVA).

The evaluation of social functions is a costly and complex undertaking and the author suggests that only a governmental body be entrusted with the task of carrying out the study and to make them work as best as they can. The engineer who is working on the design of a new model automobile has in mind the previous model, at least a reference model, and he will endeavor either to do a little more, or a little less, or a little like. For these reasons we will call this kind of optimization the morphological optimization.

Strictly speaking, creativity plays no part in the morphological approach, on the contrary, it might even prove a dangerous element. It is usually enough that the engineer knows his stuff, that his knowledge is up-to-date, that he adopts materials and structures well-known or perhaps technologically advanced, that he can proceed to optimization of his design using mathematical processes which are more or less refined, checking then his results with the appropriate tests. The same considerations might be true with the engineer of the manufacturing department, and so forth.

It is noteworthy that it is a marked tendency of classical optimization to proceed to a series of sub-optimizations in watertight compartments. It may happen that design will not question the accuracy of the data handed to them by general management, who, in turn, received them from marketing, and manufacturing optimizes the production system of the product as it was supplied by design.

Value Analysis has radically
changed this traditional method for optimization by introducing the system that had always been used, perhaps instinctively and embryonically by the outstanding designers and managers, that is the system of Functional Optimization. With the adoption of functions the boundaries existing between the different sections fall off, and a newly found conceptual unity sets in with the ensuing elimination of unnecessary costs.

From a conceptual viewpoint, functional optimization involves the transition from the morphological system to the corresponding functional system, the search for several morphological systems having in common with the originating morphological system the functional structure, a rapid and approximate optimization of each of these, the appropriate techniques, a choice, and a further complete optimization and determination carried out by the department most interested in the study (general management, marketing, design, etc.).

From the point of view of its execution, the author is convinced that a division of the tasks involved in the last two phases above listed, namely creation and executive design, is much to be preferred, insofar as it should be the task of the VA team to see to the functional optimization leading to the choice of the best system, singled out in its basic characteristics, and then it should be the task of the appropriate department (general management, design, etc.) to see to the final draft of the project. In particular, it should not be the exclusive right of the designer to create the object; he should participate in the creation, but either at the head or inside the VA team.

**Definition of Social Value Analysis**

Whenever functional value optimization is carried out in that particular system formed by a human community and the natural resources available to it, considering as output the utility of a given product or service originated from that system, and as input ensuing cost, it is proper to talk of Social Value Analysis (SVA).

Using the functional language we are familiar with, we will note that in the case of SVA it is necessary to add in the social functions — i.e., those that are particularly relevant to the welfare of the collectivity — to the classical functions of use and esteem from which originated the corresponding use and esteem values. Moreover, we will have to add a certain amount of money that we call social value to the classical value. For reasons too obvious to explain, it is manifest that such a social value is not, nor cannot be, taken into consideration in a business concern operating in a normal free-market situation, when the customer is represented by an individual; on the other hand, it is advisable to introduce such a value whenever the prospect customer is represented by the administration, local authorities, utilities and, more generally, in all those cases in which public money is to be expended.

**The Carrying out of SVA**

Social functions are not always the same, nor have the same value. On the contrary, they vary with time, and according to the different economical and political-economic situations — and with place, depending on the human community under consideration. The computation of the monetary value inherent in the realization of each social function in the different instances is, as a rule, rather complicated and costly, so that it could not be repeated in its entirety any time it is thought to be necessary.

The author feels that such a complex study must be carried out in two separate stages. First, it is imperative that an institution that offers the necessary expertise in the collection and processing of information, such as a university, effect following a formal commission and subsequent approval of the study itself by the political authorities — the study on the social functions to be considered in the particular place and particular period of time under exam. Afterwards, the institution has to make out the SVA tables to be used to solve the problem of evaluating the social functions. In a second stage it is left to the business executives of the concerns implied, such as public administration, local authorities, etc., to practically use those tables and the parameters contained in them — see the specimen study detailed herein — to evaluate with relative case the social value of the product or service under consideration. Then, using the VA techniques, they will proceed on to the functional optimization referred to the total value or output/input ratio as above defined.

It is beyond the scopes of this paper to discuss specific criteria for constructing SVA tables. Undoubtedly, this would be a difficult task and would require a lot of study and direct testing based on practical circumstances, as we previously understood. The method and techniques developed in the framework of Cost-Benefit Analysis Theory, System Theory and Utility Theory will surely prove very useful under this respect.

**A Case Study**

The following example is aimed at showing how the SVA analyst, by means of suitable tables, could practically assess the amount of social value to be added to ordinary market value appraisals in order to obtain the total value of any product or service.

The example we are going to illustrate refers to an investment expense; a case of financing could be treated in a similar way. Our example is, of course, purely a didactic one, and concerns the hypothetical administration of a country in which there are three major problems to be faced: a deficitary balance of payments, unemployment, and air pollution. Assumed that the administration of such a country has adopted the method of SVA and that the SVA state office has developed a collection of SV tables referring to each particular industrial category for each social function concerned in the specific circumstances above described. Let the three tables regarding the automotive industry category be the following — once again we stress the fact that all figures and formulas listed below are imaginary and not the result of any specific analysis.

Let us assume now that the administration referred to must purchase a certain number, say eighty, of motor buses intended for public transportation. There are three possible solutions on the market:

- **Purchase of the whole lot from a foreign seller at the unit price of $100,000 — including spare parts.**
- **Purchase of pre-assembled components abroad for a unit price of $50,000 and final home assembling at unit price of $60,000** (Total unit price $110,000).
- **Home construction at unit price of $150,000 including purchase of foreign materials for an amount of $10,000 per unit.**

Finally, we will assume, for simplicity’s sake, that the design and performance of the vehicle be about the same in all cases.

The first step of our procedure is the choice of a common basic value of the whole lot, to be utilized as a reference term to derive all value indexes. In accordance with a current practice of VA, we can choose the lowest price as reference value — but any other nontrivial choice would do. Hence, we have for the reference value
V_0:\quad V_0 = 80 \times \$100,000 = \$8,000,000

In order to calculate the total worth of the lot in each case by means of SV tables, we use the following expression:

\[ V = V_0 \left( 1 + V_1 + V_2 + \ldots + V_n \right) \]

Where

\( V_0 = \) basic value as defined above, i.e. the value relating only to the use-functions and esteem-functions of our product.

\( V_i = (i = 1, 2, \ldots, n) = \) influence coefficient, i.e. positive or negative quantity to be added to each dollar of expense in order to account for a particular social function.

It is worth noting that this very simple relation implies that the single social functions are not interdependent, which appears to be an acceptable assumption in this context.

