Value Abroad: VALUE MANAGEMENT ITALIAN STYLE

What It Is: THE TRUTH ABOUT ASPI

Comment: NO FUTURE WITHOUT RISK

Waste Upgrading: A CHALLENGE TO CREATIVITY/VE

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"Productivity Crisis," the emperor cried.

"Productivity Crisis," the subjects echoed with righteous indignation; albeit, with the same cosmetic concern as that for their second child's third tooth.

We Americans have suffered the buzzword — PRODUCTIVITY — and the stigma therein, for some five years now. All academia seems to know that America is in the midst of a productivity crisis.

Perhaps.

But, if America is experiencing a productivity crisis, it is by our standards alone; and much of the remainder of the world is in a catastrophe. Crisis is a strong word and is generally construed to mean a decision point when things will either turn substantially better or substantially worse. However, there is reason to believe that neither change will occur in dramatic proportion, and that we will continue at a rather static, respectable plateau, barring unforeseen resource shortages.

If we in industry had been deeply moved about the productivity crisis, we would have been loath to delegate the responsibility for coordinating productivity improvement to the government — namely, the National Center on Productivity and Quality of Working Life.

Anyone who has attended technical presentations, interviews, or seminars alike is well aware of the lack of confidence in our Bureaucratic Brothers. In fact, a caustic remark to the same usually earns some thunderous applause. However, pure, the thimbleful of water which seeps through the sand, the remainder is lost through evaporation and losses within.

Our confidence has not been heightened by the recent revelations of paramours and officials wading in duck ponds near the dome, possibly at taxpayers expense.

Recently, I was asked to present a paper on Productivity at the SME, Productivity Opportunities Conference in Dearborn, Michigan. This was to be one of the more prestigious productivity conferences to be held in the United States during 1976. Conceivably, it was attended by the most interested of individuals representing the most interested of companies.

Near the end of my presentation, I asked the group:

"— Who is the Chairman of the National Commission on Productivity?" (Vice-President Rockefeller)

None knew!

"— How many know who the acting executive director is?" (George Kuper)

None knew!

"— How many of this prestigious audience has been personally approached, by letter, by solicitation, or otherwise for your ideas on improving the productivity crises?"

None!

I think there is a two-sided message here, and it's this:

The Commission (Center), whatever, has not done an adequate job seeking help from the rank and file, and has apparently usurped much of its time worrying about extending budget bases, much to the sacrifice of any near term progress.

We in industry need to become more alert in recognizing problems of national scope and more active in solving them.

---

The Quality of Worklife movement is growing! Here's a Booklet of tips & thoughts on

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EMPLOYEE MOTIVATION KITS AVAILABLE

An employee communications program designed to stimulate creative thinking, boost morale and acknowledge benefits derived from cost-saving ideas and similar extra effort has been developed by Kaiser Aluminum & Chemical Corporation, Oakland, California.

Entitled "One Person Can Make A Difference," the program refocuses attention on the importance of individual effort and initiative in even the largest of companies. It utilizes a stylized "Number 1" emblem to emphasize that individuals, working alone or in teams, are still in key factors in the success of any human enterprise.

According to Kaiser Aluminum, since the program's inception in 1975 it has been so successful in-house that free do-it-yourself kits are being made available for use by other companies and organizations. The kits include basic guidelines for starting a "One Person Can" program, information on how to obtain existing Number 1 emblem-bearing items, and mechanical art for producing literature and other materials tailored to a specific company or organization's needs.

The Kaiser Aluminum do-it-yourself kit may be obtained by contacting Jack Rasmussen, Kaiser Aluminum & Chemical Corporation, 300 Lakeside Drive, Oakland, California 94643.

ENERGY CONSERVATION AWARDS

Applied Nucleonics Company, a Santa Monica-based engineering consulting firm specializing in energy management, has been chosen as one of four firms receiving an Excellence Award for Energy Conservation from the United States Federal Energy Administration. The other firms were: Los Angeles Trade-Technical College, Getty Union Bank, and AirResearch Manufacturing Company.

The selection of Applied Nucleonics Company came as a result of reducing energy use by almost fifty percent. The energy saving was achieved by the installation of an exhaust fan which used outside air rather than air conditioning, adjustment of thermostat settings, delamping and relamping, and conversion from incandescent to fluorescent lighting. These methods were implemented with little or no capital investment.

NEW MANAGEMENT COURSE

The Administrative Management Society, Willow Grove, Pennsylvania, has announced a new, professional home-study course — "Records Management and Micrographics." The course is essential not only for records administrators but department employees and those overseeing or closely associated with the record management function.

The self-paced, self-administered course starts off with a pre-test questionnaire that enables the initiated to skip those parts with which they are already familiar. Immediate feedback to responses, concealed images and instantaneous referral characterize the advanced learning techniques employed. A post-test enables one to check his progress.

The course includes a textbook (Information and Records Management, by Maedke, Robek and Brown), a workbook containing problems and projects in addition to the pre- and post-tests, a response booklet incorporating concealed image developer/marker. Materials include the latest information on records automation, microforms, computer output microfilm (COM) and copy duplication. The course contents are divided into four modules: 1. General concepts, problems and techniques of records management; 2. Classification systems and manual filing; 3. Micrographics: systems, hardware and software; 4. Supplementary questions, problems and projects.

Cost of the course is $39.95 to members of the Administrative Management Society, the International Word Processing Association (IWP), and the Office Microfilm Management Association (OMMA), $49.95 to nonmembers. The course may be ordered from the Administrative Management Society, Willow Grove, Pennsylvania 19090.

PRODUCTIVITY LEVELING OFF

Productivity gains from the recovery and now leveling off, but the U.S. generally is in the best competitive position it has enjoyed in the past decade, according to the head of one of the nation's largest firms specializing in productivity improvement.

"For many years U.S. productivity gains lagged behind most other industrial nations, because of rising wages and inflation," James A. Skidmore, Jr., chairman and president of Science Management Corporation, told members of the Baltimore Rotary Club August 3.

"The situation today is considerably altered because other countries in the past two or three years have had to deal with far higher wage demands and price increases," Skidmore said. "The American worker is still the most productive but no longer the most expensive; hourly labor costs, including fringe benefits, now are higher in Sweden, Norway, Denmark and Canada," he pointed out.

The attraction of American companies to cheap foreign labor has been significantly diminished, Skidmore noted. "As a matter of fact, the equalization in production costs is beginning to attract more foreign companies to set up manufacturing facilities in the U.S."

Even in Japan, which led in industrial gains for many years, productivity has been drastically affected by wage increases averaging twenty to thirty percent over the past three years, he pointed out.

Skidmore cautioned that productivity is a highly volatile factor, for individual companies as well as nations, especially if it does not receive major and constant attention.

"While economic conditions certainly carry an overall impact, the most important determinant is whether business can improve the effectiveness of its people as well as its machines," he said.

The biggest opportunities for improving productivity are no longer on the plant floor, but in white-collar and service jobs that employ two out of three U.S. workers, Skidmore emphasized. "Just reducing the amount of idle time in this area, which averages about forty percent of every working day, would produce startling results, and a growing number of firms are recognizing that there are proven techniques continued on page 30
NO POUT SPOUT
Not all Value Analysis studies are meant to reduce costs. Kohler Company, Wisconsin, for example, wanted to provide their customers a better value by developing a spout post (faucet) that would last twice as long as their present model. Generally, this means not looking after many cycles. A secondary objective was to provide this improvement at no increase in sales price.

James Dziekonski, manager of Value Assurance, accepted the assignment and instigated a functional approach via a team effort. After a couple of false starts, the team members discerned the analogy between a spout post and a standard hydraulic cylinder. From then on, it was all downhill, with the project ending in success.

The final result: A much improved spout offered at the same selling price, and a happier customer.

A BETTER SNOWMOBILE
What do you do when an industry-wide market shrinkage cuts your sales projection in half? For one thing, you look at ways to reduce costs. In an elastic market, such as snowmobiles, reduced prices mean increased sales.

Faced with a dilemma after a disappointing 1974 sales performance, Arctic Enterprises began utilizing Value Analysis to attack product cost problems on snowmobiles. Spearheaded by Dennis Brown, Corporate Value manager, the first effort on their Panther 440 family model resulted in a sixteen percent overall cost improvement. Value was the key, evidenced by the fact that the new suspension system is more reliable yet contains fewer parts; thirty-four reduced to just ten.

Value Analysis not only provided near team gains, but gained a permanent place in the Arctic operation as well.

BY THE WAY
Whatever happened to those companies that jumped on the Value Engineering bandwagon in the mid-Sixties, only to drop the program during the first recession? One company president I recall, said: “Value Engineering will become a way of life with this operation.” It didn’t. They are still in business. Yet, I can’t help believing that they would benefit greatly from taking another look at VA/VE and adapting it to their operations - 1976 style.

UTILIZING THE HUMAN RESOURCE
What better way to recognize the importance of your fellow man than to ask him for his valued ideas? We can no longer afford the luxury of game playing; white hats vs black hats, but rather must join together in common pursuit of earning a livelihood.

THIS MONTH’S TOPIC
Where Should The Value Manager Report In The Table Of Organization?
There should be no ambiguity whatsoever as to where the value manager should report in any organization, and that is to the very top. I feel strongly, however, that line managers should be value managers at one and the same time, and that the value engineers should act as coordinators, who provide the necessary specialist support for line management and administrative control for the Value programme.

The objectives of such people should not be to satisfy savings or cost-reduction goals. They should be satisfying themselves that they are making the best use of the available and latent brainpower in their sphere of influence, and beyond. In taking this line they should never want for the improvements which will automatically result.

H.K. VAN HEERDEN
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A value program is charged with the search and elimination of excessive costs wherever they may be; and they are everywhere. And as you would expect, the higher up the chain of command you go, the decisions affecting cost involve more dollars, and therefore a greater probability of wasting resources. The only sensible place for the value manager is directly under the chief executive officer of the company or the profit center. Only in this spot can he have the authority to tell it like it is.

JAMES W. HUDSON
HUDSON & ASSOCIATES,
VIRGINIA

PET IDEA
When evaluating an idea proposal, a good rule to follow is that something positive must be started about the idea before a negative one is allowed. — JOHN DEERE COMPANY

NEXT TOPIC
How Has The Value Manager’s (C.R. MGR., CSA) Job Most Changed During The Last Decade? — Tom King, SAVE editor.
Waste Upgrading – A Challenge To Creativity And Value Engineering

By Chris Rand

Value may be described as the ratio between goodies and badies, or the functional ability to satisfy needs and desires compared to the total cost involved in obtaining such satisfaction. It is my experience that value engineers in America, by and large, have been more concerned with the denominator of the value equation than the challenge of working on the numerator!

Making this statement, I do not want, in any way, to downgrade the importance of cost reduction. All I want is to point out the multi-dimensional character hidden in the concept of value, and thus the opportunity to explore them all.

The cost reduction potential of value analysis finds its best applications when applied to present products – whereas the real value improvement opportunities, that is working on the numerator, must be sought in product development; or even better, in establishing the basic strategy for product development.

Much experience has been accumulated on VE applied to products; very little within the field new process development.

This paper is an abstract description of concepts and cases associated with equipment and processes for pollution control (and resource recycling); an area of rapid growth. Here, I believe, creativity and value engineering, properly applied in the development phases, may prove to be a very fruitful field of application.

Inputs and Outputs

Most industrial processes may be generalized by the principle input/output model indicated in Figure 1.

Inputs, consisting of raw materials, energy, manpower, know-how and capital, are transformed through the process (p) – or chain of processes (P₁, P₂, ...) into useful products (outputs). In some cases, two or more products may
derive at the output, such as in an oil refinery, where a whole spectrum of products, from tar to high octane gasoline, derives.

