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An Investigation Into the Factors Affecting Successful Quality Circle Commitments in Literature and in Reality

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An Investigation Into the Factors Affecting Successful Quality Circle Commitments in Literature and in Reality

Abstract

The purpose of this study was to:

1. Identify the ways to get successful commitments from QC members.

2. Provide a collection of current research results about QCs and these results in reality.

3. Determine the appropriate ways to involve more people in QCs, improve people's quality of work life, and improve overall quality of society.

AN INVESTIGATION INTO

THE FACTORS AFFECTING SUCCESSFUL QUALITY CIRCLE

COMMITMENTS IN LITERATURE AND IN REALITY

A Research Paper Presented

to the Graduate Faculty

of the Department of

Industrial Technology

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Requirements for the Non-Thesis

Master of Arts Degree

by

Guang Jin

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Approved by:

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      Dr. Mohammed F. Fahmy   Date

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CHAPTER I

INTRODUCTION

Statement of the Problem

Productivity improvement is the most significant management task of the 1990's. Some major nations' annual rate of productivity decline has prompted many private and public sector managers to initiate some techniques to increase productivity. Quality Circle is one of these techniques (Hyde, 1985; Ferris & Wagner, 1985).

Quality Circles (QCs) are now considered to be tightly linked with productivity (Tang, Tollison & Whiteside, 1989; Barrick & Alexander, 1987; Ishikawa, 1985; Allen, 1985; Marks, Mirvis, hackett & Grady, 1986; Dykeman, 1985; Mohrman & Luke Novelli, 1985). Researchers have found that QCs could improve work behaviors (Bush & Spangler, 1990), quality of work ratings among QC members (Bush, Roban, 1990; Zink, Ackermann, 1988), and QC members' motivation (Hipple, Ramsay, 1985; Munchus, 1983; Wood, Hull & Azumi, 1983). QCs can also increase communications between managers and employees (Munchus, 1983; Wood, Hull & Azumi, 1983). Quality Circles is considered to be tools for reducing labor turnover and affecting employee career expansion, as well as involving employees in job redesign (Munchus, 1983).   What

most companies are now concerned with is the long-term motivation of their QC members (Cox & Dale, 1985). Implementation manner greatly influences the overall impact of QCs, "...the difficult part is to put this technology to work on a regular basis..." (Bowman, 1989, p.379).

Not all QCs were successful. Metz (1982) noted that while many successful QC examples were published, there were many QC programs in trouble. Abbott (1989) reviewed literature and found that several studies had pointed out the failure of QCs to improve productivity and work satisfaction, and to reduce work related costs. Goodman (1980) reported that 75 percent of QCs that were considered as successful later fail. He also noted that even in Japan, which had a good reputation for QCs, only one-third of QCs succeeded. Inberman (1982) indicated that most North American companies adopting QC programs failed over a one-year period. Cook (1982) offered the evidence that almost one-third of all QC programs in the United States would fail in the future. A Chicago consulting firm's study indicated that 41 percent of U.S. QC programs failed to produce benefits (Wood, 1982). Hutchins (1983) reported that 50 percent of the United Kingdom QCs failed, and some of them had caused heavy damage to the relationship between management and unions. A QC consultant named Tai K. Oh maintained that 60 percent of the American organizations in

which QCs had been tried failed (Marks, 1986). As Alie (1986) said, "It is perhaps no surprise that we had problems implementing quality circles..." (p.9).

Many researchers have investigated QCs and got valuable results, but no one has put forward systematic overall review on former research literature, and we do not have an overall impression about factors affecting successful QC commitments.

The problem of this study was to compile a list of factors considered to be important for successful QCs in current literature, and determine the applications of these factors in two industrial companies.

Statement of Purpose

The purpose of this study was to:

1. Identify the ways to get successful commitments from QC members.

2. Provide a collection of current research results about QCs and these results in reality.

3. Determine the appropriate ways to involve more people in QCs, improve people's quality of work life, and improve overall quality of society.

Significance of the Study

The needs for this study were based on the following

factors:

1. QC was considered to be one type of participative management which contributed to the motivation of employees. Unfortunately, not all QC members were motivated to make QC effective. Some factors even caused QCs to self destruct (Nykodym, Ruud & Liverpool, 1986). Factors affecting successful QCs were needed to be introduced to all QC initiators and implementors.

2. It was believed that both management support and employee participation contributed to QC success. But how to make management efforts compatible with QC members' needs was unknown or unclear to most investigation.

3. Although the introduction of QCs met with many early successes, most of them later failed. QCs were introduced into U.S.A. from Japan, "...the lack of [Japanese] cultural supports in U.S. firms does not preclude success, but suggest the need for implementation strategies unique to [U.S.] society..." (Miskin & Gmelch, 1985, p.122).

The researcher conducted this study based on the needs to motivate QC members, the needs to make management's efforts compatible with QC members' wants, and the needs to find out implementation strategies unique to our society.

Research Questions

The research questions for this study were:

1. What factors were considered to be important for QC success in current literature?

2. Could these factors take effect in companies' daily work? Could they be accepted by QC members in reality?

Assumptions

The following assumptions were made in pursuit of this study:

1. Factors found in the literature could answer the research questions, and the current research results were correct and had no bias.

2. The two industrial companies chosen in this study were of big and medium size, and they had subdivisions similar to smaller companies. These companies were assumed to be the representatives of the modern industries.

Limitations

The study was conducted in view of the following limitations:

1. The study was based on literature review, the researcher intended to make thorough literature review, because some foreign journals and magazines

were not available, the "thorough review" only meant
all available literature review.

2. The study utilized two manufacturing companies to
assess the research results from library literature
review. It was possible that these two companies
could not be the representatives of all American companies.

Statement of Procedure

There were three main steps in this research study:

First, reviewed all research and case study resources
on QCs available at the UNI library and some non-research
literature which offered important information on QCs. The
result of the first step needed to be a list of factors
considered to be important for successful QC implementation.

Second, interviewed some QC leaders, QC facilitators,
and QC members to ask about their impressions on the list of
factors found in literature. Compared and contrasted what
these people said and what had been found in literature.

Third and last, offered some suggestions and
recommendations based on this study.

Definitions of Terms

The following terms are defined to clarify their use in
the context of the study:

Quality Circles (QCs):

>"A small group of between three and twelve people who do the same or similar work, voluntarily meeting together regularly for about an hour per week in paid time, usually under the leadership of their own supervisors, and trained to identify, analyze, and solve some of the problems in their work, presenting solutions to management, and where possible, implementing the solutions themselves (_Quality_ _Circles_ _Handbook_, 1985, p.1).

Steering Committee (Support Group):

A small group of people who are responsible for QC's development. Membership of the steering committee is a voluntary involvement, any level managers and shopfloor workers can be steering committee members (_Quality_ _Circles_ _Handbook_, 1985).

Facilitator (Coordinator):

A member of the steering committee, who offers main information to the steering committee and advises QC's activities to make circle program develop smoothly. The facilitator must ensure the success of company's QC program under the corporate goals. He or she must be responsible for training new QC leaders and working with those leaders who are training their own circles, as well as be on the lookout for signs of trouble (_Quality_ _Circles Handbook_, 1985).

Transactional Analysis:

>"This [is] done by increasing adult transactions between supervisors and employees. The focus was on increased listening and approachability on the part of supervisors as well as increased coworkers support, goal emphasis, work satisfaction, and interaction

facilitation. The problem sought to maintain
performance standards by increasing supervisor emphasis
on information flow and teamwork, although assertion
that coaching and counseling can improve the existing
climate for employee growth by improving co-work
communication was reflected in increased satisfaction,
and co-worker interaction facilitation" (Nykodym, Ruud,
and Liverpool, 1986, p.184).