<table>
<thead>
<tr>
<th>104030</th>
<th>INVESTMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th CATEGORY — AUTOMOTIVE INDUSTRY</td>
<td></td>
</tr>
<tr>
<td>SOCIAL FUNCTION 3</td>
<td>AVOID POLLUTION</td>
</tr>
<tr>
<td>Function Parameter</td>
<td>Influence Coefficient</td>
</tr>
<tr>
<td>( f_3 )</td>
<td>( v_3 )</td>
</tr>
<tr>
<td>( \leq 0.167 )</td>
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</tr>
<tr>
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<td>-3.35</td>
</tr>
<tr>
<td>2.60</td>
<td>-3.65</td>
</tr>
</tbody>
</table>

**NOTES**

\( f_3 = \) pollution parameter, to be evaluated according to instruction No. 14-3-25

Let us calculate now the total value for each of the three cases.

**Case 1**

\( f_1 = 0 \quad v_1 = 0 \)

\( f_2 = \frac{\$8,000,000}{\$8,000,000} = 1 \quad v_2 = -1.5 \)

\( f_3 = 0 \quad v_3 = 0 \)

Then

\[ V' = V_0 \left( 1 + 0 - 1.5 + 0 \right) = -0.5 \quad V_0 \]

Total worth \( V' = -\$4,000,000 \)

Value index \( V'I = \frac{-\$4,000,000}{\$8,000,000} = -0.5 \)

Hence, in the particular circumstances assumed above, the first solution would yield a loss for the community.

**Case 2**

In this case the function "give employment" is accomplished in some degree (say 600,000 work hours):

\( f_1 = \frac{600,000}{8,000,000} = 0.075 \quad v_1 = 0.6 \)

Besides, we have, for a foreign purchase of $4,000,000

\( f_2 = \frac{\$4,000,000}{\$8,000,000} = 0.5 \quad v_2 = -0.75 \)

We shall assume, for the factory in which part construction and final assemblage take place, the following value of the pollution parameter:

\( f_3 = 0.334 \quad v_3 = -0.25 \)

Hence

\[ V'' = \$4,000,000 \quad VI'' = 0.55 \]

and finally: \( V'' = \$4,000,000 \quad VI'' = 0.55 \)
We shall assume:
\[ f_1 = \frac{1,600,000}{8,000,000} = 0.20 \]
then, from the Tables
\[ v_1 = 1.6 \]
Besides, we have
\[ f_2 = \frac{-10,000 \times 80}{8,000,000} = 0.1 \]
therefore
\[ v_2 = -0.15 \]
Let the factory be characterized, in this case, by:
\[ f_3 = 1.5 \]
so that,
\[ v_3 = -2 \]
Therefore, the Total Value is:
\[ V''' = V_0 \left( 1 + 1.6 - 0.15 - 2 \right) = +0.45 \quad V_0 = 3,600,000 \]
and the Value Index
\[ V' = \frac{3,600,000}{150,000 \times 80} = 0.3 \]

Conclusions

As it can be evinced from the above performed calculations, solution No. 1 is to be rejected because it substantially yields a loss for the community.

Solution No. 2 is the best in the assumed conditions. It must be underlined that, by means of a suitable SVA study and of appropriate creative and analytical techniques, such a result could be overturned. Indeed, we assumed that we were in a negotiation phase for specifications and costs, so that there was still time to modify the function specifications, social functions included, in order to improve the total worth of our product.

Therefore, it will be a task for the SV Engineers of the firm concerned in the third solution to modify costs and specifications so that the Value Index \( V''' \) may rise over the alternative value \( V' = 0.55 \).

In the specific case here discussed, it may, for instance, turn out that with a relatively cheap expense the pollution parameter \( f_3 \) could be lowered from 1.5 to 1.0; the influence coefficient \( v_3 \) should consequently rise from \(-2\) to \(-1.25\), with a resulting Value Index of 0.8. This would be sufficient to get the tender.

Why a Creative Collaboration is Necessary

The author is thoroughly convinced of the productiveness of teamwork, even if such a team is only an abstraction, since its components are merely concordant because of their joint objective. This joint objective is represented by the development of SVA, and the role of this subject — of an immediately superior level to optimize resources — must be serve collectivity.

It is now necessary that quite a few people contribute their knowledge in the form of criticism, creative thinking and experience in order to further advance in the subject and reach a satisfactory level of cognitions, capable of conferring on it credibility and consensus particularly inside the public administration.

Necessity of a Pilot Experiment

Similarly to a new product, which needs to be conveniently tested and improved by using it in a smaller-scale experiment, it will be necessary at a given stage to experiment SVA techniques by using them on some real problem offered by a public concern, in order to refine the methodology and render it a really supple and easy tool for an extended usage.

Conclusions

The author is hopeful that this memoir may contribute to the spreading and ultimately systematic use of SVA in the human community.

By allowing a widespread use of the tables as a commonly accepted decision-making instrument, it should be possible to achieve a fundamental result that is the coincidence of the interest of an individual, a private concern or a local authority, with the collective interest.

Dr. d'Ascanio requests contributions in the form of criticism, creative thinking and experience, in order to further advance the subject. These contributions should be sent to the author at the following address: Dr. Giacomo d'Ascanio, 9 Bixio, Pisa, Italy.

Copies of the correspondence should be sent to the following address: Salvatore J. Castiglioni, 2245 Glenwood Road, Brooklyn, New York 11210.

PERFORMANCE TRENDS
Continued from page 7

by writing to Star Sales/Service Centers booklet 12-60DD, Star Manufacturing Company, P.O. Box 94910, Oklahoma City, Oklahoma 73109.

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AUTOMATED REPORTING FOR AN EMPLOYEE SUGGESTION SYSTEM

By Frank H. Perry
When we embarked on the Automated Reporting System, we first had to develop a plan or agenda to follow. This plan included a review of our objectives. We decided that the two main objectives were:

1. To enhance our suggestion program by making any changes or improvements in line with the computerized system.

2. To reduce the cost of administering the suggestion system.

The first step we took to enhance the program was to design a new suggestion form that could be used as a direct input to the computer key-punch group. If we had continued with the old form, it would have been necessary to copy all of the essential items onto data cards and then input these cards to the computer. The new suggestion forms include handling instructions which indicate a positive direction of paper work flow from the time the suggestion is first submitted by the employee to his supervisor until it is completed and closed out of the system.

These changes made the employee’s supervisor the controlling link in the chain of events and made him become more involved. Also, a major advantage of the program was that the information on the employee’s submission was available to us whenever it was needed, eliminating the need to thumb through a monumental file system. To gather information now is nothing more than reading some figures that are printed out monthly from the computer. One other advantage is that the clerical work necessary to maintain the system is less than one-half the work previously necessary. Under the old system, we had to keep many logs and records, and logs on logs, to find out where a suggestion was and why. Now, we have an up-to-date history without any manual logs.

Our second objective was to reduce the cost of administering the system. This was accomplished by changing control to one central computer location, rather than maintaining it at a hundred different department locations. Besides saving handling and administrative costs, it improves the accuracy and validity of suggestion information. Savings also have been realized in the improved control of suggestion-award dollars. It makes it nearly impossible to make suggestion awards. In addition, it takes much less effort to train new personnel and desk clerks in the suggestion procedure because it is computer controlled.