In addition to desired and planned output products, however, most industrial processes produce nondesired by-products, normally characterized as wastes.

These occur in the form, for instance, of slag, pollution, dust, gases or similar. To this should be added outputs in the form of energy (heat), from chimneys, ventilators or in the waste water. Typical for waste output heat is low entropy, often hard to utilize.

During most of industrial development, the world's air and water environments have been thought of as being unlimited tanks or sinks, able to receive and dissolve any quantity of waste.

Thus, when no useful by-product deriving from the wastes has been foreseen, and the price of wastes have not been able to pay for transportation, they have simply been dumped into the closest unlimited tank.

Over the recent decades, however, awareness of the waste and pollution problems have grown rapidly all over the Western world, with the realization that there are no unlimited garbage-dumps, or resources.

New and updated legislation aiming at drastic improvements in waste and pollution control are being enforced all over the Western world, and will be more so in the years to come!

The often heard reaction to this kind of legislation is: "Who shall pay for equipment needed in these pollution control problems?"

From an industrial point of view, pollution control is often considered only as a cost problem, reducing the profit of the useful products by adding additional, nonproductive equipment to the processes. The situation at present is, in many regards, characterized by dualistic attitudes. Most people agree that pollution control is needed and desired. However, very few want to pay the bill!

The Challenge

This dualistic situation is, from value engineering points of view, interesting to turn upside down. The negative attitude in considering pollution control as problems only, adding cost and nonproductive equipment, may be changed to positive attitudes by the question: "Is it possible to convert the wastes, one way or another, into useful products worth a price capable of paying for the purification equipment and additional processes needed?"

Having this attitude in mind, pollution control becomes a fascinating and challenging exploration of new and creative means and ways, not only solving rapidly increasing environmental requirements, but at the same time securing recycling of resources and adding new dimensions of opportunities to profitable product and process development.

As pointed out in the introduction to this paper, value may be improved by working both on the numerator and the denominator of the Value Equation.

From a creative or innovative point of view, the numerator offers by far the most challenging opportunities by adding new dimensions or functions to the result.

Thus, the newly coined expression "waste upgrading" may be stated this way:

Instead of traditional solving of pollution problems by just getting rid of, might it be possible to convert wastes into more useful materials or end-products, thus increasing their functional or attractive value more than the cost of securing such upgrading?

Transforming this basic concept into operational procedures calls for thorough analysis of all unique properties to be found in waste material (often overlooked), and comparing such properties to existing or nonrecognized needs! These procedures, I feel, may be better described and understood by selected cases of applied waste upgrading.

Case Study No. 1.

In a diversified manufacturing organization, a long established glass factory had gradually been fenced in by other industrial developments on the property surrounding the glass factory.

Established procedures of deposing glass slag (waste) on the surrounding property could no longer be used – due to
lack of space. Analysis were initiated in order to secure alternative dumps for the slag, including transportation cost optimization to get rid of the slag.

As no close-by dumping area was available, the transportation cost involved in the various alternatives were all unsatisfactory, almost prohibitive from the overall profit point of view.

Having worked through these transportation problems, more or less to a dead end, a problem solving group was established with the new objective of looking at the problem from a waste upgrading point of view. This group established the problem definition as follows: "Might it be possible to develop a product or a process capable of upgrading glass slag, making the slag and/or the new process so attractive to other manufacturers that they would be willing to pay for all transportation of slag?"

Having established this goal for the project, penetrating studies were made in order to establish unique slag properties (or functions) attractive from a value point of view.

I am not going into detailed description of the procedures of these studies. I shall only mention that traditional engineering analysis, as well as creative problem solving techniques, were being used.

Out of the many properties thus established, focus was made on two:

1. Glass slag crushed by proper equipment provides a raw material that when mixed with cement or other paving materials, provides high friction.
2. Crushed glass material of this nature has interesting reflecting characteristics.

Now turning project attention on to research for needs and opportunities, the first idea of using crushed glass as a paving mix material (a low price application) was transformed to the idea of developing a special paint for road marking.

Although many paint materials for road marking already had been developed, demands for better materials in regard to friction, reflection and wear were indicated through market research.

The resulting product development project derived a new product and a new manufacturing process, yielding satisfactory road-marking paint with interesting market potential at a price of almost $1 per kilo.

With both product and process patent pending, it was a rather easy finishing job to search for a manufacturer willing to produce this new product, only using raw materials (glass slag) from the glass factory concerned. Transportation costs were transferred from the glass factory onto the licensed manufacturer, and the new product equally adds to the glass factory profit through royalties as well as process licenses.

Case Study No. 2.

The meat and fish processing industry is characterized by large amounts of waste by-products, such as fish heads, tails, entrails, cuts, etc. Traditionally, these wastes have either been sold as raw material for fertilizers or animal food additives (low price applications) or, in the case of smaller plants near water, just dumped at sea.

As dumping procedures become less and less attractive from pollution points of view, and the fertilizer or animal food additives more and more marginal in price/cost ratio, another problem solving group was established with the objective of applying waste upgrading strategy to this specific problem.

The waste materials indicated are characterized by their fast-rotting properties, as well as by nonattractive odor. Hence, the thought of using such wastes in any high grade application has traditionally not been thought of. However, the rapidly growing global shortage of proteins made it marketwise attractive to investigate the feasibility of developing specialized food processing equipment capable of purifying and converting the raw material into acceptable grade proteins.

Through value oriented research and development activities, there is at present in the final test phase a new process yielding a new high protein material that from all established criteria may be accepted as human food — although not developed for such applications.

The expected value of this high protein material on the world market today is 5-6 times that of the present worth of the raw, waste material.

Summary

The basic idea of this paper is to serve as an appetizer in focusing more attention on the almost unlimited opportunities within pollution control that creative value engineering may serve.

The very concept of waste upgrading, changing pollution projects from costwise unattractive and nonproductive activities, into new opportunities of product and process development is, in itself, fascinating.

The rapidly growing demands for more and better pollution control within almost all industrial activities and processes only amplifies the challenge and importance of missions of this nature.

In Figure 4 I have indicated some main blocks and stages associated with search-projects of this kind.

![Figure 4](image-url)
THE TRUTH ABOUT ASPI

(The following article tracing the history of the American Society for Performance Improvement and the local chapter’s involvement was written by Art Murray, Code 0923E, Indian Head Chapter, Indian Head, Maryland.)

Fifteen years ago the technological growth of the country was accelerating at an astounding rate, and the race for a manned lunar landing within that decade was on. The pace of advancement was incredible, the achievements of science were unbounded, and the luxuries of modern living were abundant. It was practically unheard of to do less than sixty miles-per-hour on the highway, as car engines reached five hundred cubic inches in volume.

In the midst of all of this, a launch countdown was in progress at Cape Canaveral, and a checking session revealed that a screwdriver had been misplaced. The launching was scrubbed, and the screwdriver was found in Marietta, Georgia, where the rocket had been taken for disassembly. This prompted Phillip B. Crosby, a Martin Company engineer, to form the American Society for Zero Defects, an association for studying the causes of human error and determining effective ways of eliminating them. The group later became known as the American Society for Performance Improvement (ASPI).

Quality assurance was the main objective of the rapidly spreading organization, which strove to “promote excellence in manufacturing and improve quality by promoting more effective utilization of productive capabilities.” Along those lines, the Indian Head chapter of ASPI came into being in 1972 with the purpose of “promoting performance improvement by carefully utilizing all available materials to the fullest.”

By this time the space race was over and ASPI’s objectives were headed in another direction — that of coping with the problems of steadily decreasing production and rapidly increasing costs. ASPI immediately became involved in programs for realignment of the station’s work force and re-evaluation of the energy being consumed. As economic conditions declined even further, cost-saving ideas such as recycling scrap paper and bonding computer run paper were implemented. Wastewatcher items appeared regularly in the Daily Bulletin to remind everyone of the necessity of cutting back, and to present various ways of saving money.

Then came complaints of insufficient information exchange and lack of communication. These were answered in the ASPI Form and State-of-the-Station presentations. Question-and-answer sessions were also informative communication among all levels of station personnel. With present conditions, all of the aspects of quality, conservation and communication must be pulled together and enforced in even greater proportions in order to insure continued successful operations at Indian Head.

The truth about ASPI is that it cannot even hope to succeed in reaching its goal without the help of everyone on board. Individuals who take the initiative and try to correct a situation and then take steps to follow it through are the key to the success of ASPI’s programs.

Consider, for example, a shop which does not have a scrap paper recycling box. An employee of that shop who takes the initiative to spend five minutes obtaining an empty box, writing the words “Scrap paper” over it, and placing it in a prominent place does more for the station than one who spends the same amount of time complaining about rising costs. An employee who follows up on the idea by simply taking a full scrap paper box to DPDO once every two or three weeks, contributes even more so. People who take these relatively few moments to do small, but significant jobs, such as scrap paper handling or even turning off unnecessary lights, are the ones ASPI desperately needs.

With individuals such as these, the organization will surely grow, and its ideas will propagate and eventually saturate. The truth is that without such individuals, ASPI can do nothing more than sit back and watch our existence as a first-class installation continue to be choked by waste, inefficiency and carelessness.
At our 200th birthday, we stand petrified — frightened by the host of unknowns and fearful that every suggested action will unravel more unknowns.

Our history of national greatness was spun out of individual strivings. But now there are fears that individual freedom may be too risky. Fearful of the consequences of individual striving, increasing numbers in our society propose that action be unified, coordinated, perhaps even fitted into a national plan.

Tired of coping with the unknown, they regard surprise as disastrous. They would like to eliminate all the unknowns. They would like to make things known.

But now there are fears that natural resources will soon be depleted, belief that it is immoral to foster frivolous growth of developed economies at the expense of have-not nations, concern over ecological damage. The no-growthers have served to call attention to a number of worthwhile observations: that we do face several global crises, that no nation is an island unto itself, that progress has not been equally shared, that what has been called progress may not be what people want, that we must increasingly view our actions in light of their long-term and global implications, that many values grew out of a different world and may not be operative.

As a result, some Americans have developed both an uneasy conscience and a justifiable fear that their system is in jeopardy.

A compromise on the growth issue seems to be emerging, however. The proponents of growth realize that there are some physical, cultural and economic limitations. Their adversaries have come to realize that the have-not people aren't willing to say "stop creating wealth, we have enough."

The question, then, has become how to meet people's demands in the context of more limited, perhaps more sound economic growth.

"We can't count on an ever-increasing material product to deal with the demands of people that aren't being met," says Dr. Gabriel A. Almond, professor of political science, Stanford University. "Without an ever-increasing material product, the problem becomes one of redistribution. And the politics of redistribution, historically, has always been bloody politics."

Impatient with the rhetoric generated by his fellow future-thinkers, psychiatrist and Pulitzer-Prize-winning author Robert Coles charges, "We know what hungry people need — food, action, leadership.

"We have to remind ourselves that if the politics of redistribution are bloody, so are the politics of accumulation — as the Indians know, and the blacks, and the working-class white people who built this country with their labor and got nothing for it."

Valley of distrust

Disturbing cynicism such as Dr. Coles' underscores Dr. Almond's concern about this period of deep mistrust. Because man's conflict with man has reached a level of high risk and he distrusts his leaders, he will restructure his institutions so they can respond to his critical problems.

Institutions can no longer stand on the basis of tradition. In Dr. Almond's terms, "legitimacies of institutions will be performance-based." Institutions, private and public, will exist only so long as they meet societal demands.

It's well-known that businessmen are under attack. But equally serious, and perhaps more surprising, are the attacks on the workforce that were unheard of a few years ago. The workforce is not just the factory floor or the office — it is all of us. The future of democracy?

"The democratic process pushes toward short-term solutions" while many of our most serious problems demand long-term solutions, points out Ernest Gellner, professor, London School of Economics & Political Science. "The rhythm of problems and the rhythm of politics are not synchronized."

