

IMPROVED ORGANIZATIONAL PERFORMANCE THROUGH QUALITY CIRCLES



Community Resource
Development



Industrial Engineering
and
Operations Research

Why Quality Circles?

Quality Circles is an employee involvement and team-building process for improving organizational performance. Quality Circles and the closely related topics of Quality of Work Life and Participative Management form the leading comprehensive approach to human resource development and group dynamics in today's complex business, industrial, and governmental environments.

The enclosed paper, "Improved Organizational Performance through Quality Circles," with executive summary by Fred Spengler, CRD specialist, deals with one of the most important organizational improvement strategies in use today. We in the Virginia Tech CRD office feel that this paper will:

- Introduce you to the topics of Quality Circles, Quality of Work Life, and Participative Management; and
- Make you aware of the proven capability in this area of Virginia Tech's Community Resource Development Program. This proven track record includes the presentation of public or general solicitation type seminars, plus the design and delivery of custom-made, in-house extension consulting and training programs to meet an organization's particular needs.

Many industrial, business, and governmental organizations in our nation--including the commonwealth of Virginia--have experienced a decline in effectiveness in the last few years because of inflation, recession, and increased domestic and foreign competition. Many approaches have been suggested to assist organizations in arresting this decline and in developing organizational excellence. One of the powerful organizational improvement strategies in use today, and which is spreading rapidly in popularity, is implemented through the effective involvement and participation of employees.

To accomplish this increase in employee participation, today's new personnel management philosophy emphasizes using the team approach to effectively involve people in organizational decision making. Quality Circles and the closely related topics of Quality of Work Life and Participative Management embody this new personnel management philosophy of the 1980's and beyond. This employee-centered organizational improvement strategy should be given serious consideration by every executive whose organization has been unable to meet its goals in any of the following areas:

- Improvement in communications and cooperation between employees, the union, and management;
- Reduction of absenteeism;
- Reduction of turnover;
- Improvement in quality of services/products; and
- Increase in output of services/products (working smarter--not harder).

We in CRD are ready to assist you with your important goal of improving organizational performance. Quality Circles should be thought of as a process for building people, productivity, and quality. Few would argue that "people building" results in stronger organizations. Collectively, strong business and industrial organizations constitute a strong economic base that, in turn, creates a strong funding base for governmental agencies. A strong public funding base, coupled with a strong and effective political subdivision, is necessary for building a stronger and better community. Building better communities is an important concern of Virginia Tech's Extension Community Resource Development Program.

For further information, please contact Virginia Tech Extension, Community Resource Development Program, Dr. Douglas McAlister, State Program Leader, or Mr. Fred Spengler, Extension CRD Specialist, at (703) 961-5108, 276 Whittemore Hall, IEOR Department, Virginia Tech, Blacksburg, Virginia 24061.

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Improved Organizational Performance

Through Quality Circles*

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Executive Summary

This paper offers an introduction to the subject of Quality Circles and the closely related topics of Quality of Work Life and Participative Management. Pertinent areas included describe:

- Some of the different terms found in the literature and in practice for this process of involving employees, plus the definition of a Quality Circle.
- Benefits accruing from a successful Quality Circle effort.
- A study illustrating how a strong positive correlation can be established relating the implementation of a successful Quality Circle process to an improved work force attitude, and subsequently to an improved company safety record, resulting in an organization's increased cost effectiveness.
- The brief history, development, and implications of Quality Circle's in Japan--the country of origin for this process.
- The profile of today's American worker. This provides an understanding of our present need for the Quality Circle process.
- The mechanics which are the heart of the process illustrate how circles or teams perform their problem-solving tasks, and how the important prerogatives of managers and administrators are maintained in this process.
- Some of the American behavioral science theories that form part of the important motivational foundation for Quality Circles.
- The charter and the code of conduct so important in guiding the Quality Circle members in their newly increased participation in organizational decision making.
- Management styles and their effect on environment.
- The Quality Circle organization which dovetails into the existing organizational structure and utilizes current channels of communication.
- The important considerations and steps to be taken by an organization if their Quality Circle efforts are to be successful.