Automated Suggestion Reports

ECR/Suggestion Monthly Status Report, Originating Department –

<table>
<thead>
<tr>
<th>ECR/ECR TYPE</th>
<th>CURRENT MONTH</th>
<th>YEAR TO DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

PERFORMANCE
There are two basic reports for maintaining process and control of Honeywell's suggestion system, called the Error Cause Removal (ECR)/Suggestion Program. The first report is entitled "ECR/Suggestion Monthly Status Report, Originating Department." This report lists all new input transactions and keeps this input in the system until the suggestion evaluation is completed and closed out. There is a separate report for each and every department. The reports are issued monthly and list practically everything on the suggestion form. Two controlling numbers, the employee number and the suggestion serial number, ensure that we do not get double entries. It has saved us from paying duplicate awards, which was happening under the old system and of which we were unaware. Other items listed on the report are the originator's name, the date the suggestion was written, whether the suggestion is eligible for a cash award, and what department is investigating the idea. These are the items listed on the report when the suggestion is received and the relevant data is entered in the computer.

After the suggestion has been investigated and completed, this same or subsequent monthly report will show: whether the idea has been accepted, A, or unapproved, U; the date it was completed; if accepted, the dollars awarded; type of award, tangible, T, or intangible, I; and type of suggestion, such as safety, production, maintenance, etc. The report also shows a monthly summary of the current month and year-to-date totals of number of suggestions submitted, number completed, number of current year submittals still outstanding, number accepted, number unapproved, number eligible for cash award, number of those awarded and number tangible, and finally, dollars saved and dollars awarded.

ECR/Suggestion Report, Investigating Department – The second report is entitled "Outstanding ECR/Suggestion Report, Investigating Department." This report keeps track of the suggestion while it is in the hands of the investigator and before it is completed and closed out. This report is also a separate report for each department and is issued monthly. It shows the investigator's initials, the date the investigator received it, the ECR/Suggestion number, the date the idea was submitted by the originator, the originating department number, and the number of days it has been out to the investigator. These departmental reports are summarized at the bottom of the sheet showing the suggestion age categories (thirty, sixty, ninety days), and the total number of suggestions outstanding and yet to be completed.

These two reports maintain complete control of the current status of every idea, its date of origination, its author, its investigator, its age, etc. The reports also summarize this information on a monthly basis as well as a year-to-date basis. These reports show the activity by department, such as Production, Quality, Engineering and summarizes it for each department director, as well as for the overall division. No logs or manual reports are necessary, but some departments do keep cuff records to keep tab and control for interim daily or weekly periods.

Other Reports

Other reports are available from our automated system such as an "ECR/Suggestion Weekly Request for Check Report." This report lists the suggestion number, employee's number, employee's name, dollars awarded, check sort number, employee's work location, department

Exhibit II
Outstanding ECR/Suggestion Report, Investigating Department

<table>
<thead>
<tr>
<th>INVESTIGATORS</th>
<th>DATE TO INVESTIGATOR</th>
<th>ECR NUMBER</th>
<th>DATE SUBMITTED</th>
<th>ORIGINATING DEPARTMENT</th>
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<td>06-11-75</td>
<td>4118</td>
<td>7</td>
</tr>
</tbody>
</table>

TOTAL 16 UNDER 30 DAYS 14 30-60 DAYS 1 61-90 DAYS 1 OVER 90 DAYS
DEPT. # 6122

"PLEASE FOLLOW UP THESE ECR/SUGGESTIONS"

PERFORMANCE
number and employee's job classification, such as hourly or semimonthly. The payroll department makes up the dollar award checks from this tab listing.

There is also a report that is used by the Suggestion System Office that indicates any computer input errors that are made. This report is called "ECR/Suggestion Reject Listing Report." If an error is made, the report lists the input code, the two controlling numbers (suggestion number and employee number), and the error condition or reason for rejection.

The above reports are necessary to make the automated program workable. As time goes along, one may find a need for a new report. As an example, we found a need for a report showing participation by employee. In fact, this was something the National Association of Suggestion Systems' office asked for and something we wanted from which we could pick our Suggester of the Year. Therefore, we merely contacted our computer programmer, stated our needs and he was able to make a program that would tabulate this information from data stored in memory. This report was called "Summary of 1974 ECR Awards Report." It lists in employee-number order the employee's name, suggestion number, whether the suggestion was accepted or unapproved, amount of award, whether a tangible or intangible award, and amount of dollars saved. The report summarizes the number of ECR/Suggestions submitted for the year by each individual, the total number accepted or unapproved, the number of tangible or intangible of those accepted, total dollars awarded to the individual, and total dollars saved by the company. The report also shows a grand total of these items for the entire division.

Assembling all this information for report purposes was practically impossible without a computerized automated system. The time and effort necessary under the new system is only a fraction of that expended under the manual method. For instance, selecting our Suggester of the Year was accomplished in a matter of minutes.

Another feature of our computerized suggestion program is a categorized system by subject matter of suggestions submitted. Included are such subjects as production, quality, safety, administration, maintenance and tool room. The purpose of this categorization is to aid in predicting employee participation, to set goals, or for use as a guide to better publicity and promotional efforts.

When we embarked on this automated system, we had no idea of the value it would offer us beyond the normal advantage of a computerized system over the conventional manual system. New advantages seem to be a never-ending thing. We are able to work up new programs and find new uses for the data that is already in the computer.

Summary
This article demonstrates the advantages of an automated system versus a conventional reporting system. In review, these are the main advantages of a computerized suggestion system over a manual system:

- Automated reports
- Automated control
- Retrievable data
- Minimum training
- More accurate
- Less costly
- Highly efficient

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Write For Organizational Bulk Rates
Loretta Fleming is a consultant on Work Humanization and Job Enrichment and specializes in conducting (in-house) workshops on the subject. She is an Associate Member of the Society of Professional Management Consultants and was formerly an executive with the Pennsylvania Bureau of Employment Security. Her background includes extensive experience as an occupational analyst and employment specialist, and she holds a Master of Arts degree from Columbia University.

Miss Fleming is also a member of the American Society for Performance Improvement and the Institute of Management Sciences.

Success Is A High "I(P)Q"

By Loretta Fleming

Improving Productivity And Quality Of Worklife

(Reprinted from Journal of Management and Business Consulting.)

Two vital issues claiming the attention of management today are productivity and the quality of worklife. Converging and interacting, they are generating currents of change in the world of work which should brighten the future of the economy as well as the future of those who work.

The recession put productivity in the limelight and the quality of worklife issue has been brewing for a number of years in a movement to end the depersonalization and regimentation of workers.

The link between work humanization and productivity and the competitive advantages of improving the quality of worklife are becoming more evident to management. Experiments have proven that when positive action is taken to make work more satisfying, there is usually a significant improvement in productivity — and profit.