The person concerned about getting re-elected in two, four or six years has an outlook that obscures the long-term problems and solutions.

The future of democracy?

Don't abandon democratic control,
but, rather, find ways to make people accountable, says Don K. Price, dean of the John Fitzgerald Kennedy School of Government, Harvard University. Since everyone can't know everything, there has to be a governmental structure to whom certain things are delegated. It's a choice of taking the risks directly or entrusting the future to someone whose character and intentions offer good odds for success.

Alvin Toffler, the author of "Future Shock," prefers to let the average citizen play a bigger direct role. In the Eco-Spasm Report, he calls for more attention to the long-range future with widespread participation in the process — his concept of "anticipatory democracy." He realizes that "without broad-scale citizen involvement, even the most conscientious and expertly drawn plans are likely to blow up in our faces."

Participation demands that the participants be well-informed. Otherwise, their wishes have to be served by some political or technical elite. Toffler cautions against reliance on any sort of elite.

Anticipatory democracy would foster an elaborate web of information systems through which people could express their wishes and receive feedback from their institutions. It would continuously blend scientific fact with human values and sort out the best courses of action. It would rely on a host of media such as: goal-setting groups ranging from neighborhood to statewide projects; futures research and long-range studies by Congressional committees; audience feedback programs on the electronic media; and referendums.

The concept aims at curing a serious illness of our present system; for example, decisions on the environment and other broad issues are often made in the courts. Judges themselves lament that this reflects an inadequacy of our legislative system and forces them, the judges, to legislate under the presumption that they know either what's best for society or what society wants.

Misunderstanding nature

The conflict between man and his environment has done a great deal to focus attention on informational needs and participation by the general population.

For most of man's history, he was threatened by nature. Now, the direction of risk has been reversed and intensified: Man threatens nature. More correctly, he threatens his planet and thereby his own existence — not because he has conquered nature but because he has worked some of nature's laws to his own wishes without knowing the full consequences of these actions.

Lack of information has frequently led to the wrong conclusions. We harmed our environment unknowingly. Then we stalled technological and economic progress, at times, when we erroneously thought we were harming the environment. Decisions have been made in response to pressure from one group or another rather than in accordance with the wishes of an informed society.

The environmentalist movement in this country is "appallingly naive and disastrous," believes Dr. C.S. Holling, professor of zoology, University of British Columbia. The environmentalists presume that their unitary goal of environmental purity is what Mother Nature is all about. "And Mother Nature is not that."

The Ford Foundation consulting ecologist explains to Industry Week: "A natural ecological system has enormous fluctuations. It isn't locked into some static thing. Things die, deteriorate, renew themselves. And the consequence of that is richness and diversity. Fire, for example, is an absolutely important feature of certain forests. If there were not fire, they would not have the diversity and richness they do have."

"I expect, if our society adopted those unitary environmental ethics, then we would end up with just as disastrous a situation as we are now in, having adopted — to a large degree — a narrow unitary profit motive," Dr. Holling maintains.

"It's the unitary character that I'm objecting to in both the profit motive and the environmental. Both would end up as equal screwups."

Beware of uniformity

Is there, then, a course down the middle? Dr. Holling points to a path that allows for variability — that allows people with different goals to function side by side.

"We should steer away from this idea that uniformity is good. Uniformity is not good. Low variability has to be questioned in the economy and in the environment," he says.

Is it reasonable to expect uniformity of action when man is far from uniform in his values?

The conflict of man with his inner self is the area in which information is most lacking. It is one thing to generate scientific information, another to learn something about man's values.

What does man want? What does he strive for? What does he envy? Is there any guarantee that knowledge leads to understanding? That facts lead to agreement?

Is it possible to arrive at a consensus on how to meet man's needs? If man could determine what's good for him, would he want it? If he were able to determine what he wants, would he want it when he got it?

People differ, and individuals change. Dr. Holling's advice to allow for flexibility and alternative opportunities is a survival lesson from Nature itself.

National planning?

In their fear for survival, however, there are some people who don't like this untidy approach. They would prefer to simplify things and promote stability through national planning, if not national control.

Others see this as a straitjacket of conformity which would rob society of its adaptability.

At a time when "social turbulence demands drastic innovation," we should "move into a mode of learning and risk-taking," says Dr. Donald Michael, program director, Center for Research of Utilization of Scientific Knowledge, University of Michigan.

What we need is "alternatives analysis," not national planning, insists Koppers' Byrom. A popular corporate philosopher at future-oriented meetings, Byrom has learned from business experience that you can predict what might happen but not what will happen. Studying the alternatives, he believes, can lead to alternative mechanisms which can be readied to respond to events as they unfold.

"We are all the better for surprise," adds Canada's Dr. Holling. As an ecologist, he appreciates the value of conflict and change. We have talked too much about risks being bad, he charges. "We try to engineer out failure. But then we run the danger of constructing a nonresilient system."

Like the no-growth debate, this issue of uniformity versus diversity is becoming central in discussions of the future. And, it is hoped, both sides will win. Dr. Michael draws a lesson from nature which suggests that man should organize himself on both a centralized and decentralized basis, as the human body is.

This dual approach just might defuse some of the risks of the future. It would be dependent on taking giant steps forward in the generation, communication, and use of information — both scientific facts and human feelings.

The greatest risks are not due to the
The fear of certainty. Talking with businessmen around the country, one detects that it is not the uncertainties of the future that bother them. They fear, instead, the vain efforts that are advocated to eliminate uncertainty.

The free-market system is built to accept and take direction from failure. Some products fail in the marketplace. Some companies fail. But—in the broad scope—these mini-failures only serve to direct and improve the system's performance.

In the tightly controlled and planned economy, on the other hand, failure comes in wholesale lots. One miscalculation can bring disaster.

Businessmen do not ask, "Can we solve the world's problems?" Their question is, "Will we?" or "Will we be permitted to?"

One business manager notes, "A questioning era has started, but that doesn't mean we abandon the corporation."

Another adds, "Corporations are mortal. And, because they are, they have to be adaptable."

Profit is a driving force that invites men to take risks and to adapt to change. For only a moment in the age of man did it flow to those who happened to be in the right place at the right time and who could ignore the conflict around them. As we look to the decades ahead, it seems far more likely that it will be won by those who put themselves in the right place by responding to the conflict around them.

Viewed as a doer of things and a solver of problems, it is business that offers strong hope of meeting society's needs. "The human and financial resources to deal with the world's problems are in our business organizations," corporate managers point out.

Why people sacrifice

If business is flexible and responsive, it will make places in which people can work to fulfill themselves. If it can organize itself in a way that makes people participating members, they will sacrifice and manage change.

One of the curses of having attained an affluent, post-industrial society is the widespread assertion of selfhood and the refusal to sacrifice for causes or take part in impersonal organizations. Frederick Herzberg says the traditional incentives have expired; people today are driven by personal achievement. Business can turn this curse into an opportunity and provide the means through which individuals can find fulfilling relationships with themselves and society.

Why give in to centralized, authoritative controls when free people will harness themselves into working relationships that meet society's needs? "Rather than establish one smooth path into the future which may be free of surprise, but which is certainly not free of coercion, it is better to move forward as democracy would have it—cumbersomely, risking crisis, but without a loss in freedom," says Jib Fowles, chairman, program committee, Studies of the Future, University of Houston.

Freedom is a word that strikes a strong emotional note. But it is not an end in itself.

Freedom is a means of pursuing our ideals. But as someone has said, if we have no ideals, we need no freedom.

Freedom is the means to man's survival. Since the future is sure to bring change, the less man tries to predetermine it, the more adaptable he will be.

Our founding fathers certainly could not see ahead to 1976. They could neither anticipate nor resolve all the unknowns that were to arise. They could only establish an open, flexible system for dealing with them.

We can do no more than keep the system open.
AN ANALYTICAL STUDY OF THE SUGGESTION SYSTEM IN CONNECTICUT INDUSTRIES
ITS SUCCESS AND FAILURE.

By Joseph Glasser

The suggestion system, as a management technique, is not new in American industry nor is it complex. In spite of these characteristics, it is used by a minimum of companies and has not brought favorable results in many firms which have attempted to use it. A study of the manufacturing companies of Connecticut was made to determine why the suggestion system has not been satisfactory.

Preliminary Investigation – An Extensive Coverage

PROCEDURE – The 2,694 companies listed in the Directory of Manufacturing Industries of the State of Connecticut were classified into six groups, based upon their number of employees. The results of a questionnaire sent to all of these firms is shown in Chart 1.

Total figures regarding the number of questionnaires sent and the number returned, 2,694 and 764 respectively, give an average return of twenty-eight percent. This percentage is low primarily because of the large number of questionnaires sent to companies in Group A (1,762 out of a total of 2,694, sixty-five percent).

The number of questionnaires sent to companies in Group B is also disproportionately large (702 questionnaires). This latter figure is three times more than the total

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Glasser is a lieutenant colonel in the United States Air Force Reserve and was awarded the Air Force Commendation Medal in 1973. His areas of specialization are in management and personnel studies. He is listed in the 1976 editions of "Who's Who in America" and "Who's Who in Labor."

An author and a lecturer, Professor Glasser has presented papers at American Management Seminars; the Industrial Society, London, England; the Eastern Connecticut Personnel Association; the Suggestion Administrators' Academy in Evansville, Indiana; and the New England Chapter of NASS. He recently returned from Hungary and Austria where he addressed the Foreign Exchange Members of NASS on the subject of this paper.

He holds professional membership in the Industrial Relations Research Association, the American Arbitration Association, and the Society for Professionals in Dispute Resolution. Professor Glasser presently holds, or has held, appointments to several labor mediation, National Defense, and Federal Aviation boards.

(The views and comments of the author do not necessarily constitute the endorsement or opinion of The University of Connecticut, School of Business Administration.)
note the high percentage of returns from companies in
Groups C, D, E and F. It is significant to

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Employees</th>
<th>Number of Questionnaires Sent</th>
<th>Number of Questionnaires Returned</th>
<th>Percent Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up to 50</td>
<td>1762</td>
<td>376</td>
<td>22</td>
</tr>
<tr>
<td>B</td>
<td>51-200</td>
<td>702</td>
<td>214</td>
<td>31</td>
</tr>
<tr>
<td>C</td>
<td>201-500</td>
<td>115</td>
<td>75</td>
<td>65</td>
</tr>
<tr>
<td>D</td>
<td>501-1000</td>
<td>59</td>
<td>44</td>
<td>75</td>
</tr>
<tr>
<td>E</td>
<td>1001-3000</td>
<td>42</td>
<td>42</td>
<td>100</td>
</tr>
<tr>
<td>F</td>
<td>Over 3000</td>
<td>14</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2694</td>
<td>764</td>
<td>28</td>
</tr>
</tbody>
</table>

In Chart 2 is a summary of the responses from the questionnaire. While we can say with certainty that those which no longer have a suggestion system must have felt that they were not successful, we can not say with the same degree of certainty that those who still have a suggestion system in effect have a successful one. There may be many reasons for these programs still to be in existence. Among these may be the following: those that are successful; or those that continue to exist without evaluation — thus with no way of knowing whether they are successful or not.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Employees</th>
<th>Number of Employees</th>
<th>Suggestion System in Effect</th>
<th>Suggestion System No Longer Present</th>
<th>Never Had Suggestion System</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up to 50</td>
<td>31</td>
<td>9</td>
<td>336</td>
<td>142</td>
</tr>
<tr>
<td>B</td>
<td>51-200</td>
<td>32</td>
<td>40</td>
<td>142</td>
<td>40</td>
</tr>
<tr>
<td>C</td>
<td>201-500</td>
<td>15</td>
<td>20</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>D</td>
<td>501-1000</td>
<td>16</td>
<td>7</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>E</td>
<td>1001-3000</td>
<td>22</td>
<td>2</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>Over 3000</td>
<td>11</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Reasons For Never Having Had a Suggestion System**

Companies which have never had a suggestion system were asked to indicate their reasons why.