ABSTRACT

The role of Quality Circles, a proven employee involvement and team-building strategy for improving organizational performance, will be examined and discussed.

INTRODUCTION

That there are limits to the contribution that additional capital and new technology can make toward raising productivity has become clear to many American executives today. These limits find their basis in the law of diminishing returns.¹ There are still too many executives in both the private and public sectors, however, who are overlooking the economic impact that can be attained through increased effective utilization of the human resources in their organizations. Quality Circles, if properly implemented, is an excellent way to involve employees and to tap their experience and knowledge. But, Quality Circles is not the first manifestation of the belief in the value of workers and their ideas. Allen Mogensen, the father of Work Simplification, also believed in the value of the worker viewpoint as far back as the early 1930's. Mogensen believed that the employee doing the job day in and day out was the person who knew the most about that particular job and would have worthwhile ideas on how to improve that job. Mogensen's philosophy included giving the employee training in work simplification principles which, when coupled with the employee's job knowledge, facilitated the making of improvements to the job.

While Quality Circles have appeared on the American work scene in recent years as a new and enlightened personnel management phenomenon, a few progressive organizations in the United States have always practiced this kind of personnel management philosophy--an enlightened and progressive philosophy emphasizing the value of people and the value of ideas. To these few organizations, Quality Circles is not that new and surprising a development. In fact this small select group of American organizations believe that the process of Quality Circles is long overdue in the United States. But to the vast majority of American organizations, Quality Circles still represents a radical employee-relations departure from the traditional adversarial employee management relations they have practiced over the years.

This paper will offer an introduction to the subject of Quality Circles and the closely related topics of Quality of Work Life and Participative Management. We will take a brief look at a profile of today's American employee to gain an understanding of the need for the Quality Circle process. Also, we will take a brief look at the history and development of Quality Circles in Japan, which is the country of origin for this process. We will examine some of the American behavioral science theories that form part of the important motivational foundation for Quality Circles. In addition, we will describe the mechanics or the heart of the process to illustrate how circles

¹ Manfred L. Spengler, "Participative Management: A Union Management Case Study." 1980 Fall IE Conference Proceedings, p. 79.

or teams perform their problem-solving tasks. We will also describe the charter and the code of conduct that are so important to this process, plus the important considerations and steps to be taken by an organization if their Quality Circles are to be successful.

TERMS AND QUALITY CIRCLE DEFINITION

John W. Newbern noted that there are three kinds of people: "Those who make things happen; Those who watch things happen; and Those who wonder what happened." Quality Circles, if properly implemented, makes things happen. Quality Circles is one of the two more popular names in the literature for this process of involving employees. The term Quality of Work Life (QWL) Committees has also been used rather extensively to describe this process. Other organizations have adopted names such as Pride Circles, Employee Problem-Solving Teams, Productivity Circles, Employee Involvement Teams, and Employee Participation Groups. The last term, Employee Participation Groups, is, in my opinion, the best generic term for this process. A workable definition for a Quality Circle or a Quality of Work Life committee, or an employee participation group would be "A group of people in the same work area who voluntarily meet together on a regular basis to identify, analyze, and solve quality problems and other problems in their area."

OBJECTIVES AND A MINI-CASE-STUDY

Essentially, employee-centered Quality Circle/Quality of Work Life efforts have two objectives: to improve employee job satisfaction, and to increase organizational effectiveness or productivity. Thus, there is something in this process for everyone--the employee as well as the organization. There are other benefits which also accrue from a successful Quality Circles effort: the improvement of morale; the improvement of quality and customer relations; and the development of leadership. The latter benefit identifies for future promotional possibilities those promising employees who have been observed performing satisfactorily in unofficial leadership roles within the Quality Circle process.

The emphasis in this process of employee participation groups is on employee involvement and employee attitudes as they they have an impact on bottom line results. The following mini-case-study (from the author's consulting experience) demonstrates the important influence that good employee attitudes can have on an organization's cost effectiveness. Refer to figure 1.1.