At this stage, job enrichment is receiving considerable recognition as a method for increasing job satisfaction. It emphasizes the content of jobs and all of the human aspects involved. In essence, it means giving workers more responsibility and control of work they perform. Tasks are reorganized or modified to make work more interesting, satisfying and self-fulfilling, which, according to the behavioral scientists, is the way work should be.

"Experiments have proven that when positive action is taken to make work more satisfying, there is usually a significant improvement in productivity — and profit."

But behavioral scientists and business people are not always on the same wavelength. Management people, business-oriented as they must be, are concerned about worker productivity as well as worker satisfaction. They speak not of improving the quality of worklife per se, but of motivating people and developing human resources to increase productivity.

There is a difference. When you set out to increase job satisfaction, you focus on the job — the job tasks and how they involve the worker — and on the human factors inherent in the total work situation. The improved productivity which usually results is a by-product.

When you set out to increase productivity by developing or mobilizing human resources, you are tackling the problem of productivity; job satisfaction is a by-product. Emphasis is placed on group action or team work and participation of workers in decision making.

Since business people have to meet productivity and profit-goals to stay in business, obviously work must yield productivity as well as satisfaction. On the other hand, since workers need job security, they too must be concerned with productivity goals.

It is in this area — human productivity — that managers are challenged to seek the most effective ways of organizing and humanizing work. In some industries they have been very successful in boosting both productivity and worker satisfaction.

In a recent article in the Harvard Business Review, Ted Mills, director of the National Quality of Work Center in Washington, D.C., stated: "As recession deepens, interest and activity in this emerging field expands. As capital grows scarcer, managements across the country may have begun to suspect that the potential extent of human contribution to output (as distinct from capital contribution) could and should be far more fully understood and developed than it has traditionally been in more affluent times."

The growing recognition of the quality of worklife as a crucial factor in the improvement of productivity has advanced the cause of work humanization without making a special, abstract issue of it. Integrated with productivity, it is being dealt with pragmatically.

Interesting theories relating to the work ethic have surfaced in this decade, some of them attacking the chain-of-command type of management.

Advocates of self-management believe that work should...
be entirely worker-controlled and profitless. Their goal is the democratization of work to relieve what they consider the oppression of workers under the hierarchical structure of management.

The fact of the matter is that democracy in the workplace has already become a way of life in some industries; that is if you think of democracy in terms of giving workers more responsibility, autonomy and participation in decision making. However, the dissolution of management is definitely not part of the trend — at least not in our system of free enterprise; although the dilution of management occurs in some cases where job enrichment is instituted.

Democratic management and work humanization are not really new in American industry. Clair F. Vough, chairman of the Board of Productivity Research International, in his book “Tapping The Human Resource,” describes his experience in increasing productivity when he was vice-president for Manufacturing at IBM. His people-oriented approaches were strikingly similar to some of the new humanization techniques which are widely discussed today. Here are excerpts from his book:

“Total responsibility is at the heart of our policy. The problem is not boredom, but depersonalization. The answer is not enrichment, but direct experience of personal worth and importance, of social responsibility that derives from clearly defined personal responsibility. Plants should be designed primarily not for machines, not for products, but for people.”

Allan H. Mogensen, founder and director of Work Simplification Conferences, pioneered worker participation in decision making a good many years ago. Discussing his work done before the 1975 conference of The Improvement Institute, he stated he came to the conclusion that “the person doing the job knows far more than anyone else as to the best way of doing that job and, therefore, is the one person best fitted to improve it.” He also made reference to this statement made by Erwin H. Schell in a paper presented to the American Management Association in 1952:

“May industry recognize and act upon the opportunity to close its ranks over and across that obsolete remnant of earlier days and earlier ways — that artificial abyss of class distinction which has heretofore separated management and labor.”

Fortunately, this is happening. The days of rank consciousness and the don’t call us, we’ll call you style of management are numbered!

The interest in democratizing or humanizing work should not obscure the importance of the work process itself. We have much to learn about applying all the principles of humanism to the design or manufacturing of jobs.

Many of the experiments to improve worklife through job enrichment have been successful, but they have not been trouble-free because of job restructuring problems.

When you enrich jobs by increasing responsibilities and drawing tasks from higher jobs, you break through the traditional boundaries of jobs. Job classifications represent sharply divided units of work, whereas job enrichment and work humanization call for job fluidity. The conflict with established job classification systems on which wages are based has to be reckoned with. It is probable that new methods of classifying jobs will evolve as work organization trends toward more flexibility.

The rigidity of the occupational structure of the economy and the dominance of technology are clearly reflected in the classification system of the Dictionary of Occupational Titles published by the Department of Labor. The characteristics of jobs are described in terms of work situations to which workers must adjust, and the specificity of job titles tells you a great deal about the fractionation of jobs. Job titles such as Toe and heel-seat shellacker and Jigger-crown-pouncing machine operator leave no doubt as to the circumference of the job.

A new field of jobology may open up as industry copes with changing work concepts. It takes a good deal of know-how to organize job tasks into modules of work that blend maximum productivity potential with maximum humanization of work. And while the workers themselves are the real experts when it comes to redesigning jobs, the work and skill involved in effecting the overall synthesis of operations into jobs may constitute a job in itself.

Irving Bluestone, vice-president of the United Auto Workers, whose forward-looking ideas on the quality of worklife are well known, in addressing the 1974 conference of the American Society for Personnel Administration, spoke of “involving all aspects of worklife in the structuring of the job.” It may be that the job of the future will defy description!

The changes occurring in occupations and worklife are bound to bring about changes in education and training. Data gathering for career planning will have to go beyond the survey type of research based largely on the single-occupation concept — the status quo of the occupational structure. There will be challenges to broaden and make more flexible our education and training systems to conform with changing structures of work and to provide individuals with opportunities to widen their range of skills. Gearing training programs toward the development of clusters of basic skills would improve the functioning of the labor market by facilitating the inter- and intra-industry mobility of workers.

According to a Bureau of Labor Statistics report, only twenty percent of the occupations in our economy require an education beyond High School. If this is true, with all its implications of underutilization of skills and talent, lack of fit between labor supply and demand, and limited relevance of higher education, the science of jobology may have to consider the creation as well as the organization of work. If we are to move in the direction of full employment, there will surely have to be greater coordination between education and the world of work!

“The consultant’s role is very well expressed in the following quotation from the book “Making The Most Of Management Consulting Services” by Jerome H. Fuchs: “The consultant should be the catalyst in making things happen and in reshaping the areas of the company in need of constructive change. Thus, his services should go beyond the role of a skilled technician. For, while in your employ, he is an adjunct supportive arm providing executive management with added capability. In this role the consultant can assist in the development of far-reaching and practical policy determinations. Through his initiatives, the company should develop sound approaches to the structuring of the organization; to the method of clearly delineating areas of authority and responsibility among members of management; and to the detailing of workable operating systems, procedures and job duties.”