Statistical Process Control:

Refers to ways to use statistical technique for process

control. Control charts are often used to determine the

quality of a product or of a process during the

manufacturing production. Acceptance sampling is used to

determine if the quality of a lot is acceptable or not

(Klippel, 1984).

CHAPTER II

REVIEW OF LITERATURE

Introduction

In chapter II, the researcher presents three parts
about Quality Circles. The first part is about Quality
Circles in Japan and in America. The second part is about
the nature of Quality Circles. The third part is about
research results on the impact of Quality Circles and
successful implement of Quality Circle programs.

Quality Circles in Japan and in America

Since the late 1950s, Japanese companies had tried hard
to formulate small group-working teams among their workers;
these small teams contributed much to high productivity, an
enjoyable workplace, which was considered to be fulfilling
to workers, and improvement of labor-management relations.
QCs was one of these small group-working teams (Croker,
1984).

QCs were small groups, the members ranged from four to
twelve employees, and eight was considered to be optimum.
All members had the same characteristics; they were from the
same shop or the same floor, they worked under the same
supervisor, who usually, was the leader of the circle.

Although the supervisor chaired discussion and improved the consensus of group activity, the circle members, as a group, made their own decisions. All QC members voluntarily met once every week on paid time, in special meeting rooms apart from their normal working area. Circle members received training related to their activities. After they had mastered the necessary techniques, they chose the problems and projects they liked. Circle members collected all information related to the problems so that they could analyze the problems and develop solutions. QCs existed as long as the members liked (Thompson, 1982).

During the period from 1946 to 1950, statistical quality control (SQC) was introduced into Japan from the United States by the U.S. Army and particularly by Dr.W. E. Deming and also through a number of books. SQC developed further during 1951 and 1954. In 1954, Dr. J. M. Juran was invited from the U.S.A. to Japan; he stated that QC should be one part of management control. From then on, during 1955 and 1960, the Company Wide Quality Control (CWQC) movement started in Japan. All the employees, from top management to foreperson and workers, studied statistical methods and participated in QCs. In 1962, the magazine, Genba-To-QC (QC for the Foremen), was published; QCs were invited in various industrial companies (Sasaki & Hutchins, 1984).

An originator of Japanese QCs, named Kaoru Isikawa, mentioned that the purpose of QCs was to develop employees themselves, encourage creativity, and develop QC members' leadership activity. In Japan, QC members solved problems in the production process, controlled incoming material and new product design. They helped top management to decide on company policy and check if top management's policy was going well. They solved problems in sales activities, personnel and labor management, and in clerical department. CWQC was based on the assumption that quality was related to everyone; all employees in the organization needed to make their company the best competitive one in the particular field (Yager, 1979).

Surveys often found that QC was one way for human resource development. QC activities led to an increase in job performance of QC members. QC activities could give members opportunities to gain analytical skills, to have creative thinking, and to develop leadership ability. QC members also had chances to speak publicly and develop the ability to encourage other people. The fulfillment of the growth needs also contributed to enhanced job performance of QC members (Buch & Spangler, 1990).

> "...the acquisition of new job relevant skills, the
> heightened commitment and ego-involvement, and the
> setting of higher goals, are the developmental aspects
> of circles responsible for better job performance"
> (Buch & Spangler, 1990, p.578).

Although the concept of CWQC was originated in the
Western world, there were not many successful applications
here. QCs involved clearly defined procedures, monitoring
of performance, the motivation and participation of the work
force; "...it is in these later areas where the West has
singularly failed..." (Hutchins, 1984, p.43). Quality
Circles, instead of being an exciting and challenging
concept, had become regarded as a bureaucratic policy force
activity and had become alienated from the means of
production..." (Hutchins, 1984, p.46). Because QCs had been
more and more taken into consideration, it was hopeful that
quality become everybody's business (Hutchins, 1984).

Hutchin (1985) found out that in the United States, the
first recorded success about QCs was at the Lockheed space
missile factory in California. The first circles in
Lockheed were founded in October 1974; these circles became
gradually successful not only in their projects, but also in
high morale. Three people, Jefferson F. Beardsley, Donald
L. Dewar, and Wayne S. Rieker, who had successfully
established QCs in Lockhead, helped to develop the circle
movement in the United States. Hutchin (1985) also found
that the first companies to follow Lockheed were Northrop,
Rockwell International, Honeywell, Hughes Aircraft, and
Westinghouse Corporation. By the summer of 1982, there were
over 5000 organizations with QCs, including national banks,

an airline, the US Airforce, naval dockyards, hospitals, and a lot of manufacturing corporations (Hutchins, 1985). Even though QCs came from Japan in which the culture was quite different from that of the United States, it was considered that QCs could succeed in the United States no matter how different its culture was from the Japanese (Crocker, 1984).

Nature of Quality Circles

Employee involvement in quality and productivity improvement which was well known as "Quality Circles," was a kind of team work. QCs intended to increase productivity with employee involvement in the problem-solving process.

A QC program consisted of a steering committee which included key management staff, QC facilitators and any number of QCs. Normally, during the first circle meeting, members were trained in quality control, communication skills, and problem solving techniques (Munchus, 1983). "...quality circles has its basis in motivational theory, which advocates increased responsibility by employees for their own quality of work" (Munchus, 1983, p.255). QCs' working process was self-directed problem-solving process. Suggestions offered by QC members were submitted to the steering committee, and the management made the final decision whether or not implementing QC recommendations (Steele, Rue, Clement, & Zamostny, 1987).

Munchus (1983) noted that employees being motivated to be involved in meaningful work could improve their commitments, productivity, and innovation in organization. Quality Circles often selected their own projects, but these problems were generally related to quality or productivity in their expertise area, not related to compensation or product planning (Munchus, 1983). A QC program intended to get high-quality solutions to work-related problems, to widen and add communication channels, to improve employees' job characteristics, to meet employees' growth needs and to improve employees' productivity and meeting attendance (Marks, Mirvis, Hackett, & Grady, 1986).

Participative philosophy was based on the assumption that employees would be more proud of and more interested in their work if they could make meaningful contributions. According to Yager (1979), QCs were "...based on basic principles of Maslow, McGregor, Herzberg, and McClelland and most other motivational experts..." (p.682). In QCs, employees could speak out their work related concerns, improve their working manner and fulfill organizational goals. QC members could enjoy high skill variety, task identity, task significance, autonomy and feedback (Wood, Hall, & Azumi, 1983). It was argued that the people who were working were the experts and knew best how to improve their work process. People were major resources of

knowledge and ideas; they were competent in making job-related decisions (Aubrey & Felkins, 1988). "...team implementation symbolizes the company's endorsement of the creativity and 'brainpower', waiting to be expressed within the work force..." (Aubrey & Felkins, 1988, p.1).

QC programs had three objectives: to increase productivity and work process, to train employees to be competent in problem solving and work related skills and to set up successful team work (Bowman, 1989). QCs could result in not only saving dollars, but also enhancing employees' job satisfaction, reducing employees' turnover, and improving communication between management and labor (Bocker & Overguard, 1982).