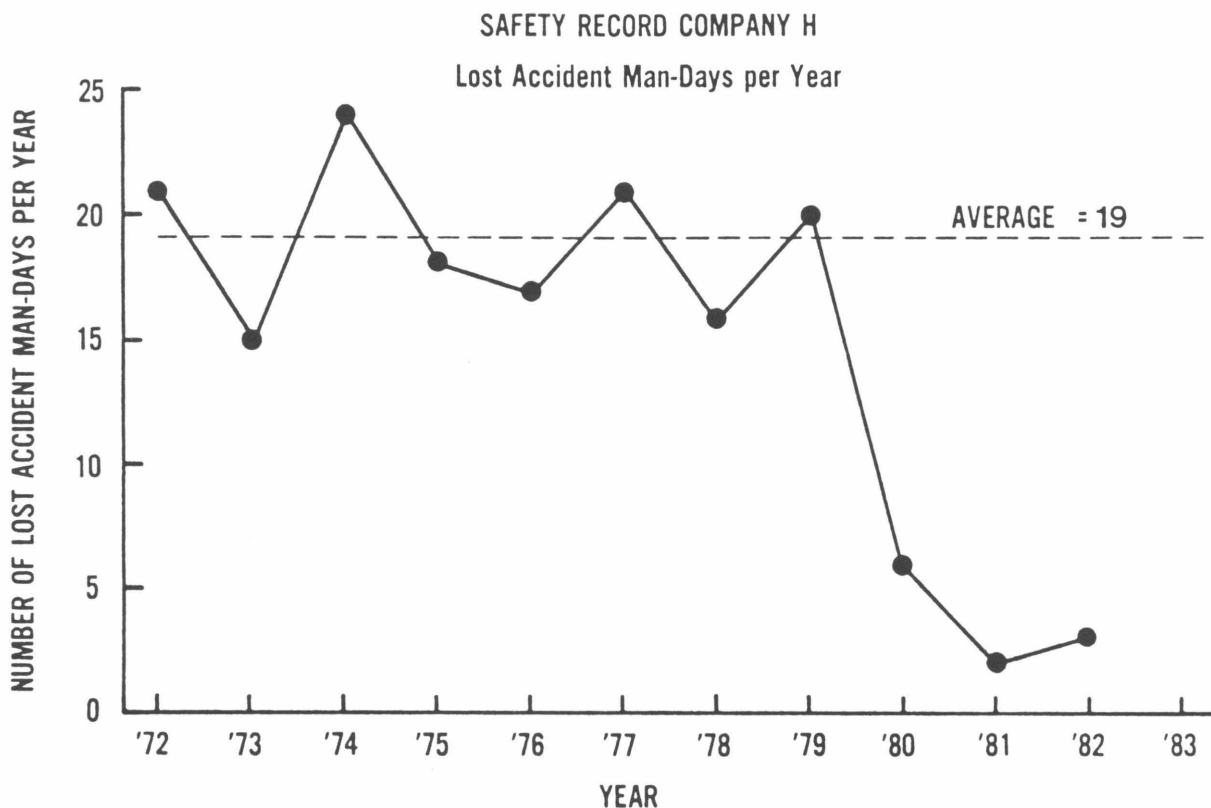


Figure 1.1

The graph illustrates the fluctuations in the number of lost accident man-days per year from 1972 to 1982. An average of nineteen lost accident man-days per year occurred in the eight years from 1972 to 1979. In early 1979, Company H began to implement the Quality Circle process by beginning a training program for its two pilot circles. Figure 1.1 dramatically indicates a decrease to six lost accident man-days in 1980 and a further significant decrease to only two lost accident man-days in 1981. A slight increase to three lost accident man-days took place in 1982. However, the company worked an accident-free total of 1,574,000 man-hours from the time of the last accident in 1981 to the next accident in late November 1982.

Company H policy states that all employees will receive free access to the vending machines for one day if there are no accidents in a one-month period. Furthermore, all employees will receive a free lunch if no accidents occur in a three-month period. The complimentary lunch is repeated once in each succeeding month that is free of any work accidents. The cost of the employee monthly luncheon is about \$1,480 a month for about 500 people, or approximately \$18,000 a year. The benefits to the company, however, are in excess of \$60,000 per year because of reduced insurance premiums.