Consultants can help management attain a high level of success in reaching its productivity goals by applying their expertise and research approaches to the areas of human resource development, improving the structure of jobs and improving the quality of the total worklife.
WILBUR L. BRYANT has been a contributor of papers, patents and novel approaches to cost management in numerous industries where new technologies were being implemented. Work experience in design engineering, quality control, manufacturing engineering and value engineering for such diverse products as airborne radar, nuclear reactors, automotive piston rings, aircraft flight simulators, missile guidance systems and high-speed hovercraft has provided extensive exposure to the multi-faceted cost problems of development type projects. His presentation of cost and value oriented materials extends from cost effectiveness papers at the 1959 American Nuclear Congress to several recent talks to local groups on blue collar creativity and homemaker value analysis.

A 1963 engineering graduate from Indiana Institute of Technology, he presently is associated with the shipbuilding industry of New Orleans.

Design-To-Cost contracting for the design and development of major weapon systems will reward those contractors who can effectively assess and apply their own capabilities for configuration and cost management. The contractor must establish a performance/cost target which exceeds the specified Minimum Performance Requirements and, yet, is less than the Maximum Cost Goals. These two primary parameters of a Design-To-Cost Requirement delineate a configuration window (Figure) within which competing contractors can be compared or sole-source contractors can earn monetary fees. The competitive and profitability potential of a contractor is directly proportional to his capability to:

SELECT THE OPTIMUM TARGET. The optimum target for a given contractor is that composite performance/cost configuration which is not only the winning configuration but which the contractor can realistically expect to achieve with the resources available to him.

PLAN THE TARGET-SEEKING COURSE. The plan must assure cost visibility in the format and to the detail level which will explicitly define individual objectives for each responsible designer. The plan must also assure continuing coherence of the performance configuration and the projected cost estimate.

SENSE VARIATIONS FROM THE PLANNED COURSE. The course plan must designate an appropriate quantity of monitored milestones (performance and cost) to assure that the inevitable variances are recognized before becoming irrecoverable deviations from the target path. The sensors applied to these milestones must span the breadth and depth of scope to illuminate potential as well as existing variances.
SUPERFLUOUS PERFORMANCE LEVEL

ENHANCED PERFORMANCE CONFIGURATION

HIGH VALUE CONFIGURATION

LOW VALUE CONFIGURATION

LIMITED COST CONFIGURATION

THE DESIGN-TO-COST TARGET AREA

Figure I
EXECUTE MID-PROGRAM CORRECTIONS to recover the original target course or redirect to a new target. This requires a defined system for synchronizing the fast-reaction decision-making and change-implementing methodologies.

Many defense contractors will approach a Design-To-Cost proposal with the belief that it is the same game with a new name. They will consider the Minimum Performance Requirements as a relaxation of specified functional configuration, which it is; they will see the Maximum Cost Goal as the same old contracted price of cost reimbursable contracts which will yield when stressed and to which all manner of overrun rationale can be applied, which it is not; they will plot a general course toward loosely defined objectives believing they will be able to negotiate all the contingencies, which they won't.

The language of the contract, if awarded to one of these contractors, will indicate to him the real and rigorous expectations of Design-To-Cost. He will recognize that a major overhaul of his targeted configuration is not feasible (such extensive changes are disallowed); he must resourcefully select those configuration items which are susceptible to improvement without a change to the contract; he must reduce his performance goals on several items just to maintain his overall cost projection within the contracted limits. Unless he has an extremely fine-tuned methodology for identifying the most change-susceptible items and for optimizing change decisions, he will have little chance of recovering a high-fee contract performance from his dilatory cognizance of DTC objectives.

The Butcher Strategy

Some contractors will accept a Design-To-Cost contract while reflecting a fully cognizant, but overconfident posture. Such a posture is supported by their program managers who blissfully assure they can “bring the program in on the dime” even though they have never been involved in a program which was less than fifty percent overrun on cost. They sincerely believe that, by emphasizing the importance of cost at the start of the program, their personnel will watch out for costs and finish close to the target. They expect that those little extras which creep into the design can be lopped off at the design review if the customer doesn’t like them.

Such butcher strategy has been used to trim the fat from previous programs and may yield an acceptable Design-To-Cost program, but it is unlikely to optimize the program parameters for winning fly-off competitions or sizable incentive fees. The butcher in this recovery strategy must select those items with the highest cost-avoidance/performance-sacrifice yield ratio and which are susceptible to change. Since he is seeking to recover contract compliance or the company cost-effectiveness image, his selections are critical; since he must compare the yield and susceptibility parameters of several items, the selection is complex; since his design butchery will not be enthusiastically supported by the designers, his selections must be quantitatively compared and logically valid to withstand challenge and to assure management understanding and support of the recovery effort.

The contractors described above are unlikely to be awarded Design-To-Cost contracts unless they enjoy a technical monopoly in a critical field. However, even those DTC contractors who are fully cognizant of the unique contract requirements will find that designing to a pre-established cost is deceptively complex at the detail level. The first-time DTC contractor should be prepared to absorb the results of uncertain planning by implementing an early warning system and a methodology for identifying and selecting the cost-effective alternative route to the original objective.

Trade-off Evaluations

The experienced DTC contractor (and the first-time contractor who has a methodology for assessing and reducing the inherent uncertainty of planning and estimating) will prepare for DTC contract performance contingencies by documenting his second choices for the performance/cost configuration target tentatively established during the Advanced Development (validation) Phase. These selections are usually ranked second due to the special states of the program environment and constitute viable configuration.
The experienced contractor is aware of the continuing changes to environmental states as the system development progresses and recognizes that, when influenced by a slightly modified environment, these second-ranked alternatives may emerge as the optimum configuration. Therefore, he will retain the documentation of trade-off evaluations in a communicable format for usage by the Full Scale Development (Design-To-Cost) proposal and design teams and for cross-fertilization of ideas to other in-house programs.

The organized system to accumulate these documented alternates resources is a cost-effective avoidance of redundant efforts and constitutes a strategy for success in proposing and performing DTC contracts. The documentation and utilization of these resources require a capability for accurate parameter projection and the capacity for mid-program course corrections, frequently based on complex trade-off decisions between alternative concepts for several functionally interrelated sub-systems and components.

These decisions must optimize both the performance and cost parameters and must be understood and accepted by the implementers. Therefore, the logic of such decisions must be communicable and extend from quantifiable arguments. A body of knowledge called Decision Theory satisfies this criteria and is recommended as a high-value technique to those who will be involved in Design-To-Cost Contracts.

A Case Study

It is worthwhile to examine a hypothetical, but not unrealistic, case study of a first-time Design-To-Cost contractor who is inundated by unanticipated contingencies, but applies rational management to develop a recovery plan for the instant contract and Design-To-Cost resources for future contracts. This narrative reflects the thesis-presenting author’s license in superfluous drama, but presents many scenes and characters which are recognizable to those who have participated in critical programs. Some of the problems and solutions which are unique to Design-To-Cost contracts are explored; other problems are the same recurring people problems which any manager encounters.