**GROUP A** — One hundred ninety-five of 336 companies responded that they did not have enough personnel to operate a suggestion system. Generally, in plants this size, the personnel function is an additional duty for someone in production management. Because of the many personnel activities which must be carried out, this person feels little inclination to undertake the operation of a suggestion system. In most cases, he feels the necessary personnel duties already assigned to him are reducing his efficiency and successful conduct of his primary responsibility.

There were 120 responses stating that a suggestion system was not needed. A large number of these indicated that a formal suggestion system was not needed because of the close rapport between the owner-manager and the small number of employees. Some indicated that employees willingly provided management with any suggestions that came to them.

**GROUP B** — Sixty of 142 companies felt that a suggestion system was not needed. Most of the companies in this group were nearer the lower level of this range than the upper limit. As in the preceding group, these companies also felt that the rapport between management and workers was at such a degree that suggestions were readily forthcoming from the employees.

There were thirty-seven responses indicating that there were not enough personnel to establish a formal suggestion system. Here, also, the problem of additional duties is a real one, and it is felt that management personnel are being overburdened with secondary tasks and are not adequately meeting the responsibilities of their primary duty.

**GROUP C** — Twenty-eight out of forty companies felt that a suggestion system was not needed. While seventeen companies said "not enough personnel" was their reason for not instituting a suggestion system. It may be debated whether the reasons offered can be considered fully valid for companies in this classification, as these plants are too large for direct communication between top management
and employees. In companies of this size, the personnel function is generally no longer an additional duty for someone in line management.

GROUP D — There are only twenty-two companies that never had a suggestion system in this group. Seven of them felt that it was not needed, while twelve indicated that it would be too time consuming and that not enough personnel were available.

GROUP E — Of eighteen companies that have never had a suggestion system, eleven felt that it was not needed.

It is interesting to note that, in all groups, cost of administration of a suggestion system was not considered an important factor in company decisions whether or not to have a suggestion system. This is shown in Chart 3.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Employees</th>
<th>Number of Companies Never Having Suggestion System</th>
<th>Reason Too Costly</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up to 50</td>
<td>336</td>
<td>3</td>
<td>.9%</td>
</tr>
<tr>
<td>B</td>
<td>51-200</td>
<td>142</td>
<td>5</td>
<td>3.5%</td>
</tr>
<tr>
<td>C</td>
<td>201-500</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D</td>
<td>501-1000</td>
<td>21</td>
<td>1</td>
<td>4.8%</td>
</tr>
<tr>
<td>E</td>
<td>1001-3000</td>
<td>18</td>
<td>1</td>
<td>5.6%</td>
</tr>
<tr>
<td>F</td>
<td>Over 3000</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

"Failure of the suggestion plan in other companies" was listed among the choices for the reason why a company never had a suggestion system. This was included because it was felt that discussions among personnel men could be influential in the attitudes that each developed. Thus, if suggestion plans had been unsuccessful in some companies, this fact might have a negative effect on others who had been thinking about the value of a suggestion system for their companies. The data in Chart 4 is a numerical presentation of this thought.

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of Companies Never Having Suggestion System</th>
<th>Number of Companies Responding to Questionnaire</th>
<th>Number of Companies No Longer Having a Suggestion System</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>336</td>
<td>376</td>
<td>9</td>
</tr>
<tr>
<td>B</td>
<td>142</td>
<td>214</td>
<td>40</td>
</tr>
<tr>
<td>C</td>
<td>40</td>
<td>75</td>
<td>20</td>
</tr>
<tr>
<td>D</td>
<td>21</td>
<td>44</td>
<td>7</td>
</tr>
<tr>
<td>E</td>
<td>18</td>
<td>42</td>
<td>18</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>14</td>
<td>14</td>
</tr>
</tbody>
</table>

Although both percentages for each group are not exactly the same, there is a pattern of similarity between sets of data. This may be some indication that the aforementioned proposition may exist.

It is interesting to note that Chart 2 indicates that, in
groups B and C, more companies have discontinued their suggestion system than have retained them. A separate tabulation of the returns from Group B showed little variation from the composite pattern which was obtained from a tabulation of the returns from all companies in each of the groups; therefore, the reasons for this characteristic must remain unanswered at this time.

**Major Investigation – An Intensive Coverage**

**PROCEDURE** – From all the completed questionnaires which were received, those which indicated that a suggestion system was still in effect or formerly existed were separated. Thus, for each group, there were two subdivisions. A number from each subdivision within each group were chosen to receive a second questionnaire.

It may be noted from Chart 5 that in each group at least forty percent of those having an existing suggestion system were chosen to receive questionnaires, while larger numbers of those who formerly had suggestion systems were chosen. It was felt that information secured from the latter group might provide reasons why suggestion systems have failed. This can be of great importance, as it would indicate pitfalls which could lead to the breakdown of a successfully operating system. While it may be important to know what factors may lead to a successful suggestion system, it is just as important to know what factors may cause a failure. It is quite possible that the factors leading to failure not only are the converse of those leading to success, but may involve others as well.

**CHART 5**

<table>
<thead>
<tr>
<th></th>
<th>Companies with Suggestion System in Effect</th>
<th>Companies with Suggestion System No Longer Present</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Total number of companies</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Number of questionnaires sent</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Number of questionnaires returned</td>
<td>43</td>
<td>54</td>
</tr>
</tbody>
</table>

*Derived from small sample.

**PREPARATION AND EVALUATION OF QUESTIONNAIRE** – A number of questions were prepared which covered the development of the suggestion system, its introduction into the plant, the characteristics of the suggestion system, its administration, the effect on the workers, and the part played by the supervisory personnel in the suggestion system, as well as other points which might have certain indirect effects on the suggestion system. So that the questionnaire would be as comprehensive as possible, yet not contain questions which might be of doubtful value, many of the members of the Board of Directors and the chapter presidents of the National Association of Suggestion Systems willingly offered their constructive criticism. The questionnaire was revised to include their recommended changes and additions.

**Areas of Significant Difference**

The following discussion relates to areas where there were significant differences between the responses of the companies still having suggestion systems and those who have terminated them. No endeavor has been made to rank the subjects as to their importance in the continuance of the suggestion system or as a primary or secondary factor leading to failure.

**COMMUNICATING OF SUGGESTION SYSTEM TO EMPLOYEES** – All of the companies were asked if they indicated the subjects in which suggestions are desired, such as: safety, man-hour savings, material savings, and methods improvement (Question 4). Of those companies who still have operational suggestion systems, twenty-six of the thirty-five answered "Yes." For those who no longer have a suggestion system, only thirteen out of thirty-eight companies answered "Yes." Providing employees with guidelines to problem areas permits them to channel their thinking. Without this assistance, workers do not really know what is wanted when management solicits their suggestions.

The companies were also asked what media was used for informing employees about the suggestion system (Question 5). While both groups used the bulletin board extensively, the companies whose suggestion systems are still in existence used their house organs to an even greater degree. Twenty-two of the twenty-six companies still having their suggestion systems used their house organ, while it was used by only six of the other group.

From this it would seem that bulletin boards may not be read very frequently, and that information regarding the suggestion system does not really get across to the employees. The house organ, which is published periodically and is constantly referring to the suggestion system, would seem to have a greater impact upon employees.
Closely akin to the above discussion was the question, “Does the suggestion system receive promotion (Question 6, a to c)?” Thirty-one of the thirty-five companies still having their suggestion systems answered “Yes,” while only eleven of the thirty-eight companies no longer having a suggestion system answered “Yes.” Promoting the suggestion system may take a number of different forms. While some companies used one method, many utilized more than one.  

ASSISTING EMPLOYEE IN SUBMITTING SUGGESTIONS — Many employees are not able to express themselves fully in writing. If there is no one to whom they can turn for assistance, possibly they would rather not submit a suggestion which could bring embarrassment. When employees know that they can get help in preparing their suggestions, they may be less reluctant to bring their ideas to the attention of management.

The question (10), “Is there assistance available to employees when they are completing the suggestion form?” brought answers which showed significant differences between the two groups. Of the companies which still have their suggestion systems operating, twenty-seven answered “Yes,” while only three said “No.” On the other hand, of the companies no longer having a suggestion system sixteen had some assistance available while eighteen had none.

ACKNOWLEDGMENT OF SUGGESTIONS BY COMPANY — While the majority of companies in both groups do acknowledge the suggestion received, there is a considerable difference in the time that elapses before the acknowledgments are prepared (Question 11b). Among the companies who suggestion systems are still in effect, fifteen of them send out acknowledgments every two weeks or less, while only four companies of those who no longer have a suggestion system followed this time pattern. Fifteen of this latter group prepared acknowledgments only once a month.

Employees who have taken the initiative to submit a suggestion for the company’s consideration are anxious to receive a response from management. If none is forthcoming within a relatively short period of time, employees may feel that management is apathetic and is giving little attention to the suggestion system.

It is important for a company to show a great interest in its suggestion system if it expects its employees to have an interest. While the company may not always be able to generate employee interest, a lack of interest on the company’s part most certainly will create employee apathy.

RECONSIDERATION OF REJECTED SUGGESTIONS — The question (12c) was asked, “Does an employee have any procedure for requesting further consideration of his suggestion?” Of the companies who presently have a suggestion system, twenty-one answered “Yes,” while four responded negatively. Of the companies who have discontinued their suggestion system, thirteen answered “Yes,” while fourteen replied “No.”

There are occasions when an employee feels that his suggestion has merit, even though it has been rejected. If this employee can discuss his suggestion with his supervisor and/or request a meeting with the suggestion system committee, he is less likely to have a hostile attitude toward the suggestion system than if he has no recourse for further consideration. The feeling of inequity or discontent, which may arise if the initial rejections are always final, can be contagious and result in a widespread negative attitude toward the suggestion system. Whether the rejection suggestion has merit or is rejected, again, at the review stage is unimportant. What is important is that the privilege to ask for reconsideration is available if the employee thinks the suggestion has value.

ADMINISTERING THE SUGGESTION SYSTEM — One question (28) referred to the department or to the official who has responsibility for the suggestion system. In the companies where the suggestion system is still in effect, nineteen responded that the personnel department administered this program and only two assigned it directly to the plant manager. On the other hand, among companies no longer having the suggestion system, only eight companies gave this function to the personnel department while eighteen placed the suggestion system directly under the plant manager.

Quite frequently, when an additional task is assigned a line executive, it receives little attention for a number of reasons. First, the primary duty of the plant manager is to see that production is accomplished in accordance with the plans which have been established for him, so that he has a minimum, if any, time for tasks which are not directly related to production. Second, the plant manager may know little about the so-called extraneous matters or frills, and may have little interest in them from the outset. On the other hand, the personnel manager will understand that the suggestion system may be considered an integral part of a personnel program and, consequently, will give it the attention of someone who knows its relationship to an overall program.

Areas of Similarity

It is interesting to note that the responses to most of the questions asked of both groups showed great similarities. There are some questions that may be asked at this point. One, “Does this finding indicate that these subject areas are unimportant in order to have a successfully operating suggestion system?” Second, “If a number of companies operating in this manner have felt that their suggestion systems were unsuccessful, would a closer evaluation of the suggestion systems in companies where they are still in existence possibly indicate that many of these may not be productive?”

While the former may not have much validity, the latter should not be discounted. It is quite likely that if many of the companies who have a suggestion system would alter their methods in many of the areas covered by the questionnaire, their suggestion systems would have greater success.

LOCATION OF SUGGESTION BOX — Many companies in both groups have located their suggestion boxes at the time clock. In some cases, this may be one of a number of locations, but, in many instances, this is the sole location (Question 3).