The management of Company H firmly believes that a strong positive correlation can be established relating the implementation of a successful Quality Circle process to an improved work force attitude, and subsequently to an improved company safety record. The improved company work environment made it easier for employees to express their opinions. Management indicated its desire to listen and encouraged employee participation through the Quality Circle process. Management not only welcomed the circles' suggestions, but made certain that action was taken on those suggestions.

THE JAPANESE EXPERIENCE

It can be safely stated that almost every American today is well aware of the high quality and competitive costs that Japanese products represent in a broad range of market technologies. What is not so well known among younger Americans is the once poor and shoddy reputation that all Japanese products had before, and even after, World War II. Almost equally unknown is the fact that American personalities and American ideas contributed significantly to the remarkable transformation in the reputation of Japanese products from 1946 through the early 1970's.

General Douglas MacArthur, in charge of the post W.W. II United States Occupational Forces in Japan, sought to assist the Japanese in raising the quality level of their products. His mission was to get the Japanese back on their economic feet. Edward Deming and later Joseph Juran were brought to Japan to teach the principals of statistical quality control. The Japanese became eager students. In 1961, Kaoru Ishikawa, then an engineering professor at Japan's prestigious Tokyo University, tied the theories of American behavioral scientists such as Maslow, Herzberg, and McGregor to the quality control sciences introduced to Japan earlier by Deming and Juran. The result was a "system," or process, called Quality Control Circles.²

Now the reader may ask, "What did the Japanese contribute to the Quality Circle process if all the main ideas supporting the process were American ideas?" Well, first of all, we have to remember that the American behavioral science theories were available to American executives several years before the formation of Quality Circles in Japan. American executives, however, chose not to apply the thinking from the behavioral sciences. Second, the Japanese recognized the quality of American ideas and the need to blend the statistical quality control principles with the behavioral science theories. But, more importantly, the great innovative contribution made by Japanese management was to institutionalize the process of Quality Circles in their organizations. In other words, Quality Circles as a process and a philosophy became a part of day-to-day operations. The Japanese also went one step further than American management in teaching the principles of statistical quality control to their workers as well as to their managers. The idea was promoted that everyone in

² American management and others have since seen fit to drop the term "control," and the process is referred to by many simply as Quality Circles.

a Japanese factory was responsible for quality. In sharp contrast, statistical quality control principles were only taught to the managers and other selected professionals in American factories, and the general approach to quality control in American factories became one of "inspecting" the quality into the products.

PROFILE OF TODAY'S AMERICAN WORKER

On the average, today's American employee is different from the employee of just ten years ago, and vastly different from the employee at the beginning of this century when Scientific Management held sway. And even though this approach is essentially dead today in this country, it once served a very important purpose in further stimulating the American industrial revolution. At the turn of this century there weren't enough craftsmen available to fuel America's industrial revolution. Scientific Management made its contribution by separating the planning of the work from the doing of the work, and our industrial revolution received the impetus that was necessary for achieving future high levels of productivity. Today's American employee is better educated and better informed. The average formal education is close to that of a high-school graduate. Our mass media of TV, radio, and newspapers produces up-to-date information in a timely manner. Educated and informed people ask questions. Today's American employee wants a say and to be "in on things" that directly affect him or her at the workplace.

Today's employees are also younger and more affluent. These employees are part of the "baby boom" generation born between 1946 and the early 1960's. Consequently, they cannot remember or never did experience the "hard times" of their fathers and mothers during the Depression days of the 1930's. Finally, today's employees have higher expectations concerning their job and the workplace. Those expectations are reflected in an increased interest in the quality of life at work.

HOW CIRCLES WORK

Figure 1.2 illustrates the Quality Circle process. Circle members are trained in each of the steps described in figure 1.2.