The setting is the Supersophisticated Military Systems Division of JUSEE Defense Contractors, Incorporated. The characters are, in order of appearance:

- Alwez Rational — program manager
- Duwitt Awntime — program scheduling manager
- Laonthy Lion — contracts manager
- Getthy DeZionrite — program engineering manager
- Watts Thibux — program cost manager
- Altiem Topbraz — division president
- Eimal Biznus — an obvious Adams type, staff aide to president. Cost, but not technically oriented.
- Saphen Shoor — engineering staff aide. Technically; but not cost oriented.
- Gotchur Buxbak — an experienced, professional value engineer.
- Don Rokbotes — manager of value engineering
- Ken Gettamam — employment supervisor

Alwez Rational is the program manager for the Supersophisticated Military Systems Division contract to design and develop a major weapon system. The contract is a cost-reimbursement type and includes a Design-To-Cost requirement. The DTC requirement specifies the Minimum Performance Requirements and the Maximum Cost Goals and, in addition, offers attractive incentive fees for optimizing the performance/cost ratio (equals value) within these stated constraints.

Rational is an experienced manager of development type contracts who has suffered through the late-delivery rationales of previous programs and was determined to avoid such embarrassments on the present program. At the initiation of the program, he demanded and obtained the services of Duwitt Awntime, who has organized a fully competent scheduling group. This group produced a comprehensive PERT diagram with high confidence. The program staff, acceding to Awntime’s insistence that PERT be considered a planning tool as well as a status reporting document, have avoided scheduling anomalies by anticipating and working around potential negative-sack paths.
This was Rational's first experience with a Design-To-Cost contract or with any program for which there was a hard, impenetrable ceiling on cost. His contracts manager, Laonthy Lion, had impressed upon him the firmness of the goals by outlining the directive constraints applied to his counterpart program manager in the procuring DOD Component. Lion especially highlighted these excerpts from DOD Directive 5000.28:

"DESIGN TO COST. A management concept wherein rigorous cost goals are established during development and the control of systems costs (acquisition, operating and support) to these goals is achieved by practical trade-offs between operational capability, performance, cost and schedule.

"Likewise, the minimum essential performance characteristics shall be quantified to avoid trade-offs below that necessary to satisfy the required operational capability.

"Once established, the goal becomes a highly visible cost goal against which, in large measure, the success of the program and the cost performance of the DOD Component and program manager are measured.

"Any change to an established Design-To-Cost goal must be approved by the Secretary of Defense, normally after review and recommendation by the DSARC. However, they will generally be approved only for major changes in program structure or mission requirements, for changes where a significant demonstrable reduction in life-cycle costs can be achieved, or for other program changes beyond the control of the program manager or DOD Component."

Rational reacted to the DTC requirement by extracting assurance from his program engineering manager, Getthy DeZionrite, that the Minimum Performance Requirements could and would be satisfied. He had reviewed the Maximum Cost Goals with his program cost manager, Watts Thibux, who assured him of the completeness and accuracy of the cost estimate used for the contract cost proposal.

During the course of the initial design phase, Rational (a former engineering staffer who remains technically oriented) worked closely with DeZionrite and Awntime to manage the timely release of drawings defining an adequate design. He had received periodic reports from Thibux which, although projecting plus and minus variances from targeted costs for individual cost-driving elements, showed that the total program cost would be below the Maximum Cost Goal.

Rational had been aware of some heated jousting matches between DeZionrite and Thibux but did not enter the controversies, since they both were within their decision scope and no red flags were floated up. He had asked Awntime to evaluate DeZionrite's contention that the special cost variance design reviews requested by Thibux could not be absorbed in the present design schedule and was satisfied with Awntime's decision that such unscheduled reviews would disrupt an otherwise exemplary and customer-approved schedule.

The outcome of all this management activity was reflected by the following status of the program at the first scheduled design and cost review:

The design and drawing release occurred well ahead of schedule;

The as-designed configuration will perform at a level which barely exceeds the Minimum Performance Requirements and

The cost of the program was projected at a level slightly below the Maximum Cost Goals, the difference being approximately equal to a reasonable anticipated cost estimate error margin;

Rational and his program team gave evidence of maintaining a contractually compliant program, but one which would earn only the minimum incentive fees;

Some of the customer's review team were visibly displeased (some about low performance, some about the evident cost growth) but could not officially complain since the contractual requirements had been satisfied.

But, Altem Topbraz, division president and Rational's
immediate superior, was less restrained when he dropped the loaded question: “What went wrong between the proposal phase and now?” He asserted his awareness that the proposal estimate had projected the cost of the minimum performance configuration well below that of the Maximum Cost Goals and of that now projected for the reviewed configuration (very near the minimum performance configuration). He then assigned Eimal Biznus, division troubleshooter and special projects staffer, to review the program cost variances and to report on the potential for recovery.

Biznus probed Thibux’s cost data (and patiently listened to the tale of frustrated cost management efforts) and the documentation of the few performance/cost trade-offs. He also demanded, from the responsible designers, a rationale for each plus cost variance. He recognized that eighty-five percent of the total plus variance was attributable to twenty-one percent of the design items (Pareto distribution). He concluded (and reported same to Topbraz) that, considering the many minus variances and the tenuous rationales for several large plus variances, the cost of the program could be reduced to the level of the original proposal.

He recommended (and Topbraz so ordered) a comprehensive design and cost review of these major cost-overdriving design items. He had extracted from Awntime a preliminary schedule for redesign which could be integrated into the overall program schedule.

Rational, still smarting from some stinging comments by the reviewers about overlooked opportunities to improve performance, suggested that a contractual alternative existed to allow improvement of the performance level while holding the cost constant. He suggested that, while redesigning to reduce the cost of the large variance items, other items could be redesigned to improve performance, with the net result being an improved performance configuration which was still below the Maximum cost Goals. Lion confirmed that either approach responded to the Design-To-Cost incentives and would earn approximately equal fees.

Although no contractual baseline changes were proposed, the customer was informally strobed for his preference. The DOD component program manager, although having expressed a desire for improved performance at the review, was by now less confident of this contractor’s ability to manage costs in such close quarters. Knowing that additional funding to complete an overrun program would be difficult to justify after a redesign to improve performance, he suggested that Rational’s most discretionary course might be to direct all redesign efforts toward the reduction of cost.

Topbraz was understandably upset by this image cast of his division and called a special staff meeting to announce, “We will be cost-effective. We will prove a capability to manage cost. We accepted a Design-To-Cost requirement and we will satisfy it. We will support Rational’s plan to recover the original cost projection for his program.” And then to Rational, “I want to personally review your detailed plan for recovery.”