Organizations which involved people in productivity improvement worked best. Most Fortune 500 companies had some kind of employee involvement. Participation was often at the operating level rather than at the strategic or administrative level. Management began to realize that if they wanted to get long-term profit, they must emphasize quality other than profit, and only employees could establish and maintain this quality (Aubrey & Felkins, 1988). Employees in the Toyota Motor Co. participated in both QC and suggestion programs for the past few years. Eighty-six percent of the 527,718 suggestions submitted had been accepted. Participants whose ideas were accepted were

not interested in monetary rewards; they were interested in being allowed to participate in the national QC conference and being given the opportunities to receive education and training in QCs (Munchus, 1983).

QCs, as the involvement process, could be for "...individual development, group development, and organizational development..." (Aubrey & Felkins, 1988, p.11). In QCs, individuals could be trained, practice in problem solving, and get feedback about what they had achieved. QCs, as groups, could help people to understand about "cooperation and teamwork" (p.11). Group members could realize that all groups were interdependent; this could help them understand the importance of some procedures and practices that they could not understand before. Both individual development and group development could contribute to organizational development if the organization could put emphasis on both individual development and group development rather than only organizational development (Aubrey & Felkins, 1988).

A company without committed people, was a company without productivity and without quality. Donald Dewar, president of the largest QC consulting firm in the United States, insists, "... for the first time quality circles went below supervisory levels and down to the people who actually do the work." (Marks, 1986).

Research Results

The Impact of QCs

Positive results

QCs were one of the contemporary trends in Organizational Development (Head & Sorensen, 1988). National survey by the New York Stock Exchange in 1982, found that 44 percent of all companies with more than 500 employees had QC program (Marks, 1986). Cox and Dale's research (1985) showed that quality improvement and cost reduction were the two main benefits from the 60 QCs which they studied.

Bordieri (1984) noted that involving workers in QC programs would increase group cohesiveness and possibly increase productivity of rehabilitation workers. Buch and Spangler (1990) found that QC activities made QC members well known throughout the company during QC process. Employees could also develop themselves. It was also possible that higher performance rates could lead to promotion in the future. So QCs were considered to be ways good for companies, to get higher job performance, and for employees, to get promotions. Buch and Spangler (1990), who had investigated 118 QC members and 118 nonmembers' job performance and promotions, had found that QC members had significantly greater performance ratings and more frequent promotions based on performance than nonmembers.

Marks (1986)' study showed that after involving themselves in QC activities, QC members had steady increases in productivity, paid hours actually spent on production, quality, efficiency and monthly attendance, while nonmembers remained the same. Buch and Raban (1990), who compared QC members and non-QC members' work performance, had found that QCs could improve work behavior, improve quality of work ratings, and improve employees' work attitudes. Research (Larson, 1989) showed that companies had improved overall productivity by involvement of employees in decision making process.

Marks, Mirvis, Hackett, & Grady (1986)' found out the following results: in participation and communication, QC members had more participation at work and were more satisfied with opportunities to make work related decisions. Although QC members felt no change in this area, nonmembers felt a decrease in group communication. For growth needs, QC members were satisfied with opportunities to do something worthwhile and advance in organization. For performance measures, QC members had higher productivity and could spend more time on production. Also "...absenteeism rates dropped consistently for QC participates and sporadically for nonparticipant..." (p.68).

Research (Dolinger, 1982) conducted on the effect of a kind of QCs, named as Work Surport Team (WST) for disabled

workers found that WST could improve production and quality control, get more accurate assessments of disabled workers' capabilities, and achieve greater self-esteem among WST members.

Rafaeli(1985) found that QC members had higher perceptions of task variety and higher influence on the job. "Influence" was defined in the questionnaire as "... the amount of freedom and the opportunities you have to get involved" (Rafaeli, 1985, p.608). As for QC members' views on QCs, they found that most QC members (76 percent), "...believe that they had saved the company money..." (Cox & Dale, 1985, p.22). Eighty-three percent of QC members believed that QC activities could benefit them in better communication, job satisfaction and improved participation (Cox & Dale, 1985). As for QC members' perceptions on their supervisors, Norris and Cox (1987) found that QC members tended to view their supervisors as more considerate, better educated, and having more years of service.

Broockner and Hess (1986) studied nine 3-12 member QCs' and found that "...the mean self-esteem level of the [QC members] in each QC was highly predictive of the group's task performance..." (p.617). But self-esteem had no relation with how big the QC was, how long the QC could last, and how well they worked (Broockner & Hess, 1986).

Negative results

Not all researchers found positive results on QCs. No significant effect of QC membership on overall job satisfaction was found, additionally, QCs did not prevent member from leaving the organization (Rafaeli, 1985). In some cases, morale improvement was much lower than what had been expected (Cox & dale, 1985).

A survey at Toyata Auto Body (Cole, 1979), showed that 30 percent of employees thought QCs to be a "burden", up from 20 percent in 1972. Union-sponsored surveys got the result that QC members had physical and mental strain. At Toyota these burdens were identified as: competition between groups and higher pressure to submit suggestions because of obligatory suggestion rates. Also, circle leaders struggled to make some valuable suggestions (Cole, 1979).

Norris and Cox (1987)'s study showed that QC members could also be lower performers, less satisfied with their jobs and more frequently absent. Some QCs initially considered to be effective could also Later fall out (Griffin, 1988). "Detractors...see QCs as predominantly ineffectual exercises aimed at generating short-term profits rather than addressing real problems..." (Marks, 1986, p.36).

Sometimes, QC members, nonmembers and supervisors might had different perceptions on QC results. One study (Mohrman

& Novelli, 1985) had found that QC members enjoyed QC process and believed that they had learned a lot, and had good accomplishments. Dropouts and nonmember from the same program felt that QCs were ineffective, and supervisors felt that what had been achieved was not worth what had been spent on QC activities.

Head, Molleston, Sorenson, and Gargano (1986) did not reach the result that QC intervention could lead to employee attitude improvements. QC members' work perceptions even decreased on some dimensions. Later analysis found that the decreases in performance could constitute a significant declining trend. Some employees wanted to misuse QCs to try to change company policies and practices (Klein, 1983).

Successful Implement of Quality Circle Program
Characteristics of effective QCs

Research (Wayne, Griffin, & Bateman, 1986) got the characteristics of effective QCs: QC members were highly cohesive, productive, and satisfied with their jobs. Additionally, they were satisfied with their co-workers, their self-esteem and their perceptions of the organization's support for the QC program. The duration and voluntary participants of QCs were important determinants of QC efficacy (Barrick & Alexander, 1987).

Marks (1986) summarized other researchers' results on

characteristics of successful QC programs as follows:

> "sufficient training of members and direct efforts in improve group process dynamics; access to useful information inside and outside the organization; accurate record keeping, including the establishment of measurable goals for the QC; and creation of QCs from intact work teams" (p. 46).

As the criteria of a successful QC program, Wayne, Griffin, and Bateman (1986) offered that both employees and top management should commit to a suitable atmosphere for QC programs. Employees solved problems related to their areas, had their own objectives, and involved themselves voluntarily. They were often informed and could receive adequate training. Top management was open and positive, started QCs slowly and let QCs grow slowly. They also rewarded successful QC members.

Organizational readiness

Quality represented:

> "excellent service, materials, design, and a predictable degree of uniformity and dependability at low cost, promptness, accuracy and punctuality of billing, and good follow up" (Davidson, 1986, p.11).