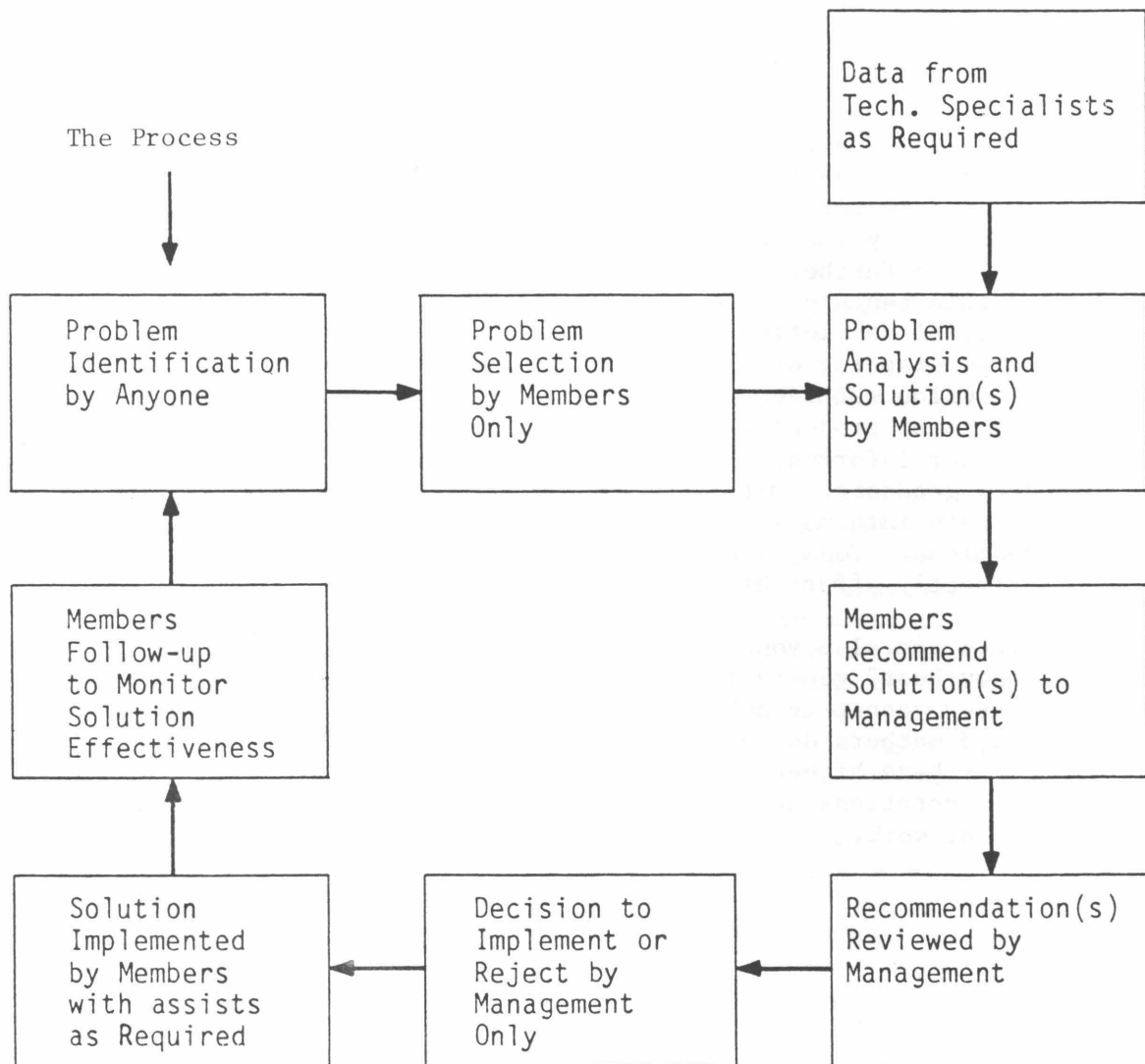


Figure 1.2

The process in figure 1.2 closely parallels the phases in any good business, engineering, or governmental problem-solving approach, with probably one important exception. Whereas anyone (members, management, technical specialists, and nonmembers) may suggest a problem to the circle for adoption as a project, only the circle is given the right in this process to select the problem(s) and the order of those problems that the members wish to adopt as projects. Equally important in the process is the fact that management gives up no power. The decision to accept or reject a circle idea is solely a management or administrative prerogative.

