

## Quality Techniques & Safety Committees

### Applying participative management techniques to risk control

By Monte G. Cole; originally published 1982 with subsequent reprinting; see endnotes.

The use of "quality circles" is a participative management technique with much appeal and considerable success in this country over the past 10 years. Well-planned, smoothly running quality circles have helped organizations in team building, problem solving, and problem prevention. While safety committees have also dealt with problem prevention, they have been ineffective due to lack of guidance, failure to identify and solve problems, and failure to involve management in a meaningful way.

Safety committees have helped little to prevent losses. However, the quality circle technique holds some promise in this area. Therefore, risk managers and safety managers should be consider the technique as an alternative to traditional safety committees.

What follows is a review of both the quality circle and safety committee approach. Because a recent poll showed that most risk managers have some safety responsibilities, and because some safety managers have risk management responsibilities, this article refers to the risk manager and the safety manager as one person: the risk/safety manager.

### **Safety committees**

The Safety Committee came into being after the passage of the workers compensation insurance laws in 1911. William Pope, in his book *Systems Safety Management*, quotes R. Blake as saying that safety committees were one of the oldest of "the supplemental activities" of the safety movement, along with such notions as rule books, contests, posters, movies and magazines. In 1971, Dan Petersen, in his book *Techniques of Safety Management*, stated "the safety movement has been blessed with (and cursed by) an organizational phenomenon that no other segment of industry has. The marriage of industrial safety to the committee approach is, to this day, so strong that in some slates, companies are literally forced into forming safety committees through codes or through insurance rating plans."

The growth of workers compensation insurance codes and the demand of labor unions for a voice in safety matters have helped perpetuate safety committees.

Throughout the 60-year history of safety committees, management's style—in both the public and private sector—has been predominately autocratic. In 1961, Douglas McGregor, in his book *The Human Side of Enterprise*, termed this management style Theory X. Theory X management views the worker as one who "hates work, will avoid it if he can; . . . management must coerce him into adequate effort by contests, rules, punishments, etc.; prefers to be directed and controlled as he wants to avoid responsibility; and has relatively little ambition, asking for job security above all else."

In 1971, when the quality circles concept was introduced in the US, many successful U.S. organizations were already using a more democratic management style. McGregor terms this management style Theory Y. Theory Y views the worker as one who "will want personal recognition above compensation; has his own goals in work and they must be matched with the company's mission; has problem-solving abilities and management should make use of them." According to this theory, the worker wishes to communicate to management and management should provide a means for this communication.

Several examples are cited of high levels of people orientation prior to World War II by Peters and Waterman in *In Search of Excellence*. In 1914, IBM built a policy on job security based on a desire “to buff and polish the people who were already there.”

### **Quality circles**

While the formal label “quality circles” was coined in Japan in 1962, the seeds for this technique were sown in the post-war rebuilding efforts. From the late 40’s to the early 50’s, statistical and engineering principles were taught to the Japanese by Americans, most prominently, by Dr. William Deming and Dr. J. Juran. Juran lectured that quality control must be practiced throughout a firm, and the Japanese interpreted this literally to mean that everyone should use statistical techniques to solve problems.

While helping to rebuild Japan, the Americans promoted control techniques to improve product quality. Note: To receive military procurement orders from the U.S. in the mid-to-late 50’s, quality standards of the U.S. Defense Department had to be met. Improved quality resulted in reduced exposure to product liability losses.

As of 1980, quality circles were being widely used in many Western nations. Interest in the idea continues to grow.

### **Comparisons**

What do quality circles and safety committees have in common? They are both groups and exist by the permission of management; both usually address topics of pure risk. Pure risk refers to the possibility of loss; speculative risk refers to the possibility of either gain or loss. But that is where the similarity between the two ends.

Quality circles can only operate under a participative management style. Conversely, safety committees have persisted under an autocratic management style.

Key differences between quality circles and safety committees are cited in Table 1.

### **Table 1—Differences Between Quality Circles and Safety Committees**

#### **Quality Circles**

Membership is voluntary.

Members are from same work area.

Members report to the same supervisor.

Members receive specific problem-solving training.

Numbers of members varies from six to ten.

Management liaisons are specifically trained in management and human relation skills.

Goals are to identify problems and to solve them.

#### **Safety Committees**

Membership is usually by appointment

Members are a cross-section of the organization.

Members report to different supervisors.

Limited, if any, problem-solving training is given members.

Number of members varies widely.

Management liaisons usually get little training in management and human relations.

While identification of problems may occur, others usually solve them.

**To begin a quality circle, first . . . establish objectives.**

Safety committees may have been doomed from the beginning by taking an adversary role in times of an autocratic management style. Their objectives have never been clear; their results have been predictably poor.