By these statements, Topbraz was establishing his policy of succeeding at, instead of just complying with, Design-To-Cost contracting. He also reflected his confidence in the division capability to define and achieve a more precise configuration target zone than that delineated by the DTC contract parameters.

Rational’s unenviable task was one which can be avoided by the early warning monitoring provided by a well-planned cost-projection system. He had learned the hard lesson of first-time DTC contractors that precise configuration targets are more achievable through Management By Objectives than by the delayed controls of Management By Exception.

(The conclusion of this article will study Rational’s development of the recovery plan by the application of Decision Theory.)
PAUL M. BAILEY is the administrator of the Employee Suggestion Plan for Pacific Gas And Electric Company of San Francisco, California. He has headed the corporate suggestion system for the past seven years, and has many years of experience in training, management development, placement and labor relations.

Bailey was appointed to the Board of Directors of the National Association of Suggestion Systems in 1971. He is the second vice-president of the Association and is a Certified Suggestion System Administrator.

(The views expressed in this article are the author's and do not necessarily represent the views of the Pacific Gas And Electric Company.)

First, you must be dissatisfied with the way things are, or with how you're doing them. Have you heard of Stanley Arnold? — Idea Man incorporated. His entire life has been committed to finding answers; sometimes audacious, but always exciting. In his lifelong pursuit, he has enlisted all the resources of personality and intuition. He stands alone as a creative spirit; a commercial success, sought out by every variety of business. He built his stream of promotion ideas into a million dollar business. He was born Stanley Norman Arnold in Cleveland, Ohio, in 1915.

This is the fellow who, at 13, brooded about his physical inability to keep up with his peers in the gym class, particularly in the broad jump. He was a laughing stock, so promptly set about reversing the process — he tried jumping backwards. Sure, he failed at first, but before long he was able to jump backwards several feet, even gracefully.

He shared his idea with the gym teacher and made a suggestion that the class might have a backward jumping contest. When the gym teacher announced at the following class that they were going to try a standing backward jump, an excited buzz went through the crowd of boys. What, they wondered, was this new type of competition? The teacher explained it was like a standing broad jump, except the contestants would be measured on how far backward they could go.

One by one, the top athletes in the class took their positions, flung themselves backward and landed a few inches away in a sitting position! When Stan's turn came, his fellow classmates leaned forward, quite expecting his usual awkward, dismal failure. But, he bent low and, unwinding like a coiled spring, flew gracefully in reverse and landed neatly on his feet! Unquestionably, a new and exciting event was born that day and Stan possibly emerged as the world's first champion backward broad jumper!

Since that time, Stanley Arnold has jumped on to considerably greater things, invariably creating the same sort of excitement for his clients that he created as a youngster for his schoolmates. His company's sole function is to contrive novel ways for companies to —

**Increase Productivity**

He racked up more failing grades than anyone had achieved in the history of the local schools, due to a monumental absentee record as the result of childhood illnesses. But he's a firm believer in, and certainly a living example of, the fact that intimacy with failure can, and most often does, breed success. You really don't have to harangue or threaten to fire employees, you really don't have to offer them expensive prizes, what most people (there are exceptions, but I said, most people) want in their lives is excitement! And what better excitement than to put brain waves into action?

It is true that most advances have come through technology, but what spurred technology? The impetus of competition did. And what spurred the competition? The impetus and demands of people with new ideas.

In recent years, the pressure of finding a way to make this year's balance sheet look better than last year's has caused a severe erosion of the competition element that has been so vital to progress. The safe road to mediocrity is being traveled more heavily than the riskier path to excellence.

Before the energy crisis descended in the fall of 1973, manufacturers were settling into a pattern. There were considerable refining, extension
and honing of current programs, coupled with a general hesitancy to launch new ventures. If the energy crisis has done anything positive, it certainly has applied the shock treatment necessary to awaken top management to the fact that, from here on, things are going to be different. It has forced a critical appraisal by both government and industry.

Now, reasonably, this crisis cannot be and is not going to be an open, one-way ticket to higher and higher prices and a cover-up for bad management. But it is going to provide an opportunity for organizations to shed some of the weaknesses of the past to unchain productivity, to draw on the creativity of all of its people.

Coordinated research and planning efforts, with enormous financial implications, have to be devoted to finding newer and better ways of producing goods and services, while satisfying environmental requirements at a bearable cost. All this must be done, while attacking the associated financial and economic problems through courageous and imaginative solutions, unconstrained by historical doctrines or philosophies.

Governments, too, and there are many, have a heavy responsibility. Our United States Government is probably the most integrated, worldwide public service system and economic activity of any size, anywhere. It depends on cooperation between governments for a stable environment and to provide a basis for reliable planning and sound economic development. Fertile ground for productivity?

Bertrand Russell once said, "Every person who has acquired some unusual skill enjoys exercising it until it has become a matter of course, or until he can no longer improve himself." So what we are saying, I am sure, is that the majority of us are eager and willing to:

1. Improve our daily job requirements.
2. Improve our ability to take corrective action.
3. Improve by being more innovative.
4. Improve as an individual (personal development).

All of these relate to things we do both on and off the job.

We all would like to control our own destiny to a greater extent. Let's look at the analogy of the automobile. Whenever you start to run your assignment by Standards and Objectives, the control is in the hands of the driver, not a back-seat driver giving a constant stream of warnings, advice and instruction. One company uses the slogan, "Leave the Driving to Us," and that's just where you and I would like it.

A new-type manager-administrator is on the scene. Although changes in fashion, cars and architecture are easily visible and readily accepted by most of us, the new forms of creative leadership that accompany economic and social changes are gradual in coming, and changes in styles of managing and administration are even less obvious.

One of the more common beliefs by older supervisors is that "People don't want to work the way they did when I started out." This is partly true. The labor force at one time was largely unskilled and unorganized. Discipline was firmly enforced and the boss was most successful if he was tough. In this kind of climate, there was no need for anyone to try to understand human relations and employee motivations. All you had to do to make workers follow orders was to hold over them the continual threat of firing.

During World War II, when the demand for workers increased, organizations began to offer more benefits and privileges and, for the first time, began worrying about how to keep employees happy! Out came a wave of social scientists who entered our door for the purpose of applying theories of human relations to the work situation. Most training courses showed the way to produce peace and harmony in the shop.

In the late Forties, another change became necessary - a result of rising inflation, which began to press harder and harder upon management and the economy in general. A vice-president of Johnson and Johnson Company put it this way back in the Fifties: "We've got to find some pegs to hang this human relations business onto. So it will produce more, not just make people contented."

It wasn't until 1954 that management expert Peter Drucker suggested that future managers would be held accountable for results rather than for their human relations abilities. He proposed a gradual, rational approach to this change. Thus, the climate was set for the supervisor of the future, who, in fact, is with us now. Here is what the new style is like: He is oriented toward results and responsibility.