Giving members the voluntary right to select their own problems and involving members in all of the problem-solving steps produces a natural built-in commitment from the members to support an implemented solution during its life cycle. Effective circle leadership will guide the members to select problems from within their own work area,--where they are the experts.

Effective training given to Quality Circles in identifying, analyzing, and recommending solutions should insure that 75 to 85 percent of the ideas will be accepted by management.³ A greater management sensitivity is needed, however, in responding to Quality Circle ideas. A persuasive, nondictatorial, and informative style--communicated in a timely manner--is required when management decides to modify or reject a Quality Circle idea.

MOTIVATION AND THE BEHAVIORAL SCIENCES

The author has been applying the principle of involving people to facilitate the change process since his days in industry and business during the late 1960's.⁴ He further believes that involved people are motivated people, and that motivated people are productive people.

We know that we cannot motivate another person. Motivation must originate and come from within a person. We also know that the kind of work environment that exists in an organization has a strong determining influence on whether or not a person is motivated to do his/her job. The behavioral science concepts and theories provide much useful information on how to establish conditions at the workplace and on how to manage employees so that they will be motivated to do their jobs. Quality Circles are a manifestation and application of behavioral science theories. It is not the purpose of this paper to give an in-depth treatment of these concepts, but rather to let us take a brief look at some of the thinking from the more popular theorists.

³ Manfred L. Spengler, "Employee Participation Maximizes Productivity." 1982 Fall IE Conference Proceedings, p. 107.

⁴ Manfred L. Spengler, "Reducing Conflict and Increasing Productivity in the Operations Area." 1979 Fall IE Conference Proceedings, pp. 157-159.

1. Maslow's Needs Hierarchy

a. See Figure 1.3

b. Major tenets of the theory

1. All people have this same needs hierarchy but are at varying levels of need satisfaction.
2. A person is not concerned with satisfying a particular need level until the one below it is substantially satisfied.
3. People achieve satisfaction of needs in different "quantities."
4. The lower needs are somewhat finite but the higher-order needs are almost infinite in their capacity for satisfaction.

2. Herzberg's Motivation-Hygiene Theory

Factors that motivate people on the job tend to be achievement, recognition, advancement, the work itself, responsibility, and the possibility for personal growth.

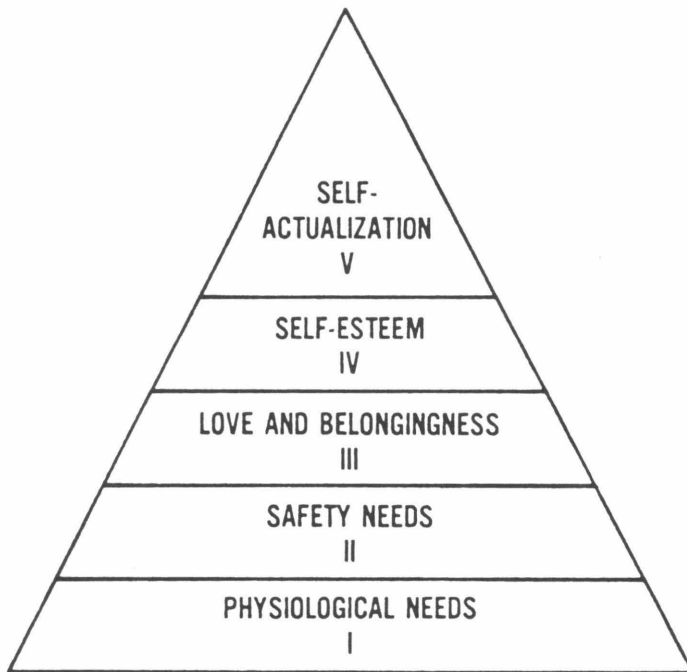
3. McGregor's Theory X Assumptions

- a. The average human being has an inherent dislike of work and will avoid it if possible.
- b. Because of this dislike of work, most people must be coerced, controlled, directed, and threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives.
- c. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

4. McGregor's Theory Y Assumptions

- a. The expenditure of physical and mental effort in work is as natural as play or rest.
- b. Humans will exercise self-direction and self-control in the service of objectives to which they are committed.
- c. Commitment to objectives is a function of the rewards associated with their achievements.
- d. The average human being learns, under proper conditions, not only to accept but to seek responsibility.