This location is not a favorable one. An employee’s association with the time clock usually occurs at two periods: when entering the work area, and when leaving at the end of the work day. At these times this location is quite crowded, because all who work in a particular section usually arrive within a short time and exit in even a shorter one. Few employees are willing to take time, when arriving or leaving, to fill out a suggestion blank.

THE FOREMAN AND THE SUGGESTION SYSTEM — Another area which showed a similarity of responses concerned the recognition given to the foreman for suggestions which come from his department (Question 18). Among the companies with suggestion systems at present, nine indicated that foremen received some type of recognition, such as: a higher score in merit rating, a cash award, a letter
of appreciation, or posting of his name on the bulletin board, while twenty indicated that they gave no recognition to foremen for suggestions emanating from their departments.

Among those companies no longer having suggestion systems, thirteen provided some recognition to foremen. These data would indicate that the majority of companies in both groups feel that foremen recognition is not important to the success of the suggestion system.

The foreman is an important motivating influence upon the work force. Whether employees will or will not extend themselves beyond the minimum expected of them in the accomplishment of their job duties quite frequently will depend upon the motivation engendered by the foreman. It is necessary to understand that this superior-subordinate relationship is present at all levels so that there must be some motivation for the foremen to extend themselves beyond the minimum expected of them in the accomplishment of their requirements.

The promotion of the suggestion system is not usually considered within the purview of the foreman's job by his superiors. Unless foremen feel that their efforts are appreciated by their superiors, which is shown in some tangible manner — whether it be a higher score in merit rating, receipt of a cash award, or just a letter of appreciation — they will not be too strongly inclined to promote the suggestion system among the employees whom they supervise.

INTRODUCTION OF THE SUGGESTION SYSTEM — Another area of similarity concerned the manner in which the suggestion system was started (Question 19). The majority of responses from both groups indicated that the suggestion system was instituted when top management decided that one was to be put into operation. In a few instances, the personnel department initiated the suggestion system. Some responses of both groups indicated that a suggestion system was in effect when a note was placed on the bulletin board informing the workers of this fact. An analysis of these procedures will indicate possible shortcomings.

Frequently, an article which was read or a seminar which was attended by management may indicate that the suggestion system will bring improved operations, material savings and better company-employee relations. There is no doubt that these may occur, but it is not an automatic procedure that will always work. When top management thinks that all it must do is to make certain that a suggestion system is started, it is making a serious error. The suggestion system per se cannot secure the cooperation of employees; it can only serve management after worker cooperation has been secured by the management practices which have preceded it.

This is not to say that the start of a suggestion system should not be announced by top management; it is important for top management to show its interests in the suggestion system. This will give the program a degree of status so that it will be given adequate attention by subordinate levels of management; therefore, employees will know that those at the top are interested in their ideas, even if they feel their immediate supervisors are not.

The important difference is that, in the first instance, a suggestion system is to be established solely because top management feels that it will bring immediate benefits. In the second instance, top management is supporting a program which has been studied and developed by a subordinate department, or the personnel department, and is believed to be feasible in the light of existing management-worker relations.

EMPLOYEE COMPLAINTS — Both groups indicated that the suggestion system was used by employees to make complaints. The group of companies whose suggestion systems are still in effect responded that eighteen of them received complaints, while eleven said “No” to the question(20). Among the companies no longer having suggestion systems, twenty-three answered “Yes” to this question, while eight said “No.”

It was then asked whether these complaints included constructive suggestions. It is interesting to note that among the companies with the suggestion system in existence, only nine said “Yes” while ten replied in the negative. On the other hand, for those companies who have terminated their suggestion systems, fourteen responded affirmatively while only seven said “No.”

When employees provide management with constructive ideas for correcting the problems which they experience, and assuming they are feasible, it would be better to utilize them rather than for management to devise what it feels should be the solution. Employees are more likely to accept and to promote suggestions which they have made, rather than solutions which are imposed. Secondly, this procedure is evidence of management's interest in its employees' suggestions, even if they are not directly related to improved operations or lower costs. They are definitely advantageous relative to costs and productivity in an indirect manner.

WORKER ATTITUDE TO CHANGES IN WORK METHODS — One of the questions (25) asked was, “Do you think that workers do not make suggestions because they fear it will change the present method of work?” Few in both groups felt that this was true, while the majority of companies in both groups did not think that this was the case. The “Yes” response was given by ten of the firms presently having the suggestion system and by eight of those who discontinued them. Seventeen companies of the former group answered “No” to this question, while twenty-nine of the latter also answered “No.”

EDUCATIONAL PROGRAMS FOR WORKERS — Before workers can be expected to offer suggestions which may lead to improved manufacturing operations through better methods, elimination of bottlenecks and reduced costs resulting from material savings, they should be made aware of such possibilities exist. It is much easier to accept the procedure presently followed as the only method for doing something because this requires no exercise of thought. The fact that a worker's supervisor has told him that the present method is the way his job is to be done, and has trained him in the expected procedures, requires that he accept them as the only way.

Management must take the initiative and inform its workers that the present manufacturing operations may not be the best way to accomplish the objective. The workers, who are more closely linked to the job than anyone else, may be able to effect improvements. It is important that management provide its employees with some knowledge regarding work simplification procedures in order to channel their thinking. This series of steps has another important benefit to management — a human relations one. Management brings the workers a great degree of self-respect by showing an interest in their ideas. Assuming satisfactory relations exist between the two, this practice will tend to further advance them.
The question (27) asked was, "Does the company have a program to educate the worker in work simplification?" Three companies in each group responded that they have or had, as the case may be, a program in this area. Twenty-four of those still having suggestion systems indicated they have little or no program in work simplification; while twenty-seven companies, who no longer have suggestion systems, answered that they had little or no program in this area.

The question (26) was asked, "Does the company attempt to educate workers as to their interest in additional profits for the company?" Only eight companies in both groups carried out programs in this area. Unless workers are firmly convinced that increased profits for the company mean greater job security and the likelihood of increased wages, they may not be properly motivated to make suggestions that may ultimately result in an improved profit position for the company.

BASIS OF A SUCCESSFUL SUGGESTION SYSTEM — All respondents were asked what should be the basis for determining whether a suggestion system is successful (Question 30). The three choices offered were the increasing number of suggestions, the suggestion system pays for itself, and improved morale of the employees. The statement chosen the most often by the companies in both groups was that it improved the morale of the employees. The statement that the suggestion system pays for itself was the second choice. In last place was the increasing number of suggestions received.

To measure improvement in employee morale would seem to be a difficult task since there is no quantitative evaluation which can be directly assigned to different degrees of an attitude. Possibly the best index of improved morale would be a continuous increase in the number of suggestions received, since this would indicate that workers were willing to offer their ideas to improve the best interests of the company with their own, and would be valid measurement of employee morale.

An increasing number of suggestions is a better indicator of morale than whether the suggestion system pays for itself. A company may receive a small number of money saving suggestions from few employees each year. The fact that few contribute suggestions would indicate that large numbers of the work force do not feel a mutuality of interests, hence, a lowered state of morale.

Summary and Conclusions

The fact that a company has a suggestion system in effect does not necessarily mean that it is a successful one, using any standard as a basis for this determination. The answers which were given to some of the questions asked leaves little doubt that the suggestion system, in many cases, is permitted to operate without any evaluation. Having been started is the only reason for its continued existence.

LACK OF STATISTICS — One indication of the lack of concern about the suggestion system is that few companies have kept adequate statistics regarding them. This situation is present in all groups and in both subdivisions of each group. It may be said that records concerning the number of suggestions received both in the first year of operation and the last year of operation were lacking to a lesser degree among companies no longer having a suggestion system, than among those with an existing one. With inadequate records, a company has little idea whether its suggestion system is a worthwhile program and whether its employees are contributing to it in increasing numbers.

It was asked if the company had ever attempted to calculate the approximate cost of the suggestion system and if the savings on accepted suggestions pay for the program. Chart 6 summarizes these findings.

<table>
<thead>
<tr>
<th>Group</th>
<th>Companies Having/Had Suggestion Systems A</th>
<th>Companies That Determine Cost of Suggestion System B</th>
<th>Savings Paid For Program C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>40</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>72</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>C</td>
<td>35</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>D</td>
<td>23</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>E</td>
<td>24</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>F</td>
<td>14</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

Few companies in any of the groups have attempted to determine the approximate cost of their suggestion system. In most of the groups, except for those companies in groups D and E, a substantially smaller number of companies have indicated that the savings from accepted suggestions pay for the program. This is further evidence that the companies, as a whole, have little basis for evaluating the success of their suggestion systems, whether based on increased numbers of suggestions or cost-savings.

WHY SUGGESTION SYSTEMS FAIL — The respondents were asked to indicate the reason or reasons why they thought suggestion systems failed (Question 22). The following choices were offered: (a) insufficient advance preparation; (b) lack of top management support; (c) lack of supervisor support; (d) poor evaluation of suggestions; (e) low amount of award; (f) poor administration of system; and (g) insufficient promotion.

The primary choice of all of the companies was poor administration of the suggestion system. In an examination of the many questions relating to the administration of the suggestion system, it was found that, in a majority of instances, those companies still having their suggestion systems in force follow a pattern similar to the companies who have discontinued their suggestion systems. These areas of similar action include: the positioning of suggestion boxes; the organization, composition, and operation of a suggestion system committee; the manner in which suggestions received from the employees are acknowledged; how suggestions are prepared by employees; the procedure for the handling of nonadopted suggestions; the part the foremen have in the suggestion system; and the manner in which complaints received through the suggestion system are handled.

PERFORMANCE 21
The subject areas where significant differences appear in the administration of a suggestion system between those companies with a suggestion system and those no longer having one are: whether assistance is available to employees when they are completing the suggestion form; how often acknowledgements are prepared for presentation to employees; whether employees have any procedure for requesting further consideration for rejected suggestions; and where responsibility lies for the operation of the suggestion system.

It cannot be said with certainty that the areas of difference in administration procedures become the primary determinants of a successful or unsuccessful suggestion system. It can be said, though, that in many of the areas where similarities have been present in both groups, there are indications that improper procedures have existed in the administration of the suggestion system.

The reason chosen as the second most important cause for the failure of suggestion systems was lack of top management support. This was true for companies presently with suggestion systems as well as for those who have terminated their programs. Top management support is often lacking because they are unaware that they are not giving the program the support that it needs. Top management frequently feels that the fact that they have directed the beginning of a suggestion system is prima -facie evidence of their support. This is not the case. The support of top management must be given after the inception of the suggestion system to be meaningful. It is at this time that subordinate levels of management and the employees should be made aware of top management's interest in the suggestion system.

Insufficient promotion was indicated as a cause of suggestion system failure by a large number of companies. This was an area in which there were significant differences in the responses received from the companies with suggestion systems that are current and from the companies with defunct suggestion systems. The primary medium for promotion used by those companies with a current suggestion system was the house organ, while those no longer having a suggestion system relied primarily upon special posters placed on bulletin boards. The former group made more use of contests, and less of letters direct to the employees' homes. The latter category of companies used these two media to a lesser extent. This would seem to indicate that fruitful sources of promotion are being left untapped.

Another reason for failure, chosen by a number of companies having and formerly having suggestion systems, was an insufficient amount of advance preparation. The first group recognized the importance of advance preparation by indicating the subjects in which suggestions were desired as well as by having a pamphlet which described the suggestion system. These two procedures were not given much attention by those companies who were forced to discontinue their suggestion systems.

Neither group made much effort to educate their workers regarding the value to them of the additional profits which might be accrued by the company as a result of the suggestion system. Neither did much to give their workers training in work simplification procedures in order to better prepare them to make suggestions concerning the manufacturing methods or the products of the company. These subjects are important in advance preparation.