Although QCs were very successful in Japan, many difficulties and disappointments existed in American QCs, because there were great differences between Japanese and American culture (Miskin & Gmelch, 1985; Ferris & Wagner, 1985). Japanese companies had "...lifetime employment, gradual upward mobility, strong family relationships, and collective decision making..." (Miskin & Gmelch, 1985,

p.122) culture. American companies had "...short-term company loyalty, ambitious upward mobility, rugged individualism and tough-minded management..." (Miskin & Gmelch, 1985, p.122). There was little compensation for QC members in Japan, but there was overtime pay for circle attendance in U.S.A. (Munchus, 1983). The permanent employment in Japan made worker's long-term commitment and unpaid QC possible (Cole, 1980; Munchus, 1983). The cultural differences between Japan and the U.S.A. made it necessary for American managers to find strategies unique to the US society.

The principle of QCs sounded quite simple, as Hutchins (1983) found out:

> "Many people have assumed that all that is necessary is to bring a few people together into a group. Give them some elementary training, stand back and wait for all sorts of wonderful things to happen" (p.80).

But it was not so simple to make QC program successful. The organization must be ready for QC program. They must be ready for employee participation and QC activities (Meyer & Scott, 1985). Management needed to introduce QC information, give briefings and discuss with QCs before they initiate a QC. Management also needed to make QC participation voluntary, both at the beginning and on a week-to-week basis (Dale & Hayward, 1984).

Binder, Hamlyn and Fry (1982) and Metz (1982) suggested

starting a QC program with a small scale slowly. The danger was, as Binder, Hamlyn and Fry (1982) mentioned, "...sound the drums too loudly and to expect significant results too quickly..." A pilot study was needed in the smallest companies and should involve less than six (Robson, 1982). The time for pilot study for QCs was six-month to one year (Werther, 1983). During this time, management needed to make sure QC's development was compatible with available resources (Maycock, 1981).

Current state of business, such as crisis, was not appropriate for QC initiation and process (Thompson, 1982; Goodman, 1982; Dale & Hayward, 1984). Organizations with moderately rapid rate (not slow, and not rapidly) were suitable for QCs because rapidly growing organizations had no energy for QCs and slow growing organization needed quick fix rather than long-term benefit from QCs (Thompson, 1982).

Self-destruct factors for QC programs identified by Metz (1981) included not enough organizational readiness for QCs. Organizational readiness was the key for successful QCs, unfortunately, it seldom happened in most organizations (Metz, 1981). Not enough organizational readiness identified by Clawler and Mohrman (1985) were: inadequate communication skills related to group process and problem solving for QC members. Also, middle management did not have enough communication experiences or knowledge.

Needed leadership

Social learning theory determined that friendly, direct supervisors could have favorable employees (Tornatzsky, 1976). A good supervisor could not become a QC leader unless he (she) focused on employee internal processes (Miskin & Gmelch, 1985). As for the necessary skills needed for circle leaders, Metz (1982) studied three organizations and noted their leadership skills as follows:

1. Circle meeting leadership skill. Circle leaders could not dominate too much during QC meetings.

2. Communication and listening skill. QC leaders needed to use "questioning" rather than "telling" to get more employee involvement.

3. Time management skill. QC leaders needed to manage time well. Production pressure could often increase QC members' unsatisfaction.

Unstable leadership was not fit for QCs (Goodman, 1982). There were four aspects for quality leadership for QCs (Miskin & Gmelch, 1985):

1. Management recognition. It included comparing before and after QC activity achievement, inviting managers to team meetings, displaying achievement and certificate, and praising from upper management.

2. Individual development. It gave QCs the opportunities to learn each other, and trained QC members in new skills by

solving different projects.

3. Shared leadership. It meant management's support to QCs, giving QCs rights to make their own decisions and rotating task responsibilities between QC members.

4. Reward and recognition. It meant showing QCs' contributions to the organization, developing more non-financial rewards and the value of interdepartmental cooperation.

Miskin and Gmelch (1985) indicated that one of the primary causes of QC failures was the lack of effective leadership. In Japan, the reason for QCs initiation was not only for organizational benefit but also for training employees in problem solving (Ohmae, 1982). Unfortunately, "too often we find ourselves measuring success in dollars" (Miskin & Gmelch, 1985, p.124). Management needed to put emphasis on improving employees' attitude and developing employees' potential and skills rather than gaining short-term productivity (Honeywell imports QC's as long-term management strategy, 1980). QC leaders needed to guide QC members toward setting and achieving goals.

Needed atmosphere

To make QCs effective, according to Wood (1983), there were two conditions: first, QC members were interested in the QC program, and their cooperation could benefit both

themselves and the organization; second, QC members needed
to be trained in problem solving which included: data
gathering, pareto analysis, cause and effect, diagrams,
control charts, and histograms. They also needed to be
trained how to solve problem in brainstorming and nominal
group techniques (Wood, 1983). To have a successful culture
for QCs, top management needed to make employees trust and
be confident in their appreciation and commitment (Rati,
Salitore, & Brady, 1987).

Psychologists Edward E. Lawler III and Gerald E.
Ledford Jr studied QCs in nine separate units of a large
conglomerate by use of interviews, questionnaires, and
company data. They found that QCs could survive under the
following conditions: QCs could be suggestion groups on
quality and productivity; QCs could be involved in some
special and important projects to deal with temporary and
crisis problems; and QCs could be transitions to more
participative management involvement (Marks, 1986).

<u>Hiring facilitator and consultant</u>

The employment of consultants was necessary for a QC.
Before a company initiated a QC, they needed to make sure
they had enough resources for QCs and training expertise
needed for QCs. If not, they needed to employ a consultant
(Dale & Hayward, 1984). According to Dale and Hayward
(1984):

"Consultants can assist in the implementation of circles by, ...providing an executive overview, responding to individual concerns of management, helping to select and train facilitators, training QC leaders, and developing training materials" (p.15).

However, over use of consultants could make commitment low and progress depend on consultant's availability (Werther, 1983), so internal resources were the key for successful QCs (Robson, 1982). In a modified quality circle (MQC), a consultant team from the counseling center acted as facilitators (Hipple & Ramsay, 1985).

Steel (1985) identified some obstacles for QC development: missing of QC facilitator, not enough training of QC leaders, and inadequate support from the middle and upper level management.

The facilitator needed to find suitable time for training and for group meetings, to know QC members' felt needs and to understand the feelings during the QC process. The facilitator also needed to be sensitive to any problems arising from QC activities and discuss with group members ways to solve the problem. After members enjoyed the process and their abilities had been improved, top manager could be invited to give input. The facilitator must continually emphasize both the short and the long-term goals, bring up the leadership within QC itself rather than from outside. After each meeting, the facilitator needed to have a brief evaluation (Long, 1986).

Quality Circle meetings

Meyer and Scott (1985) identified the problems during the process of circle meetings. Supervisors dominated meetings and pushed QC members to accept their ideas. Leaders and members came to meetings without a clear sense of agenda or their specific responsibilities. Members got away from recommended problem solving process and "get bogged down" (p.38). Supervisors or QC leaders cared about members' suggestions only during QC meetings, but ignored them on the workfloor. Some supervisor's manner in QC meetings made themselves less respected by their subordinates. Facilitators took over QC management, and ignored the roles of circle leaders.

Sharing power with individuals

The Japanese had reached world wide reputation for their quality circles which contributed to high quality and productivity. The Japanese used individuals' unique capability to reach group excellence in the way of QCs (Clark, 1979).

Japanese organizations were run "bottom-up" rather than "top-down" (Davidson, 1986). Strive, develop, excel, and enjoy together were norms for Japanese companies (Ouchi, 1981). Involving workers in job-related problems was the key for high productivity (Bordieri, 1984).