The changing economic and social milieu has brought into existence this new type of administrator. You will need to have the ability to plan, lead, organize and control, with the end product being results!

What you have just read sets the stage for a little closer look at how each of us can take a more professional approach to begin to be more results oriented in our suggestion and incentive systems. It is necessary to look closely at this new style, because we are in an age of what I choose to call "New Puritanism."

There is a concerted and probably a well-intentioned effort to clean up the marketplace, so to speak. Such a drive can have direct and immediate effects on business and government. It can raise costs and reduce profits.

Today, the Great Society, in the main, takes care of the worker through various social schemes. Now it's industry that's on the defensive.

Almost every industry is being carefully scrutinized, and efficiency and cost savings are paramount. During the Sixties, steel companies were the targets. Recently, the auto industry has been bombarded by environmentalists and consumer groups; the utility industry is up against forces of great magnitude; and the oil companies have been up for their share of abuse. In California, supermarkets may not even be able to use their expensive price-scanning machines to check out their customers' purchases because the customers complain that they have no way to see the price of each item.

Even government agencies, city, state and federal, are taking their licks; New York, for instance. Recently, San Francisco police and firemen refused to work until large pay raises were granted. Education is in an uproar. The pupils aren't learning. Have we sent them to school to get a diploma, or to get an education? Teachers are on strike for reasons we don't know.

Maybe we, as suggestion administrators, can get a piece of the action by doing a better job of motivating people; recognizing their potential, exploring and developing so that we, as an organization, can assist in reducing costs. The need is there. Now, what can we do about improving our part in this action?

A system of management by objectives goes beyond being a set of rules or a series of procedures. It's just a particular way of thinking about managing your job. What is its framework?

1. The basic structure of any organization often is called a hierarchy, with the familiar arrangement of boxes showing the boss in the top box, with two, three or more subordinates in the boxes below. Management by objectives is a system for making that structure work, and to bring about
more vitality and personal involvement of people.

2. **Management by objectives** provides for the maintenance and growth of the organization by means of statements of what is expected for everyone involved and measurement of what is actually achieved. It assigns some risks and makes you cognizant of the need to produce results. It stresses ability and achievement, rather than personality.

3. As a system, management by objectives can extend as far down as first-line supervisors and also cover many staff positions, such as those of administrators.

4. **Management by objectives** helps overcome many of the problems of managing professionals. For example:

   - It provides a means of measuring the true contribution of our work;
   - By defining goals of people and organizations and measuring contributions, it goes a long way towards obtaining coordinated effort and teamwork;
   - It provides solutions to the key problem of defining our major areas of responsibility;
   - It is geared to achieving results;
   - It eliminates the need for people to change their personalities;
   - It can answer the key question in salary administration by paying for results; and
   - It aids in identifying the potential for promotion.

In brief, the system of management by objectives is a process whereby you get together with your supervisor and jointly define goals and your major areas of responsibility in terms of results expected. Then, you use these as guides for operating your function. Its side effects to you, personally, are knowing where you stand, better morale, improving your promotability, and just plain doing the kind of job your organization expects.

Most good work aims at accomplishing some specific end and reaching some fixed point. I believe, up to a point, that:

- If you don't have any goals, you have no idea of whether you are on the right road or not;
- You cannot assess results without some prior expectations against which to measure them. For example, look at the moon launch and the Russian-American hookups in space;
- You don't know when your job is drifting if you aren't clear on what goals you're after; and
- You cannot perform your best if you don't know what goals your organization has set or how well you are doing in relation to those goals.

If you are a thoughtful person, I would recommend that you read a chilling and unpleasant book. It is the autobiography of Rudolph Hess, written in prison in 1946 in Germany while he was awaiting execution as a war criminal. Between 1941 and 1943, as commandant of the concentration camp Auschwitz, Hess had directed the execution by gassing of over two million political prisoners. Most of these executions he had supervised personally.

Measured by many standards and appraisal systems, Hess would have rated as an excellent administrator. His production was outstanding and he followed orders implicitly, at the same time using skill and imagination. He was adept at the managerial skills of planning, leading, organizing and controlling. In such matters as quality of work, safety of employees, cost control and engineering, he was superb!

In his personal life, he was a devoted family man and regretted that his work kept him from his children and his animals, which he loved. He was a thoughtful man and considerate of the men who worked for him. As he confesses in his autobiography, he did have occasional twinges of regret at the things he had to do, but it never crossed his mind that he could do otherwise than meet the objectives set for him! Yet, would you say he was a success?

Management by objectives meets the criteria for a systematic and professional approach to your job.

Being one of the new breed of managers doesn't require a personality change. But we are people, thinking and caring people, and being the right persons for the job we should come equipped with a built-in value system.

This is not a simple procedure that can be slipped into effect — it's certainly not a cookbook approach. There is nothing more fatal than to conceive of such a system as a cut and dried thing. Frankly, it's hard work and makes us think, and it involves some personal risk.

Do we want to appraise a person merely on a set of numbers previously agreed upon? Don't the fine managers and administrators you have dealt with have a social consciousness and a respect for you as an individual? The whole world is going to have to come to grips with the value of human life and the precious little time we have to elevate it.

The point of all this is that the technique of managing by objectives is just that, a technique, and it can apply as well in totalitarian situations as well as in the free world. Somewhere along the way, we've got to get values into standards. It is sad, but true, that conformity and compliance are still the most important values to which we are attuned.

In our incentive work we are fortunate, because we are looking for the person who is willing to stick his neck out for a new and better method.

Let's see if we can get a fix on what kind and how many potential idea people we have in our organizations. Sylvia Porter, in her syndicated business column, titled a recent article "When Life Is A Waste." In it, she outlines how the average white-collar worker spends time and how we fail to recognize that employees not only want to contribute, but need to be recognized for their efforts. She makes the following points in quoting the president of Science Management Corporation, specializing in productivity improvement:

"If you are merely an average worker, you have nothing to do at least seventeen percent of your work day, and waste another twenty-eight percent of your time through ineffective work methods. That's almost a half day."

"What's more, contrary to popular belief, most of the nation's forty million white-collar employees resent this situation and it's not because they want to work harder, but, rather, because they feel management is not really paying attention to them as individuals."

"An efficient, conscientious employee is usually treated the same way as a substandard performer. Now get this: Neither the worker nor the supervisor has a clear idea of what is expected! Old attitudes hang on and techniques that easily could boost productivity fifteen to thirty percent are being overlooked by the vast majority of organizations."

"We in the United States can regain our former level of efficiency, which has lagged behind most other industrial nations for a decade, only by spurring better performances among the two-thirds of us in white-collar and service jobs."

The rest of the article goes on to point out ways the supervisor and employee can eliminate this idle time through asked-for and much-needed suggestions.

Porter's main point purports that rising productivity is the answer to controlling the cost-of-living spiral, while encouraging maximum use of our work force. With those forceful words, I think we can see our suggestion work in a new light.
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