Lack of supervisor support also ranked high among the reasons for suggestion systems failing. Lack of supervisor support can be directly related to the fact that few companies in either group provided any recognition to the supervisors for suggestions which emanated from their departments. A large number of companies in both groups expected the supervisors to make preliminary evaluations of all suggestions related to their departments and report these to the suggestion system committee, in many instances, within forty-eight hours. Since the supervisor receives no recognition for the suggestions coming from his department, he becomes unhappy with the increased work load and thus offers even less support to the suggestion system.

A number of the respondents believed that the low cash awards received by the employees whose suggestions were accepted were a contributory cause for the failure of suggestion systems. It is probably safe to assume that this statement mirrors the sentiment of the work force, rather than the opinion of the respondents.

Both groups of companies follow a similar pattern in the payment of monetary awards. The usual amount paid varies between five percent and fifteen percent of the estimated first-year savings. A large number of companies pay a flat rate ranging from $10 to $25 irrespective of the value of the suggestion. A few companies in each group pay or paid between sixteen percent and thirty percent of the estimated first-year savings.

It is probably a natural reaction of the employees who are receiving awards to feel their suggestions are worth more than they actually are. The workers' train of thought would then be that they should receive more than had been awarded. It is this thought process that is the basis for feeling that the award is too low, not the fact that it is five percent to fifteen percent of the first-year savings. This problem is more easily enunciated than solved. If the company were to take time to show these employees the accountant's figures of costs and savings of each suggestion, this resistive attitude might be diminished somewhat.

Even though a company may be conscientious in its efforts to show employees the costs and savings effected by a suggestion, some degree of discontent may arise. A number of these employees are not aware of the composition of costs. Consequently, they will feel that the inclusion of many accounting costs, which are not direct monetary outlays, are nothing more than devious attempts by management to reduce the amount paid as awards. The difficulty can only be surmounted through an educational program which is designed to explain the reason for all of the company's direct and indirect costs. Employees will then recognize that the company has not invented these costs to reduce the amount paid for awards.

**MANAGEMENT IMPATIENCE** — The companies who no longer have suggestion systems were asked how long it was in effect before being discontinued.

Out of these thirty-eight responses, twelve companies gave their program less than a one-year trial. Another eight permitted their suggestion systems to operate between one and three years before they were terminated.

It seems that impatience was quite prevalent in these instances. Over fifty percent of the companies may not have really given the suggestion system enough time to take hold. Employee acceptance of new management techniques does not occur quickly. This is especially true if the preceding period has been one of an unstable employee-management relationship.

The primary conclusion that may be inferred from the preceding report is that those charged with the administration of a suggestion system must realize that it cannot function satisfactorily unless much conscious thought and attention is exercised. Management should not feel that a suggestion system will automatically be beneficial after installation without further effort of its administrators and management.

This erroneous attitude will only bring failure to the suggestion system. Even more important, employee unrest may result, which can adversely affect management-worker relations in general.
A STUDY OF SUGGESTION SYSTEMS

1. Does your company have a suggestion system in operation at present?
   Yes 35  No 38
   a. If answer No, has there ever been a suggestion system used?
      Yes 38  No

1. If you have had a suggestion system, how long was this system in effect before being discontinued?
   Yes No
   1) Over five years 6 12
   2) Two to five years 8 8
   3) Between one and two years 6 12
   4) Less than one year

*THOSE ANSWERING YES TO 1 a ABOVE. THIS IS TRUE THROUGHOUT THE QUESTIONNAIRE.

2. Number of suggestions received:
   a. Last full year of operation
      1) Year
   b. First full year of operation
      1) Year
   c. No. of employees eligible under suggestion plan
      1) Year
   d. No. of suggestions
      1) Year
   e. No. of suggestions accepted
      1) Year

3. Where are suggestion boxes located? Please indicate number at each position.
   1) By bulletin board 19 14
   2) Time clock 12 16
   3) Water fountain 4 4
   4) Locker room 4 1
   5) Lunch room 5 2
   6) Other (Please specify) 6 9

4. Does company indicate subjects such as safety man hours savings, material savings, methods improvement in which suggestions are desired?
   Yes 26  No 25

5. What media are used for informing employees about suggestion system?
   1) Booklet
      13 7
   2) Bulletin board
      18 27
   3) Letter to employee's home
      4 3
   4) House Organ
      22 4
   5) Other (Please specify)
      4 6

6. Does the suggestion system receive promotion?
   Yes 31 11
   No 4 21

a. If answer is YES, what media are used for this promotion?
   1) Contests
      8 2
   2) Special Posters
      12 6
   3) House Organ (Newspaper or magazine)
      19 4
   4) Letter to employee's home
      2 2
   5) Other (Please specify)
      8 4

b. How often is the suggestion system given promotion?
   1) Year
      13 6
   2) Quarterly
      6 5
   3) Semi-annually
      3 0
   4) Annually
      4 0

c. If contests used, does company consider suggestions?
   1) In one group
      7 4
   2) Different groups as best of safety, methods improvement, material savings
      4 4

7. Does company have a pamphlet which describes its suggestion system?
   Yes 24 9
   No 7 27

a. If answer is YES, which of the following topics are included?
   1) Purpose of program
      19 9
   2) Who is eligible to participate
      16 9
   3) Nature of awards (cash, merchandise, check)
      19 8
   4) Procedure for making suggestions
      21 9
   5) Examples of suggestions
      11 7
   6) How suggestions are evaluated
      12 9
   7) Other (Please specify)
      2 0

8. Does company have a suggestion system committee?
   Yes 28  No 22
   a. If YES, indicate composition of committee and number
      1) Personnel Department
      20 12
      2) Engineering Department
      22 6
      3) Purchasing Department
      2 0
      4) Line Department Heads
      11 12
      5) Foremen
      11 9
      6) Employees
      11 7
      7) Union Representatives
      4 4
      8) Other (Please specify)
      8 3

9. How are employee suggestions considered for adoption?
   Yes 25  No 22
   a. By meetings of a suggestion committee
      Yes 25  No 4
   b. Preliminary evaluation by line department of suggestions related to departments must be reported
      Yes 25  No 18
      1) Must report in 24 hours
      7 2
      2) Must report in 48 hours
      5 7
      3) Must report in 1 week
      9 5
      4) Other (Please specify)
      9 5

c. Committee evaluates only those suggestions that have been found acceptable by line department in a preliminary evaluation
   Yes 11 9
   No 13 7

10. Is there assistance available to employees when they are completing the suggestion form?
    Yes 27  No 18
    a. If answer is YES, how is this information given to employee?
       1) In handbook
       8 3
       2) Periodically mentioned in posters
       3 3
       3) Periodically mentioned by foreman
       5 13
       4) Full-time investigator
       1 1
       5) Other (Please specify)
       15 3

11. Are all suggestions which are received acknowledged?
    Yes 25  No 27
    a. If answer is YES, how accomplished
       1) By card or letter
       18 16
       2) Personal acknowledgement by foreman
       2 5
       3) Orally
       1 5
       4) Other (Please specify)
       5 2

b. How often are acknowledgements prepared for presentation to employees?
   1) Daily
   4 0
   2) Once a week
   5 4
   3) Every two weeks
   7 0
   4) Once a month
   2 15
   5) Other (Please specify)
   5 4

12. a. How are rejected suggestions handled?
    1) By printed form to employee
    5 4
    2) Letter signed by chairman of committee
    16 11
    3) Letter from committee delivered by foremen
    2 2
    4) If employee hears nothing he can assume suggestion is rejected
    1 4
    5) Personal contact with suggestor
    9 14
    6) Other (Please specify)
    2 4

c. Does employee have any procedure for requesting further consideration on his suggestion?
   Yes 21  No 13
   1) If so, how?
   No 4 14
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No/Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Are monetary awards given for accepted suggestions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. If YES, the amount paid is:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Between 5% — 15% of estimated first-year savings</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>2) Between 16% — 30% of estimated first-year savings</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3) Between 31% — 50% of estimated first-year savings</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>4) Other (Please specify)</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>b. Is there a maximum limit to amount which can be received?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) If YES, what is it?</td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>17</td>
</tr>
<tr>
<td>1) If YES, what is it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) If YES, what is it?</td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>17</td>
</tr>
<tr>
<td>c. Are cash awards given for suggestions having intangible benefits?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Yes</td>
<td>26</td>
<td>14</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>5</td>
</tr>
<tr>
<td>14. Are non-monetary awards given for suggestions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. If YES, when are they used?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Suggestion has no monetary value</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2) No company policy to pay money</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3) To supervisory personnel</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4) Other (Please specify)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>b. Is there a maximum limit to amount which can be received?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) If YES, what is it?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) If YES, what is it?</td>
<td>Yes</td>
<td>9</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>17</td>
</tr>
<tr>
<td>15. Is merchandise awarded for accepted suggestions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. If YES,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Instead of money</td>
<td>Yes</td>
<td>24</td>
</tr>
<tr>
<td>2) In addition to money</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>16. How does a person indicate authorship of suggestions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) By signing name to suggestion form</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>2) Retains stub which has same number as suggestion form</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3) Signs name to a detachable portion which also has the same number as</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>17. What part does the foreman have in the suggestion system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Has the right to accept or reject suggestions</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2) Make recommendations regarding suggestions to committee</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>3) He plays little or no part in the procedure</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>4) Other (Please specify)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>a. Why do you think workers resist change?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Does the foreman receive any recognition for suggestions which come</td>
<td></td>
<td></td>
</tr>
<tr>
<td>from his department?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Yes</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>20</td>
</tr>
<tr>
<td>a. If YES, what form does this take?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Higher score in merit rating</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2) Receives a cash award</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3) Receives a letter of appreciation</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>19. Was suggestion system started by:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Announcement from top management to put one into operation</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>2) Announcement from Personnel Department that one was to start</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>3) Note put on bulletin board indicating start of suggestion system</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>4) Other (Please specify)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>20. Are complaints of any type received through suggestion system?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Do most complaints include constructive suggestions?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Yes</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>2) No</td>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>