- e. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.
- f. Within most organizations, the intellectual potentialities of the average human being are only partially utilized.



Maslow's Needs Hierarchy
Figure 1.3

The author strongly advocates teaching the behavioral science concepts to managers, administrators, and supervisors. It is time well spent as part of the preparation phase for introducing the employee participation group concept into an organization. These concepts have been readily available in the literature for years. The author's consulting and training experience has shown that there are still a significant number of supervisors, managers, and administrators who are not aware of these concepts, or who possess only a shallow understanding of these behavioral science theories.⁵

CIRCLE CHARTER AND CIRCLE CODE OF CONDUCT

The charter illustrated in figure 1.4 and the Code of Conduct illustrated in figure 1.5 both help structure the increased freedom given to subordinates in the Quality Circle process. These guides for members and the circle leader prevent circle meetings from deteriorating into "bitch" sessions and encourage members to conduct those meetings in a "business-like" manner.

⁵ Manfred L. Spengler, "Employee Participation Maximizes Productivity." 1982 Fall IE Conference Proceedings, p. 106.

Quality Circle/Quality of Work Life
Charter

Employee Circles/Committees will not discuss subjects that are outside their charters. These are:

- Wages and Salaries
 - Benefits
 - Disciplinary Policies
 - Employment Policies
 - Termination Policies
 - Grievances and other items covered under the Collective Bargaining Agreement
 - Personalities
-

Figure 1.4

Quality Circle/Quality of Work Life
Code of Conduct

- Criticize Ideas, Not Persons
 - The only stupid question is the one that is not asked
 - Everyone in the Circle/Committee is responsible for its progress
 - Be open to ideas of others
-

Figure 1.5

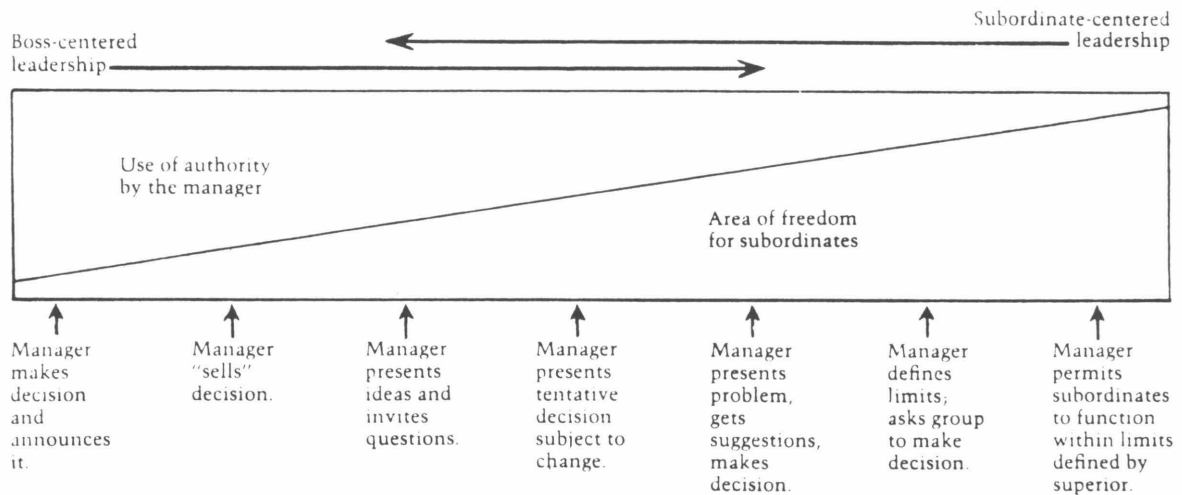
MANAGEMENT STYLE AND THE ENVIRONMENT

Work environment stems from management style. Participative management is the style of management that nurtures and allows Quality Circles to flourish within an organization.