In the United States, Wood (1983) indicated that

employees' potentials had not been utilized. Employees who lacked credentials were considered under-skilled, because experts could often be hired from outside. They did not put emphasis on training employees to be experts. As Wood (1983) indicated that "... increases in the worker's perceived level of skill utilization could lead to increases in their job satisfaction and mental health" (p.46).

Quality Circles, in which employees were satistified with what they were doing and employees' suggestions largely accepted by management were considered successful (Bowman, 1989). Quality Circles which failed or were less-effective cost a lot to an organization (Wayne, Griffin & Bateman, 1986).

To get commitment and productivity, organization must share "...some information and power with employees" (Marks, 1986, p.11). Peters and Waterman (1982) described excellent companies which had abilities to motivate and inspire the average employees as:

> "These institutions create environments in which people can blossom, develop self-esteem, and otherwise be excited participants in the business and in society as a whole" (p.11).

The QC process began with the interdependent relationship between individual, group and organization (Peters & Waterman, 1982). Excessive intrasystematic competitions prohibited the survival of this system

(Bertalanffy, 1968). High stress, inadequate relationships, lack of resources, isolation, and limited promotional opportunities could lead to employees' burnout. Burnout could lead to job turnover and absenteeism and reduced job satisfaction (Cunningham, 1983).

Different employees' attitudes

For the relation between work and motivation, Aubrey and Felkins (1988) mentioned four employees' work perceptions and analyzed the effect of these perceptions on the employees' work attitudes.

First, some employees, particularly hand working or dull repetitive mental working employees, regarded "...work as toil and labor" (p.8). Most of these people might not have been involved in team work or problem solving. QC activities might change their attitudes to job satisfaction (Aubrey & Felkins, 1988).

Second, some employees saw work as a way to live, and they regarded "...work as habit or Social Prescription" (Aubrey & Felkins, 1988, p.8), but they did not regard work as a way to learn new knowledge and develop skills. These people might be interested in QC activities. They might think that it was interesting to be QC members, because they could be away from work, have chances to talk with people, but QCs might not inspire these people to do better job (Aubrey & Felkins, 1988).

Third, some employees saw work as a challenge and a chance to advance in career. Most of them were well educated, had above average skills, and they regarded "...work as a career path." (p.8). These people might like the opportunities to be trained in both skills and leadership. QCs could be incentives to them (Aubrey & Felkins, 1988). Research (Stohl & Jennings, 1988) found that volunteers for QCs were less satisfied with their jobs, but more committed to the organization. QCs, as the way to improve quality of work life, could give them opportunities to speak out their dissatisfaction.

The three categories of people mentioned saw work as compulsory, but the fourth category of people, saw "...work as Status and Power" (p.8). They were motivated by improving wealth, status and powers and influence on other people. These people might appreciate QC activities (Aubrey & Felkins, 1988).

Professor James W. Dean Jr of Pennsylvania State University studied the reasons why employees joined QC programs. He found that some employees saw QC as a way to make achievement so they tended to choose problems that could be successfully completed. They would get motivated if they could see that their effort could lead to organizational change, and that their group was made of productive people (Marks, 1986). Research (Dean, 1985)

found that desire to be involved in organizations, and
beliefs of the roles of QCs on quality, productivity, and
working conditions related significantly to employees'
decisions to join QCs.

<center>The process of QCs</center>

Miskin and Gmelch (1985) defined the problem solving
cycle in five steps: identify team-related problems; develop
an action plan; collect and organize relevant data; analyses
data; and choose optimum solution. During this problem
solving cycle, QC leaders needed to believe that employees
and their feelings were important. Team members could learn
and plan together. Successful QC programs needed team-
leader commitment (Miskin & Gmelch, 1985).

Dykeman (1985) offered that QC involved a four-stage
process: involvement, transition, working and commencement.
The involvement stage was the beginning stage. QC members
got acquainted with and understood the purpose of QCs.
During the transition stage, employees began to express
their suggestions related to organizations. The facilitator
was more supportive rather than directive, and helped QC
members to select the primary issues. During the working
stage, employees worked while sometimes getting
reinforcement from facilitator. For commencement, the
facilitator summarized what had happened during the last
three stages and what had achieved by QC members, and

discussed the role of each member in the problem solving process. This was the key to encourage members to begin another cycle.

Base for employee participation

As for the base for participation, Meyer and Scott (1985) indicated four aspects:

> "management support, job security, union recognition that participation could increase its role in resolution of work problems, and separation of QC from collective bargaining issues" (p.41).

It was very important that both QC members and management tried to benefit both sides (Bowman, 1989). Solving problems was beneficial to both QC members and the company, this was the main reason for QC program success (Cox & Dale, 1985). If individual and organizational goals were compatible with business and personal growth, "...this creates the best possible team approach for implementing quality and productivity..." (Aubrey & Felkins, 1988, p.1). Consultants needed to diagnose job characteristics and found suitable ways to make QC programs influence job dimensions, such as skill variety, task identity, significance, autonomy, and feedback (Aubrey & Felkins, 1988).

Possible outcomes of QCs

Cole (1979) thought that after long-term QC initiation, QCs possibly were viewed as management instruments rather than opportunities for employees to improve quality and

productivity. It was argued that the QC program was a way to improve quality control rather than providing participative management. QC failures were caused by human relations rather than a quality control approach (Krigsman, O'Brien, 1987).

Research (Griffin, 1988) found that QC members' attitudes, behaviors, and effectiveness all improved initially and later dropped back to the original level. When Toyota Auto Body realized these problems, they made QC responsible for "customer complaints", and the situation changed (Cole, 1979). Jennings(1988) found that QC might lead to higher levels of conflict and stress. Consultants and practitioners needed to reward QCs for problem solving and expressed their expectations to QC members.

White-collar Quality Circles

As for white-collar QCs, Richards (1984) stated that they needed to be treated differently from blue-collar QCs. They needed to be recognized for their significant contributions to the organization and to be regarded as a major part of the problem solving process. Because they believed that they were better educated and self-directed, it was difficult for them to accept group problem solving as effective. Because they did not like the term "QCs", we could offer them a more significant term, such as "department problem solving teams" (p.93) to make their work

effective.

Respecting the status or ego needs of the white collar was very important in their training (Richards, 1984). Their training needed to be high standard and offered to them when there were recognized needs. In addition to normal training, some particular training could be given to white-collar QC members, such as "group process leadership, meeting management, consensus decision making, teamwork/team member skills, creativity, communication skills and effective use of brainstorming" (Richards, 1984, p. 97).

White-collar workers were more interested in the recognition rather than pay. The most productive method was to recognize their thorough efforts and implement their suggestions quickly. Recognition needed to be given according to the excellence of their suggestions. Other methods, such as "...cocktail parties, dinner dances, quality gifts, week end trips with spouses, concert or event tickets and desirable conventions or meetings...", were also effective (Richards, 1984).

Management support

Head, Molleston, Sorenson & Gargano's (1986) research indicated that QCs were not guaranteed to be successful for every organization. If QCs could be nurtured well, they could be great (Beer, 1980), but badly implemented QCs could be more harmful rather than beneficial to organization

(Bennis,1977). If QC programs were initiated without adequate and continuing management support, they would make management very frustrated and make projects unfulfilled. Appropriate organizational structure and procedures must support QCs to make them successful (Bushe, 1984).