b. What is disposition of complaints?                                    |     |        |
| 1) Discarded                                                            | Yes | 24     |
| 2) Read with interest                                                   | No  | 4      |
| 3) Followed through                                                     | Yes | 14     |
| 4) Other (Please specify)                                               | No  | 11     |
| c. If complaint is followed through                                     |     |        |
| 1) Is it referred directly to the supervisor in charge of department?   |     |        |
| 2) Investigated by someone outside of department                        |     |        |
| 3) Other (Please specify)                                               |     |        |
| d. Has number or percentage of companies over the past year             |     |        |
| 1) Increased                                                            | 3   | 1      |
| 2) Decreased                                                            | 6   | 6      |
| 3) Remained about the same                                              | 8   | 7      |
| 21. What does company feel is the major value of suggestion system?     |     |        |
| 1) Savings that result                                                   | 1) 20
| 2) Provides means for worker to express                                | 11  |
| 3) Workers contribute to company, fosters better relations              | 20  |
| 4) Other (Please specify)                                               | 3   | 7      |
| 22. What do you think causes suggestion systems to fail?                |     |        |
| 1) Insufficient advance preparation                                      | 16  |
| 2) Lack of top management support                                       | 15  |
| 3) Lack of supervisor support                                           | 9   |
| 4) Poor evaluation of suggestions                                       | 9   |
| 5) Low amount of award                                                  | 6   |
| 6) Poor administration of system                                        | 18  |
| 7) Insufficient promotion                                               | 8   |
| 8) Other (Specify)                                                      | 2   |
| 23. Has company had any of the following problems? When? (Those need   |     |        |
| have no connection with the suggestion system.)                         |     |        |
| 1) Strike                                                               | 5   |
| 2) Major layoff                                                         | 5   |
| 3) Major plant layout revision                                          | 6   |
| 4) Major incentive plan revision                                        | 4   |
| 24. Do you think workers do not make suggestions because they fear it   |     |        |
| will change the present method of work?                                 |     |        |
| 1) Announced by the suggestion system                                    |     |        |
| 2) By Department Head                                                    |     |        |
| 3) Between 31% — 50% of estimated first-year savings                    |     |        |
| 4) Other (Specify)                                                      |     |        |
| 25. Does company attempt to educate workers as to their interests in    |     |        |
| additional profits for the company?                                     |     |        |
| 1) Extensively                                                          |     |        |
| 2) Some                                                                 |     |        |
| 3) None                                                                 |     |        |
| 26. Does company have a program to educate workers in work simplification|     |        |
| 1) Extensively                                                          |     |        |
| 2) Some                                                                 |     |        |
| 3) None                                                                 |     |        |
| 27. Are statistical reports regarding suggestion systems kept?          |     |        |
| 1) To whom do reports go?                                               |     |        |
| 2) Are reports prepared by each department?                            |     |        |
| 3) Are reports publicized to supervisors and employees?                 |     |        |
| 28. Responsibility for the operation of the suggestion system is given  |     |        |
| to —                                                                   |     |        |
| 29. What do you think should be the basis for determining whether a    |     |        |
| suggestion system is successful?                                        |     |        |
| 1) The increasing number of suggestions                                 |     |        |
| 2) The suggestion system pays for itself                                |     |        |
| 3) Improved morale of employees                                         |     |        |
| 4) Other (Please specify)                                               |     |        |
| 30. Is there a single office or person designated to operate the        |     |        |
| suggestion system?                                                      |     |        |
| 1) This job full time                                                   |     |        |
| 2) By 1st line supervisor                                               |     |        |
| 3) By Department Head                                                   |     |        |
| 31. How are awards presented?                                           |     |        |
| 1) By 1st line supervisor                                               |     |        |
| 2) By Department Head                                                   |     |        |
| 3) By top management                                                    |     |        |
| 32. Does top management promote suggestion plan among supervisory        |     |        |
| employees?                                                              |     |        |
IN A SENSE, ABROAD

By James W. Hudson, Sr.

Such a corruption of the title of his famous work might make Mark twinge instead of Twain, but the spirit of American expansionism, in the social and economic sense, would be well understood and appreciated by that most beloved and respected Innocent Abroad. His humor masked a fervent drive to lift the burden from the backs of millions oppressed by a new form of domination, the industrial empire.

In a sense, we, too, see the poverty abroad, and we, too, want to lift that burden. We see a potent force in the Value Methodology.

Value embodies much more than the search for increased profits often touted to be its goal, for, in a larger sense, it seeks the optimization of production with the minimum waste of resources. This is the real hope for this crowded globe and its teeming masses abroad.

Value, in its fullest sense, transcends the ideology of Communism and Socialism that hold out false hopes for a starving mankind. Value gives to the free enterprise, Democratic way of life a new vitality. It strips away pretense, prejudice, indifference, and incompetence and relentlessly probes for solutions that fulfill the basic functions of man.

VALUE MAY WELL BE OUR MOST IMPORTANT EXPORT

Innocent, but armed with the fervor of functional analysis, abroad I went to join my Italian client in his home city of Milano. It was late August of '75 and hardly a man seemed alive, for this is the time all Italy closes shop and takes a holiday. My contacts had all headed for the beaches and the mountains, so I, too, decided to do as the Romans do and hopped on one of their many fine trains and on to Venice — but this was the lull before the storm of interest in value.

Inspired by the magnificent art and architecture of Venice, Florence and Rome, I returned to Milano to meet Dr. Agostino Sanvenero, President of SASTI Integrazione Industriale, Spa. The fires of Vesuvius are scarcely contained within his earthly form, contrasting vigorously with exceptional gentility and continental charm. His many years as chief executive for Olivetti had prepared him well to communicate with his peers, the top executives of the giant industries of Italy, enabling us to easily establish the first essential of Value Management: executive involvement.

Italian industry was ready. They, like other countries on this rolling blue marble, were quite aware that the old rules of business were no longer sufficient to guide the destinies of the mighty goliaths of production. New pressures in social equality, foreign competition, soaring inflation, energy shortages, environmental demands, political uncertainties, manipulated currencies, and dozens more loomed larger than the well-known basics of design, production, marketing, sell, sell, sell.

These all added to the insidious enigma called cost. Cost kept leaping out from the most unexpected places and at the most unusual times, plaguing management, but always seeming to be just beyond the grasp of intelligent understanding and positive control. Issues involving cost were often veiled in the jargon of new technology or buried in the capacious memories of the wizardry of the inscrutable computer.

But these companies had all kinds of cost effectiveness programs. Cost was preached at all levels. What could another contribute? Confusion? Or Control!!!

It was obvious that the program of Value Management had to be sold. Glowing examples of American performance were few and far between, and they did not always fit the Italian scene. One false step and I could easily become another Ugly American. (No cracks, please)

The first step was a series of executive seminars to present the sound logic and underlying philosophy of value. The salient divergences from cost reduction and other cost programs were explained in depth. These presidents, VPs, general managers and other top people needed to know why Value Management worked, how it could be implemented in their companies, and how to fit it smoothly into their own corporate setup.

They were pleased to hear that value is truly a tool of top management and should be placed to reflect this fact. Anywhere else in the organizational chart will thwart many of its potential benefits. It is the chief executives way of reaching into any activity of the company and getting clear, concise answers concerning costs and their causes. The language of functional analysis enables the most complex issue to be understood and examined by any multidisciplinary group, and is an exceptional way to inform the chief of the status of any concern.

This gave these executives a warm, comfortable feeling. At last they had a way to reach the vital organs of their sprawling complexes, on purpose and on demand. They could see in value a method of revitalizing the thinking and unravelling the most complicated snare of progress, of eliminating unnecessary costs, and a constant watch of the night to get the ship back into the channel and keep it there, ready to meet the challenges of this ever-changing world economy. The warmth and optimistic glow of the executive seminar must bear the test

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of translation into hard reality, and it must be done soon, while the rosy flash of the honeymoon is still on the cheek. Live programs translate theory into provable action.

Often, the problems presented initially are not the type that you would like to start a program, but it is dangerous to turn one down, for it appears that the value methodology is overly selective and limited to only certain kinds of problem solving.

Value must also be time sensitive right from its inception. Top management is always under the gun to get projects done on schedule. Any problem given value is likely to be subject to these time limitations. Again, these must be accepted without reservation, for these are the realities of the economic world.

To turn down a proffered opportunity is risky. We accepted all comers — with open arms.

Our first challenge was to build and equip a new paint plant. The plant was to be one of many facilities operated by this big conglomerate, and it was to be constructed in an area having currently and chronically an unemployment of fifty percent. It was hard to get them to realize that even in that atmosphere we still optimize labor. If they wished, for political or other reasons, to employ more people than required, that was another issue, but our job was still to find the most cost-effective solutions.

Despite the fact that many of the managers and engineers spoke English, the language barrier was real and required considerable thought. For me to train and lead Italian studies I had to solve this one fast.

As we who live and breathe value know, almost any difficulty becomes an asset when it is faced squarely, understood and placed in functional terms. Some of the functions that I faced were, understand problem, teach methodology, lead teams, prepare report, advise management. It was obvious that I could not learn Italian fast enough to accomplish these functions myself. It seemed to require a technically oriented right hand and an excellent left hand who could provide simultaneous interpretation. I hadn't invented a thing; it was the United Nations in microcosm.

Dr. Barrato, a young chemical engineer, provided a strong right hand. Well educated at the University of Milano, his few years in industry gave him the background to serve as my Italian alter ego. He and his Swiss wife served also as a pleasant nucleus to my dual life at the top of the boot. My wife and six-month-old daughter Dana were along, too, so his Louise and my Patti anchored the families in the gracious culture of the Land of Grapes.

Does it sound as if I wandered from the subject? Anytime that that basic function, love life, is forgotten, the rest of the program is in dire straits. Exquisite food in the company of good friends, properly lubricated with the blood of the soil, squeezed 'n fermented with tender loving care, makes Value Management ala Italia very nice indeed.

My left hand turned out to be of the feminine gender, and that's not all bad, either. And another Louise. After she learned the nuances of value — yes, even we have our own jargon and often confuse others by smugly going off on our own cloud nine — she was like a computer speak-out.

The language barrier had been broken and very effectively, for I changed my style of delivery and thought to keep pace with this team of collectors and communicators and became more in tune with the group and able to Italianize my experiences and presentations. For example, to longer was Edison my illustration of a great inventor, but Marconi took his rightful place.

But finding great men and events from the rich history of Italy was certainly no problem. Even the Pareto we quote so often here and his Law of Distribution (twenty percent of the components of a system account for eighty percent of the cost) is a native son. But I found it quite easy and stimulating to introduce value to Michelangelo, Leonardo da Vinci, Bellini and others of the great artists and architects of the golden age of the Renaissance.

Like all persons, a reasonable pride in themselves, their companies, their country must be recognized and handled with the delicacy deserved. A heavy dose of Americanism Uber alles is just as nauseating as the pomposity of the Little Corporal. They welcome Yankee know-how presented in a tasteful, humble manner. After all, how much did I personally have to do with the greatness of our industrial system? I hope I was on the positive side of the equation.

So, to value engineers, it was the same old story with a Mediterranean flavor; the proper treatment and understanding of people is still the most vital ingredient in any value program.

Now, on with the information phase of the paint plant. My joint venture with SASTI was fortunate in many ways. First, our philosophies of dealing with clients were similar. They felt so strongly that the client should be amalgamated into the engineering effort that they incorporated the concept in their corporate name, SASTI: Integrazione Industriale — literally integrate industrially, the last frontier of social equality — and like all integration, after the bitter taste of change is overcome, they realize it's not so bad after all.

And so we integrated our fine value team of SASTI personnel with the equally fine value team we had formed with the clients personnel. We began with an overview of the value methodology to let them have a feel for what was coming, and then plunged into a deep understanding of what they were trying to accomplish from the marketing report to the feasibility study, to the management proposal for funds, to the preliminary design of the facility.

The Information Phase lasted six weeks. During this time we canvassed the European market for processes and equipment. Technical representatives came from Belgium, Switzerland and other countries to make their contributions, and, incidentally, to sell their products.

I returned to the U.S. to visit American firms either making equipment or products that could be considered for the plant or paint manufacturers in similar fields to my client in Italy. As is true so often in America, and definitely one of the strong points of our economy, we do not have the same secrecy restrictions that were so common a few decades ago and as is common in most other countries. Certainly there are some proprietary procedures, but these are in the minority. Most American businesses are willing to share experiences. This is the kind of enlightened approach that will help us all achieve maximum output at minimum cost.

One firm was exceptionally considerate and helpful, the Pittsburgh Plate Glass Company. They had just completed tests on a new generation of pigment grinding equipment, the cornerstone of paint manufacture, and they gave me the results of their tests that led us into a plant layout that was entirely different from the one we might have had had the conventional equipment been used.

Improved spectrophotometers linked with computers have been instrumental in reducing costs by more quickly correcting each batch for the correct color and selecting the lowest cost formulation. What a change from the human colorist who had to use intuitive knowledge and experience to make these same color corrections.
It was fortunate that the annual Paint Show was being held in Los Angeles during my return visit. This enabled me to see the top people of dozens of firms in three days and gather enough material to require me to pay $87 in excess baggage; but it was certainly worth it, for this gave the Italian value team solid information concerning the state of the art in the USA.

Several Italians had warned me about the national trait of excessive talking by most members of any small group, and that much of this talking was simultaneous! Obviously, there would be little communication if this occurred during our workshops and our tight time frame, that I had convinced them was one of the strong tenets of the methodology, would spring a leak for sure.