Figure 1.6 presents the continuum or range of possible leadership behavior available to an executive. Each type of action is related to the degree of authority used by the boss and to the amount of freedom available to his/her subordinates in reaching decisions. The actions seen on the extreme left characterize the executive who maintains a high degree of control; those seen on the extreme right characterize the executive who releases a high degree of control. Neither extreme is absolute since authority and freedom are never without their limitations.⁶

⁶ Robert Tannenbaum and Warren H. Schmidt, "How to Choose a Leadership Pattern." Harvard Business Review, May-June 1973, p. 2.

Continuum of leadership behavior



Tannenbaum and Schmidt

Figure 1.6

The type of leadership needed for a successful Quality Circle effort lies somewhere between the third and second arrows from the right of figure 1.6. Circle members have the right or freedom to select and present a problem for analysis and recommendations, while executives retain the authority and prerogative to accept or reject any circle recommendation.

QUALITY CIRCLE ORGANIZATION

The organizational structure for the Quality Circle process forms an integrated system made up of several components, including the members themselves, the circle leaders, the facilitator, the coordinating committee, and the steering committee. It is not the objective of this paper to describe in detail the responsibilities of the above parts of the Quality Circle organization. The reader is encouraged to study the literature on this subject for further insight and understanding.

An important point to remember, however, is that the Quality Circle organization dovetails into the existing organizational structure and uses current channels of communication. Quality Circles provide a parallel and cooperative channel of communications between union and management in addition to the adversarial union-management relations that may exist in an organization.

The circle leader is the supervisor to whom the members already report in the existing organizational structure. As the circle matures, a lead person may be designated to act as an assistant circle leader.

The facilitator is the person who is responsible for coordinating, coaching, and directing Quality Circle activities within a given organization.

A steering committee serves as the board of directors for Quality Circle activities. This committee is responsible for creating successful Quality Circle activities. It must set goals, objectives, operational guidelines, and control the rate of expansion for the circle effort. Managers from key departments or functional areas in the organization, together with the union president, constitute the membership of this committee. The steering committee is presided over by a chairperson, and decisions are reached by democratic process--one person, one vote.

The coordinating committee reports to the steering committee. The coordinating committee is comprised of middle management representatives from key functional areas. Its prime mission is to review circle projects that are forwarded to it and to provide whatever assistance is requested by the circles in the performance of the circle process. Smaller organizations with fewer management levels may not have a need for a coordinating committee. However, it is important in larger organizations to involve middle management so that any potentially opposing forces are neutralized as much as possible so that the Quality Circle effort will be successful.

KEYS TO A SUCCESSFUL QUALITY CIRCLE/QUALITY OF WORK LIFE/PARTICIPATIVE MANAGEMENT PROCESS

Figure 1.7 summarizes the keys to a successful QC/QWL/PM process. Motivating workers and improving and keeping employee attitudes at a high productive level is a continuously challenging job for today's executive. The rewards accruing from such efforts, however, are commensurately high for successful executives and their organization.

Keys to a Successful QC/QWL/PM Process

- Substantial study and planning is done before starting
- Participation is voluntary
- Management is actively and visibly supportive
- Union is included if one is present
- A functioning steering committee oversees the effort
- A working facilitator is assigned
- People-building is emphasized
- Training is provided
- Teamwork is encouraged
- Recognition is provided
- Employees tackle problems within their area of expertise
- A charter is written and distributed throughout the organization
- A code of conduct is written and distributed throughout the organization
- Circles complete all steps of the circle process

Figure 1.7

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BIOGRAPHICAL SKETCH

Manfred "Fred" L. Spengler, B.S.I.E., M.B.A., is associate professor of industrial engineering and operations research and Extension CRD specialist at Virginia Polytechnic Institute and State University. He brings to his current position a unique blending of managerial and staff experience from industry, business, the university, and his management consulting practice. He is a veteran professional trainer, speaker, author, facilitator, and consultant who has a proven track record in:

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- Originating and directing plant-wide productivity improvement and cost containment programs in industry.
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