Five main areas of resource commitment were offered by Robson (1982): senior management time, supporting facilitator and consultant if necessary, QC regular costs (such as for leaders and members attending regular meetings), reward to successful suggestions, and setting up the QC program.

Survey and case studies suggested four main barriers to effective implementation of QCs: management support shortage, time shortage, parallel organizational restructuring and slow response to suggestions made by QCs (Antoni, 1988).

QCs, as a fragile process, needed management support with openness and prompt response to QCs' proposals, and enough resources for program maintenance. For example, management needed to employ a full-time and competent facilitator, and offered enough training programs for both QC members and leaders (Steel, 1985). QCs could not survive under narrow-minded and autocratic management. As Thompson (1982) indicated, QCs needed senior management support and financial aid to be successful.

QCs were considered to be a participative problem solving process. It was not appropriate for every organization, "...the board and senior management must be enthusiastic about more employee involvement...In addition, circles require an open management style" (Cox & Dale, 1985, p.21).

Research (Tang, Tollison & Whiteside, 1989) determined that a higher level of upper-management attendance for QC meetings could make QC members solve problems faster than lower upper-management attendance. Management-initiated QCs solved their problems much faster and solved more problems than did self-initiated QCs. Self-initiated QCs with a low level of upper management attendance or white-collar QC members solved problem much more slow.

To institutionalize employees in problem solving in a particular area was the major goal of all QC programs. "Incongruities between quality circle processes and existing reward system, decision making processes... can inhibit participative behavior" (Meyer & Scott, 1985, p.49). Emphasizing high productivity and less lead time could inhibit institutionization (Meyer & Scott, 1985).

Failures were often caused by too fast or improper QC installation (Yager, 1980). Serious problems often happened three to four years after their introduction (Hayes, 1980). According to Dale and Hayward (1984), top management needed

to do the following things: to delegate some important
problems for QCs to solve, to show their trust on QC
members, to be open enough to be influenced from below, and
to offer any information which QC members needed to solve
problems. Ingle (1982) suggested upon his experience that
financial support shortage could cause failure.

Middle management

Research had identified that middle management
resistance could limit QC success. Middle management
usually just approved and implemented suggestions offered by
QC members without direct involvement in QC activities.
Some middle managers did not get suggestions from
subordinates and either rejected or responded slowly to the
suggestions (Marks, 1986).

Middle management was considered to be the most evident
opossum in the United States (Lorenz, 1981; Cole, 1980).
Many American companies by-passed middle management when
initiating QCs. Also they might be afraid that QC
suggestions could show them incompetent (Cole, 1980).

Cole (1980) suggested that decision making for
initiating QCs needed middle management input, and training
programs needed to involve middle management to make clear
needs and operations of QCs. Middle management could be
steering committee members to guide QC activities.
Involving middle management in QCs was important (Dale &

Hayward, 1984), because "...middle management might be tempted to cancel circle meetings due to production or other pressures" (p.14) which could lead to QCs' failure.

Steering committee

The steering committee which had been confirmed to be successful included two senior management officials, one representative from each of the two unions, a QC leader, the advisor for the organization's labor relations, a management analyst and the head of the QC office, who was the chairperson of this committee (Whatley & Hoffman, 1987). "This steering committee agreed to operate on consensus rather than by majority rule..." (Whatley & Hoffman, 1987, p.92). Every decision made could be supported by everyone in the committee after it had been approved. "This process was further facilitated by the consultant, who acted as a neutral party..." (p.92). This process was very successful in improving individual performance and overall organizational effectiveness.

Organizational authority structure

If QCs were effective over the long run, Changes must happen with the organizational authority structure, such as profit sharing and information sharing (Kossek, 1989). Lawler (1986)'s research indicated that QCs had often failed because of unchanging organizational authority structure.

Steel and Shane (1986) reviewed approximately 14

evaluation studies and concluded that both QCs'
effectiveness and organizational intervention procedures
depended on the compatibility of the intervention and
organizational attributes, tangible and intangible resources
demand and desired response from management to QC members.

Greenbaum, Kaplam, and Metlay (1988) suggested that a
comprehensive evaluation which included feedback, input and
process needed to be done to improve QC effectiveness.

QC members' training

Metz (1982) indicated,

"Training is vital and should be planned as an integral
and ongoing process to help improve the skill levels of
managers, leaders and facilitators and the long term
health and effectiveness of QCs" (p.112).

Training was considered to be the most important thing
in QC program (Dale & Hayward, 1984). Training was one part
of QCs. Training was needed for not only facilitators, QC
leaders, circle members, but also for management.
Management also needed to know how to support QCs (Metz,
1982).

Metz (1980) surveyed facilitators about their
perceptions about training and found: the initial training
should be increased both in quantity and in quality. In
many occasions, management did not know how to support QCs.

Normal training period could last three days (Collard,
1982) or four days (Hutchins, 1980). During regular circle

meetings, circle members needed to be trained (Dale &
Hayward, 1984), and the training should be simple (Hutchins,
1980). Training circle leaders was basis of the success of
QCs (Hutchins, 1980). Circle leaders needed to be trained
in understanding employees well, having leadership,
effectively handling QC meetings, techniques needed for QCs,
and making management presentations. In training, basic
techniques should be introduced first and more sophisticated
techniques later (Moreland, 1981). Ingle (1982) emphasized
the facilitator training, and a study reported (Dale & Ball,
1983) that about 91.7 percent of 77 companies had training
for their faciliattors.

Observation of 3QC indicated that training always
needed to be increased, and management needed to get
training programs commercially available (Metz, 1982). The
training instructor needed more skill and experience, and
management needed to learn how to support their circle
leaders and supervisors to increase participation. QC
leaders needed to have nondirective leadership style and
gave QC members (both white and blue collar) complete
training in problem solving and other related techniques.
Facilitators needed to identify the extent of the need for
QC leaders' participation and made the QC process smooth
(Metz, 1982).

Dean, a professor at Pennsylvania State University made

some studies and suggested that appropriate training could lead to both employee satisfaction and effective problem solving. According to Dean, most employees got bored during the training not related to their personal work situation, so different training needed to be given to employees with different background (Marks, 1986).

Japanese cross training had made employees from different department work together well, because they knew each others' jobs. Cross training that was desirable to employees could also be an incentives to develop QCs (Davidson, 1986).

Involvement of union officials

The involvement of union officials in QC programs was very important (Meyer & Scott, 1985). There were five interest groups in an organization: top operating management, middle management, supervisors, union officials, and rank-and-file employees (Meyer & Scott, 1985). Because QCs intended to solve problems themselves, they were considered to be a threat to the union's survival (Whatley & Hoffman, 1987). Labor-management formal agreement on goals was necessary for QC projects (Kochan and Dyer, 1976; Goodman, 1979).

Union leaders and managers needed to have positive relations. They needed to understand each other's viewpoints as well as various interest groups (Meyer &

Scott, 1985). QCs could not survive in a climate in which there were a lot of union-management conflicts, and a high level of mistrust between employees and management (Thompson, 1982; Goodman, 1982, Collard, 1982). Management must develop sound labor relations and clear all outstanding issues and difficulties before a company was ready for introducing circles (Dale & Hayward, 1984).

Involvement of trade unions was necessary for QCs. Before management initiated a QC, they needed to discuss with trade union to get consensus. In a non-unionized environment, management needed to assure employees that QC might not result in loss of jobs, salaries could not be reduced, and QC program was not mandatory (Dale & Hayward, 1984).