Forewarned is forearmed, so I alerted my trusty Valuneers – the modern version of the Musketeers – and we were determined to harness this national characteristic and extract full value from this uncontrolled energy. And we did.

Long conversations with each team member and investigations around the plant enabled me to make team assignments to maximize the technical input and minimize personality conflicts; not as easily accomplished or understood in a foreign tongue, but vitally necessary.

I developed new worksheets for the Italian study. Some were modifications of those many CVSs use in this country, but using the proper phrasing and terminology for Italy. Notice, I did not say, “translating the English to Italian.” There is a big difference. It was essential that the forms be custom fit to the personnel and the project.

Perhaps the most change was in the emphasis I placed on operational costs. Too often we have given lip service to Life-Cycle Costs and not considered the true LCC, which is the cost of operations. In this study, the cost of the buildings and machinery are substantial, but less than five percent of the cost of the operation of the plant for the first ten years. We were careful to estimate the effect on operations of every design decision.

The client liked this approach to Life-Cycle Cost. In fact, the division manager had held up the project, for he was concerned about the cost of the facility and its effect on production. Our value study gave him exactly the information he needed to make a go-no go decision on a major investment of 16,600,000,000 lire. At 670 lire to the dollar, that’s a lot of petty cash, but more than this was the concern of the Life-Cycle Cost of the products produced. In a competitive market, as paint sales are, the manufacturer with the latest plant has the disadvantage of having the largest plant costs charged to the product. He better have some strong production economies to offset these annual charges of the new facilities. This is what Value Management can give him; and prove it, and we did.

Since that first workshop I have studied electrical high voltage switchgear, port operations, waste-water treatment plants, and many others in sometimes sunny Italy, and I can report happily that Value Management has established a firm beachhead.

The Americans that have worked with me on these projects have been beautiful Americans, and they have felt, as I do, that value is a labor of love, that is paid handsomely and rewards the client manyfold. More importantly, it can significantly improve the productivity of a company and a country, enabling the world to feed and clothe its multitudes until that enlightened day when we will find the way to better balance the world population with a world output and distribution of material and spiritual benefits that will allow everyone to enjoy the unbelievable blessings of this Land of the Free.
THE NEW FRONTIERS OF VALUE ENGINEERING

By Ashok Kr. Sethi, CVS

ASHOK KUMAR SETHI is the managing director of SARA Technical Services Pvt. Ltd., with home offices in New Delhi, India. SARA is a privately owned value engineering and consulting engineering company, and is the Indian associated company of Kempter-Rossman International, Washington, D.C. A member of SAVE, Sethi is a certified value specialist and attended the 1976 International SAVE Conference. He is a member of the “Million Dollar Men Club,” as recognized by the Publisher of the Value Engineering and Management Digest. An international engineer, Sethi has been active in Value Engineering since 1968, having had previous positions with AGIP Italia; GmbH and MAN in Germany; and English Diesel in Stafford, England.

This article contains some of my views on the unrealized potential of Value Engineering, or what I have taken the liberty of calling the New Frontiers of Value Engineering.

From time immemorial, the search for knowledge has been regarded as the highest form of human endeavor in India. I address this subject in that same humble spirit, as one seeking knowledge and guidance on some of the problems which beset us in my part of the world and whose solutions, I believe, could be considerably aided by value engineering. What I am proposing is that value engineers, from both developing and developed countries, work together closely for the value engineering of technologies, to make them adaptable to a given circumstance. In short, we should not always, as we have mostly done till now, work as individuals valuing engineering a component or a product, but as larger groups working to value-engineer the entire technology or, rather, its application to different circumstances obtaining around the globe.

In practice, value engineering has been defined as “a systematic application of recognized techniques which identify the function of a product or service, establish a monetary value for that function, and provide the necessary function at the lowest overall cost.” However, it cannot be denied that value engineering is being mostly used as a technique for cost reduction. This is understandable in the limited context of competitive market forces. But, there are many other objectives — social and economic — which all of us, whether we belong to the affluent societies of the West or the less fortunate developing countries, are striving to achieve.

It is now fairly well recognized that there is much which is complimentary in nature for the good of both the advanced and the developing nations. This has found expression in the declaration, and the program of action on the establishment of a New International Economic Order adopted by the UN General Assembly, in which the central premise is that the effective implementation of a new order requires international cooperation and effort on an unprecedented scale, in quantitative and qualitative terms.

Value engineers, like me, who live and work in the developing countries, recognize the inescapable necessity to avail of the scientific and technological achievements in the industrially advanced countries. Also, being closer to the consumption ends — and it cannot be denied that the developing countries constitute a fantastically large market potential — we are perhaps better appreciative of the economic benefits to the advanced countries which could be derived from the application of modern science and technology to our problems.

I have long felt that many new scientific discoveries, processes and technologies, which are developed in the economically advanced countries, are usually never exploited commercially to the fullest extent. Many of them find only limited application for novelty value. I believe that many of these processes and technologies, if suitably altered or adapted through VE investigations, could find wide application in many developing countries, and provide greater rewards for their innovators.

The difficulty, however, invariably arises because of the general assumption that the premises on which technological solutions were evolved for an environment such as that in the U.S., will also hold good for, say, the Indian environment. The fact remains that the environments, objectives, economic circumstances and social goals are at such great variance that any attempts at transplantation are bound to fail. It is here I feel, that value engineering has a most significant role to play.

If value engineering is looked upon not merely as a technique for the logical determination of specific solutions, but also to the logical enunciation of specific problems and the environment around them, then a whole vista of frontiers opens up to us. I shall endeavor to elaborate on this through a few specific examples as applied to a country like mine.

The expression “Appropriate Technology” for developing countries, such as India, is a much used one. But rarely have those concerned cared to logically define and determine the factors and premises of relevant appropriateness. In some minds, a technology discarded some time ago by the advanced nations is axiomatically appropriate for present-day needs in developing countries. But this fallacious assumption presupposes that the social, economic and technical environments obtaining today in a given developing country are the same.
as that obtaining even thirty or forty years ago in, say, the United States. Even a preliminary analysis will reveal that this is not so. How then can the chosen technology lead to success, when it was never intended to serve an alien environment?

On the other hand if, as a first step towards the determination of appropriate technology to a given situation, we were to logically analyze the many influencing social, economic, cultural and technical factors so as to clearly spell out the objectives to be achieved, it shall make the task of selection of a known technology, and adjustments thereto to suit the objectives, a relatively simple one, and one assured of eventual commercial success.

Take the example of the use of solar energy. Astronomical sums of money are being spent in your country to the harnessing of this limitless source of energy and power, with the objective of replacing fossil-based sources of energy. Your research programs are understandably tuned to your environment and circumstances.

We need simple, cheap and maintenance-free unit solar power systems for a whole variety of individual applications in the rural areas of our country. To mention but a few: seed driers; low-heat water-lift mechanisms; low-cost hot-air engines to drive small power consumption agricultural produce processing machines; small capacity electric generators to serve the domestic needs; low-cost water heaters; low-cost small-capacity moisture condensers, etc., etc.

For a country like India, and the uses to which solar energy needs to be put, the objectives, premises and functions to be fulfilled are at considerable variance to yours. Through the techniques of value engineering, these objectives and premises can be specifically determined, making the task of finding the solutions that much easier.

For example, our applications do not place an undue limitation on equipment size, which invariably leads to sophistication, complication and higher costs. We could substantially sacrifice this premise, for the objectives of inexpensive materials of construction and maintenance-free operation.

There are many other areas in which VE techniques could be applied so as to make them suitable for commercial exploitation in developing countries. A few examples of some of the technologies which have been recently developed and which, I feel, are finding only limited markets in their countries of origin, but which could, if suitably altered, command large markets in most of the developing countries are: the harnessing of wind and tidal power on a small scale; use of molecular sieves for refrigeration; air-conditioning systems using air instead of inert gases — which, I believe, in the USA is being used for air-conditioning cars, but which could be successfully used in countries like India for food preservation, health centers and to air-condition millions of homes.

Also, another area for VE work could be in upgrading traditional technologies of developing countries to make them more efficient and economic. Many of you must be familiar with the view expressed by Robert McNamara, president of the World Bank, that there is tremendous scope and opportunity in the efforts to upgrade the traditional craft technologies still being practiced in the developing countries.

As one, representing this profession from India, I shall be most happy to urge value engineers from all over the world to work together more closely and to jointly initiate value engineering programs for the evolution of technologies wholly appropriate to a given set of environmental circumstances, whether through modification and adaption of current technologies or the evolution of completely new concepts. The abundant resources at your command, when applied to the solution of down-to-earth problems in countries like mine, will lead not only to extremely profitable commercial ventures, but a furtherance of our profession in the service of mankind.

As one, representing this profession from India, I shall be most happy to avail of the opportunity which this article affords, to discuss with such of you as would be interested the possibilities of applying VE techniques for specific technological problems we are facing in developing countries. I can assure you that not only would such an approach give a new dimension to value engineering, but it would lead to more profitable commercial ventures through the determination of product and process solutions wholly in tune with the environment in which they are to operate.
that can accomplish these gains.”

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RELOCATIONS UP AS ECONOMY IMPROVES

Corporations are stepping up interoffice transfers as the economy improves, women executive relocation is on the rise, and the cost of international moves were identified for the first time in the ninth Atlas Van Lines Survey of Corporate Moving Practices.

Approximately three hundred traffic executives responsible for personnel relocation responded to the fifty-four-question form to provide the industry’s only national review of corporate moving policies.

The survey indicates that 1976 will be a year of marked increased moving activity. Forty-one percent of the companies anticipate an increase over the 1975 total. Only twelve percent felt that there will be a decrease. In 1975, nineteen percent of those surveyed predicted an increase. Historically, corporate relocations have paralleled the curve of the Gross National Product, a major economic indicator.

Part of the rise in corporate transfers will be the woman executive. Thirty-eight percent said they have relocated women as the principal breadwinner in the past. Overall, women will account for 5.6 percent of all 1976 corporate transfers, up from 4.4 percent the year earlier and nearly twice as high as the two percent reported in 1974.

With the economy taking on a healthier glow, corporations are once again loosen their purse strings for relocation. However, costs remain considerably lower than the peak year of 1972.

Summer relocation down

Forty-two percent of those executives polled stated that the summer months are the key period for relocations, down from sixty-six percent last year. Of this forty-two percent, approximately two-thirds felt that moves peaked during June, July and August because of the traditional school year. Of the corporations reporting, twenty-three percent indicated that June was the biggest month for moves in 1976. July ranked second with twelve percent and August placed third with seven percent.

In response to questions concerning the disposition of employees’ former residences, forty-four percent of the respondents indicated they guarantee the sale of the house, while thirty-two percent of the companies will actually purchase the employee’s former home if no other buyer can be located within a reasonable period of time. Eleven percent polled refund to the transferred employee any cash difference between the sale price of the former house and the purchase price of a similar house in the new location.

If an employee rented quarters in the old city, fifteen percent of the companies will pay the difference between the former monthly rental and the going rate for similar quarters in the new city. [F]
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Chairman, Organization Committee
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Roger D. Hand
Trainer-Agent
Walk-Away Stables
Battle Creek, Mich.

I would like to take this opportunity to congratulate you on your new club...

Nicole Poitras
Greenfield, Quebec

I was very glad to get my membership card...I will be glad to help you in any way that I can.

Evelyn Kirk
Unity, Maine

I hope with all my heart that horse lovers and horseowners will put forth every effort and back this club 100% as I intend to do...

Kris Barrett
Fort Worth, Texas

I must comment on how pleased I am (to be) a member...I am an active member in many other associations and can say from experience your club seems to be achieving many things so many have set out to do...I am a professional trainer...I have encouraged many of my clients to join your club, mainly for your benefits...

Mollie Dodgen
Yuma, Ariz.

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