The quality circle technique has grown out of management's desire to tap the wealth of creativity in the workplace, allowing individual creative expression. At the same time, results are, by design, measured by dollar savings. In organizations successfully using quality circle techniques, such savings give management the incentive to support the participative style even more strongly.

Poorly conceived and managed safety committees may do more harm than good; if the committee's ideas are ignored or mishandled, both the committee and these it represents may become demoralized.

Safety committees are usually charged with identifying a problem, while either the risk/safety manager or operations manager must solve it. Quality circles, however, not only identify a problem, they collect and analyze data, determine a solution and present the solution—and its economic impact—to management.

Three phases in the evolution of quality circles have been defined by Donald Dewar, well-known consultant in the field.

They are: the crawling phase, in which problems are solved in the circle's own work area; the walking phase, in which joint problems are worked on with circles from other work areas; the running phase, in which many circles interface to prevent problems.

**Starting a quality circle**

The risk/safety manager is in a good position to either originate or promote the use of quality circle techniques. One safety manager who successfully used quality circle techniques in a safety committee was then asked to use the approach in other areas of company management.

To begin a quality circle, first decide what the quality circle is to achieve—that is, establish objectives. Objectives might be to: build a problem-prevention attitude; improve morale; reduce errors; improve quality; improve communications; develop a greater safety awareness; develop safety consciousness. Match the objectives to the needs of the organization, and the idea will gain the necessary support. Even the name quality circle may be tailored to fit the objectives, such as “problem-solving group” or “team effort.” Also consider using a consultant; the experience and training material a consultant can provide may be a worthwhile investment.

A steering committee should be formed early in the process to provide overall guidance and direction. Its members should represent management from major departments within the organization. Union representation is encouraged, especially if union contracts involve occupational safety and health, and if the quality circles are likely to address occupational safety and health issues.

A facilitator is then chosen by the steering committee to act as a liaison between the different factions: management, middle management, and labor.

Objectives should then be finalized, with baseline measurements of losses established for such areas as: absenteeism, turnover, tardiness, disciplinary action, exit interviews, defective workmanship, customer complaints, billing delays, grievances, and productivity. (Many such loss areas can be either direct or indirect causes of losses that concern the risk/safety manager.) A schedule for implementing objectives should be set.

Briefings should then be held for all levels of management and unions to assuage the frequent fear that quality circles create threats and competition.

Performance goals must be mutually agreed upon by circle leaders (who are usually supervisors) and the facilitator. Also, the leader may report to a manager who is not part of the circle; he/she must also agree to these goals if the management structure is not to be upset. Goals must be measurable, and progress in reaching them must be communicated to the aforementioned parties. It is essential that employees be made aware of the program; however, they should also understand employee participation in the pilot program is limited.

### **Training**

What distinguishes the quality circle concept from most management techniques is in-depth training. Training of facilitators and leaders may be done concurrently by a consultant. Leaders then train the other circle members. The facilitator often attends these training sessions but stays in the background and assists the leader only as needed.

Some of the problem-solving and prevention techniques learned by facilitators, leaders, and members are:

- Brainstorming—Proper brainstorming techniques allow the group to generate creative and innovative ideas.
- Cause and effect analysis—This involves studying causes under such categories as machine, material, method, and manpower and then reaching a consensus on the causes of a given problem.
- Data gathering—The training teaches how to avoid pitfalls in gathering data, and how best to arrange and organize data.
- Pareto analysis—This technique is designed to help focus attention on the few important problems and not on the many trivial ones.
- Histograms—Some simple and basic understanding of frequency distributions helps identify and solve problems.
- Control charts—Specialized line-graphs help to identify trends so preventive action can be taken.
- Decision analysis—The correct decision is not always obvious. Systematic decision-making techniques save time and help assure that presented solutions will be implemented.
- Presentations—Solutions to problems and recommendations must be communicated to management. Good communication skills help with presentations impact. It should be noted that doing presentations may be the

quality circle's sole reward; they do not necessarily receive such material rewards as pins, pendants, plaques, trophies or cash.

The steering committee should periodically check to see how the circle's actual progress compares with the plan and suggest modifications as needed.

Because the risk/safety department is the logical place to start a quality circle, it follows that the risk/safety manager would be the ideal formal or informal facilitator. Should the quality circle begin in other departments, the risk/safety manager can help integrate and coordinate activities. In addition, the risk/safety manager can offer to the circles lists of potential problems needing solutions. It should be remembered that in the running stage of quality circles, cooperation is necessary throughout the organization to achieve prevention.