Bushe's (1988) case studies on five plants indicated that internal change agents and their relations with decision makers might be crucial to QC success. Powerful sponsors from both labor and management might be needed. Goals and agreement between labor and management could happen over time. While the successful QC plants improved labor-management relations, they also seeked to improve managerial relations. To change these relations could be very beneficial (Bushe, 1988).

Bargaining issues needed to be avoided in the early stages and could be dealt with in cooperative ways later.

(Bushe, 1988). Union leaders needed to make sure that QCs did not take up problems falling under collective-bargaining agreements, and made sure they were welcome at any circle meeting (Meyer & Scott, 1985).

Powerful sponsors on labor union and management had been identified to be necessary for initiating a change, but it was quite possible that someone would seek to derail the process (Schuster, 1985). Schuster's (1985) findings showed that only 59% of the managers and 26% of the union representatives involved believed the efforts could be successful. Case studies (Bushe, 1988) showed that either or both parties might not cooperate fully, and they might have a tentative commitment to find out what happens. Early achievement of the cooperation between labor and management might be necessary, but it did not indicate long-term success. More attention needed to be paid to the structure of relations among union officials, workers and managers who met each other daily, and the relations between senior managers and union leaders.

<u>Transactional analysis</u>

Transactional analysis (TA) was a flexible management style. It made subordinates change from immature to mature stage by performance appraisal and coaching employees (Coleman, 1974). The main objective of TA was to get employees satisfied with their work environment, which could

motivate them to communicate with managers.

Many factors could contribute to the effectiveness of QCs, but building adequate communication skills prior to the QC intervention as well as continual work during and following the project were vital to the success of the strategy (Nykodym, Ruud, and Liverpool, 1986). Research had confirmed that transactional analysis could be a tool in preparation strategy preceding the actual QC organizational effort (Nykodym, Ruud, and Liverpool, 1986).

Employee perception of supervisor's willingness to listen and approachability, teamwork, and the way they shared information could affect the climate for employee growth (Nykodym, 1978; Nykodym, Ruud, and Liverpool, 1986). Increased satisfaction with decisions and increased job related information were signs of improved employee perception of organizational climate (Nykodym, Nielson, and Christen, 1985). Employees' perceptions of their personal worth and performing standard could be increased by the application of TA (Nykodym, 1978; Nykodym, Nielsen & Christen, 1985; Nykodym, Ruud & Liverpool, 1986). Lawler and Mohrman (1985) believed that skills and perceptions mentioned were keys to the successful QC intervention.

CHAPTER 3

DESIGN OF THE STUDY

Research Methodology

This research was mainly based on library literature review. More than 60 pieces of research have been carefully read and summarized. A list of questions on the factors considered to be important for successfully implementing QC programs was developed in order to interview QC members and leaders later.

After the researcher got the library research results, she interviewed two QC leaders, two QC facilitators, and two QC members from the JOHN DEERE and the WATERLOO INDUSTRIES. She asked about their impressions on her findings based on their work experiences with QCs.

Questions Asked during the Interview

Questions asked were categorized in 19 sections. The question "Do you agree with the following statement?" was asked to every statement summarized from the library research. The 19 sections and the details were as follows:

Positive results on QCs

1. QC could lead to quality improvement and cost reduction.

2. QC could increase cohesiveness.

3. QC could increase productivity.

4. QC could increase promotion opportunity for its members of quality circles.

5. QC could improve work behaviors and attitudes, and employees were satisfied with the participation opportunity.

6. QC was a way to get accurate assessment of workers.

7. QC members had greater self-esteem.

8. QC members had high perceptions of task variety and high influence on the job.

9. QC members believed that they could save company money, benefitted themselves in communication, satisfaction and participation, and saw their supervisors as more considerate.

10. Self-esteem could be highly predictive of the group's performance.

Negative results on QCs

1. QC members sometimes had no overall job satisfaction.

2. QC could not prevent QC members from leaving the organization.

3. QC members sometimes had lower morale.

4. QC activity could be a burden, physical and mental strain because of the competition between groups and high pressure to submit suggestions.

5. QC members sometimes were lower performers and more

frequently absent.

6. Initially effective QCs could fall out later.

7. QC members could have different perceptions on QC results.

8. Not all QCs could improve employees' attitude.

9. QC members sometimes wanted to misuse QCs to change company policy.

Organizational readiness for QC program

1. The United States needed to find a unique strategy to implement QC programs.

2. Organizations must be ready for employee participation before they initiated a QC program.

3. Management is needed to introduce and discuss with employees about QC programs. They also are needed to make the participation voluntary.

4. Pilot study was necessary before initiating a QC program company wide.

5. Only organizations with moderately rapid development rate were appropriate for QCs.

6. Adequate communication skills were necessary for initiating QC programs.

7. It was a big problem that middle management was not competent in responding to suggestions from QC members.

Leadership Needed for QC Program

1. Circle meetings of leadership skill was important.

2. QC leaders' communication and listening skills were important.

3. Time management skills was important for QC leaders.

4. Management recognition before and after QC activities was important.

5. QC leaders needed to try for employees' individual development.

6. QC leaders needed to have shared leadership.

7. QC leaders needed to reward QC achievement.

8. QC leaders needed to guide QC members toward setting and achieving goals.

Atmosphere Needed for QCs

1. Were the following two conditions necessary?

a. QC programs Benefitted both the QC members and the organization. QC members were interested in the programs.

b. QC members needed to be trained.

2. It was necessary that employees trusted and be confident in appreciation and commitment of management.

3. Sometimes a special group was more appropriate rather than QCs.

Hiring Facilitator and Consultant

1. Organizations needed to make sure if they needed consultants.

2. Consultants could not be overused.

3. A facilitator needed to make sure that they knew QC

members' needs.

4. A facilitator needed to make sure that feelings change.

5. A facilitators needed to be sensitive to problems.

6. A facilitator needed to discuss the ways to solve problems with QC members.

7. A faciloitator needed to emphasize short and long-term goals.

8. A faciliotator needed to have brief evaluations after QC activities.

9. A facilitator needed to bring up leadership within QCs.

QC Meetings

There were some problems existing within QC meetings:

1. Supervisors dominated QC meetings.

2. Leaders and members attended meetings without specific responsibilities.

3. Members got away from recommended problem.

4. Supervisors ignored "suggestions" on the floor.

5. Supervisors were less respected.

6. Facilitators took over management and ignored circle leaders.

Sharing Power with Individuals

1. Management needed to share information and power with employees.

2. Management needed to prevent excessive intrasystemic competition which could prohibit the survival of QCs.

Different Employees' Attitudes

There were four different kinds of employees' attitudes about work and QCs?

1. The first kind regarded "work as toil and labor"; QC activities might change their attitudes to job satisfaction.

2. The second kind regarded "work as habit or social prescription". They might be interested in QCs, but might not inspire them to do better work.