### **Comparison of techniques**

At this point, a comparison of the roles used in the safety committee technique versus the quality circle technique may prove useful. They are:

<b>Safety Committee</b>	<b>Quality Circle</b>
Top & Middle Management	Steering Committee
Risk/Safety Manager	Facilitator
Supervisory Personnel	Circle Leader
Committee Members	Circle Member

### **Risk control circles**

Safety circles have been described as quality circles addressing occupational safety issues; risk control circles might be considered quality circles with a wider scope that includes pure risk. However, little documentation of work done in this area exists.

### **Reasons for failure**

Both safety committees and quality circles sometimes fail—for the same reasons, which are summarized in **Table 2**.

### **Table 2—Reasons For Failure in Quality Circles and Safety Committees**

#### **Quality Circles**

Members not trained

Leaders not trained

Parameters not clear

No visible management support

Lack of regular meetings

Lack of participative style

Poor management response to circle presentations and recommendations

Management uninformed by circle

### **Safety Committees**

Members inexperienced

Chairman not trained

Responsibilities not clear

No visible management support

Irregular meetings (if any)

Trivial agenda

Poor management response to committee's recommendations

Minutes not circulated to management

When the management of an organization is committed to the Theory Y style, failures will probably be rare; quality circles or a variation of them are likier to thrive. Depending on how management wishes to use them, the safety committees, or even quality circles, can be authoritative, advisory, or information gathering bodies. (In fact, committees may be established to avoid delegating too much authority to a single individual. "Hot" safety issues for example, may be passed on to a committee so that no one individual will be held accountable.) However, should the work of the safety committee or quality circle fail to produce dollar savings or dollar gains for the organization, management support of the group will tend to wane.

### **Advantages of quality circles**

Hundreds of US. corporations now use quality circles. In May 1982, the General Accounting Office reported that 13 federal agencies (10 defense and 3 civilian) had quality circle programs by the end of 1980. Many other public entities are using quality circles or a variation of them.

Quality circles seem to succeed more often than they fail. The published savings-to-cost ratio using quality circles is generally fixed at six-to-one. Some risk control programs that use quality circle techniques also have a savings-to-cost ratio of six-to-one.

Examples of quality circle-induced dollar savings are many. They are generally achieved by eliminating waste of time, effort, and equipment and by making improvements in safety. Some specific examples are:

- Improved traffic handling procedures (for the City of Dallas, Texas)
 

Police Department	\$8,200
Municipal Courts	\$13,500
Data Processing	\$26,000 to \$40,000
- Annual budget performance savings for Delco Products, Dayton, Ohio
 

1977	\$820,000
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Each year 1978, 1979, 1980	\$1,400,000
Assembly hours reduction	625,724
• Streamlined operations (for the Norfolk Naval Shipyards, Portsmouth, Va.)	
First-year savings (1979)	\$200,000
Savings through May 1981	\$1,500,000

Cultural differences between Japan and US. may explain, in part, why the quality circle approach has met with more success in Japan, thus far, than in the US. In his book Theory Z, William Ouchi lists these differences as follows:

#### **American organizations**

Short-term employment

Rapid evaluation and promotion

Specialized career paths

Explicit control mechanisms

Individual decision making

Individual responsibility Segmented concern

#### **Japanese organizations**

Lifetime employment

Slow evaluation and promotion

Non-specific career paths

Implicit control mechanisms

Collective decision making

Collective responsibility

Holistic concern

A few American organizations, according to Ouchi, have structures that are evolving along Japanese lines but with differences to fit the American culture. For quality circles to succeed, the environment must be right, the ground work properly laid, and the commitment strong. Though begun in the private sector, quality circles are now appearing in growing numbers in the public sector. Perhaps more importantly, the participative management style which allows quality circles to succeed is more prevalent today in both the public and private sector.

The problems quality circles address are closely aligned with pure risk. Three primary loss exposures are of concern to the risk/safety manager: legal liability, net income, and property loss. Quality circles can specifically address problems in each of these areas, including occupational safety, waste, loss of utility income, and fire and breakdown losses.

#### **Conclusion**

While loss prevention has proven to be an elusive goal for traditional safety committees, it has been achieved through quality circles.

Management of public and private entities should, therefore, consider eliminating traditional safety committees and establishing quality circles.

The risk/safety manager can play a key role in the formation and coordination of quality circle techniques within an organization. Such techniques will enhance efforts to identify, control and monitor risks, making the job of the risk/safety manager that much easier. And the benefits can be very great indeed.

*Originally appeared in PRIMALETTER, November 1982, published by the Public Risk and Insurance Management Association (PRIMA). Also appeared in the February 1983 issue of The Risk Report, published by the International Risk Management Institute. Also appeared in the April 1984 issue of Professional Safety published by the American Society of Safety Engineers. Also appeared in Quality Digest, 1984.*

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