3. The third kind regarded "work as a career path"; QCs could be incentives to them.

4. The fourth kind saw "work as status and power", they might appreciate QC activities very much.

The Process of QCs

1. QC process needed team-leader commitments.

2. QC involved a four-stage process: involvement, transition, working and commencement.

Base for Employee Participation

The following six factors were the basis for employees' participation:

1. Management support.

2. Job security.

3. Union recognition.

4. Separation of QC from collective bargaining issues.

5. Individual and organizational goals were compatible.

6. Consultant found suitable ways to make QC program influence job dimensions.

White-Collar QCs

White-collar QCs needed to be treated particularly in the following four aspects:

1. Recognize their significant contribution.

2. Treat them as major part of the problem solving process.

3. Training need to be high standard and offered when necessary.

4. Recognize their thorough efforts and implement their recommendations.

Management Support

1. Senior management's time needed to be offered to QCs.

2. Management needed to support facilitators and consultants.

3. Management needed to offer QC regular costs.

4. Management needed to reward successful suggestions.

5. Management needed to be enthusiastic on initiating a QC program.

6. Management needed to give QCs financial support.

7. A higher level of upper-management attendance could lead to QCs effectiveness.

Middle Management

1. Middle management had no direct involvement with QC

programs.

2. Middle management often rejected or responded slowly to suggestions.

3. Middle management was often afraid that QC suggestions can show their incompetence.

4. We needed to involve middle management in initiating QCs and training programs.

5. Middle management needed to be members of a steering committee.

Steering Committee

1. Steering committee members needed to get 100% consensus.

2. QC process needed to be further facilitated by the consultant.

Organization Authority Structure

1. Profit sharing and information sharing must be changed to adapt to QCs.

QC Members' Training

1. Circle members needed to be trained during regular circle meetings.

2. The training of circle leaders was a basis to the success of QCs.

3. Basic techniques needed to be trained first, then more sophisticated techniques later.

4. Training needed to be related to their personal work situation and different training to different background

employees.

5. Cross training could be beneficial.

Involvement of Union Officials

1. QCs were considered to be a threat to the union's survival.

2. Labor-management formal agreement on goals was necessary.

3. Union leaders and managers needed to have positive relations.

4. Powerful sponsors from both labor and management might be needed.

5. Bargaining issues needed to be avoided in the early stage and could be dealt with in cooperative ways later.

6. Either or both parties might not commit full effort to cooperation.

7. More attention needed to be paid to the structure of relations.

Transactional Analysis

1. The main objective of Transactional Analysis was to get employees satisfied with their work environment, which could motivate them to communicate with managers.

2. Transactional analysis could be a tool in preparation strategy preceding the actual organizational effort.

CHAPTER 4

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Results

Based on library research and interviews conducted, the researcher abtained the following results in regrad to the effect of quality circle programs and the ways for successful implementation of quality circle programs.

Effect of Quality Circle program

A QC program has been considered to increase employee cohesiveness, employee promotion opportunities and productivity. A QC program could accurately assess employees' abilities while members improved product quality and reduced product cost.

QC members believed that the QC program could save company money, benefit themselves in communication, satisfaction and participation. They had higher perceptions of task variety and higher influence on the job. QC members had greater self-esteem than nonmembers, and self-esteem has been considered to be highly predictive of the group's performance.

A QC program could also be considered to be a burden by QC members. Competition between groups and high pressure to submit suggestions resulted in physical and mental strain

for QC members. No overall job satisfaction was found among QC members. Sometimes QC members could be lower performers and more frequently absent because of their lower morale if they were disappointed with the program. Supervisors and QC members sometimes could have different perceptions on QC results. This made QC progress very difficult and made some initially effective QCs fall out later.

Not all QCs were successful. QCs could not improve employees' attitudes automatically. QCs needed to be carefully nurtured and beneficial for both companies and employees.

Successful Implementation of QC Program

Fourteen items had been identified as important factors for the successful implementation of QC program. They were as follows:

1. Organizational readiness for QC program

American and Japanese culture were quite different; a unique strategy fit for American society needed to be found. First of all, an organization must be ready for employee participation and quality activities. Before they introduced a QC program, management needed to introduce and discuss with employees, and made the participation voluntary. Second, To make QC programs successful, pilot study was necessary. To start with a small scale slowly, management could make careful observations to find out any problems

that could take place with this program. Third,
Organizations with moderately rapid progressing rate were
appropriate for initiating a QC program because this
situation could offer enough financial aid for QCs and pay
good attention to QCs. Fourth, management must make sure
that they have adequate communication skills. Middle
management was not competent in responding to suggestions
from QC members; this had been identified as a big problem
by both library research and interviewing QC members.

2. Leadership needed for QCs

QC leaders must have the ability to guide QC members
toward setting and achieving goals and make QC programs
beneficial for individual development of circle members. QC
leaders must have communication and listening skills.
During QC meetings, QC leaders should not only inspire
members to offer suggestions, but also make sure that they
did not dominate the meeting. QC leaders needed to share
leadership to give QC members authority, to share some power
and information with employees. QC members needed to be
recognized after each activity to reward their achievement.

3. Atmosphere needed for QCs

There were two conditions necessary for QC programs'
success. First, QC members were interested in QC program.
This QC programs needed to be beneficial for both
organizations and QC members. Second, QC members must be

trained to make themselves competent. A culture is necessary for QC program: employees trusted and had confidence in the appreciation and commitment of management.

QCs could also be found with different names, such as Productivity Improvement Group, Suggestion Group, Quality Group, etc. These groups could be a little different from what QC was defined, but these teams could really benefit both organizations and QC members.

4. Hiring facilitator and consultant

Facilitators played very important roles in QC programs. They brought up leadership within QCs and discussed with QC members to solve problems. A good facilitator needed to be sensitive to problems and members' feelings change. A facilitator needed to have a brief evaluation after a few activities and emphasize both short and long-term goals.

Before an organization initiates a QC program, it needed to make sure if a consultant was needed. The two companies that the researcher studied did not need a consultant. The people that I interviewed all agreed that consultants could not be overused if a consultant was needed. They emphasized bringing power from the QCs themselves.

5. QC meetings

There were some problems during QC meetings:

Supervisors dominated QC meetings, and their behaviors made them less respected by QC members. Sometimes leaders and members attended meetings without specific responsibilities and got away from recommended problems easily.

6. Different employees' attitudes

There were four kinds of employees identified by the research to have different perceptions on QCs and different attitudes to participate in QC programs. The first kind regarded "work as toil and labor", and QC activities might change their attitudes to job satisfaction. The second kind regarded "work as habit or social prescription". They might be interested in QCs, but might not be inspired to do a better job. The third kind regarded "work as a career path", and QCs could be incentives to them. The fourth kind saw "work as status and power". They might appreciate QC activities. It had been be confirmed that the third and the fourth kind of employees liked to participate in QC programs.

7. Base for employee participation

The following six items were considered to be the basis for employee participation:

(1). Management support.

(2). Job security.

(3). Union recognition.

(4). Separation of QCs from collective bargaining issues.

(5). Individual and organizational goals were compatible.

(6). Consultants needed to be invited to find suitable ways
to make QC programs influence job dimensions.

8. White-collar QCs

White-collar QC members needed to be treated in the
following four special ways: first, treated as a major part
of the problem solving process; Second, recognize their
significant contributions; Third, make training high
standard and offered when appropriate; Fourth, recognized
their thorough efforts and implement their recommendations
quickly.

9. Management support

The following six items needed to be offered by
management:

(1). Senior management time.

(2). Supporting facilitator and coordinator.

(3). Rewards to successful suggestions.

(4). Financial support to QCs.

(5). A higher level of upper-management attendance to QC
meetings.

10. Middle management.

It was necessary to involve middle management in
initiating QCs and training programs. Middle management
could be members of a steering committee. Researchers had
found that middle management had no direct involvement in

QCs. They rejected or responded slowly to suggestions because they were afraid that QC suggestions could show their incompetence.

11. Steering committee

It was necessary to get 100 percent consensus among steering committee members. The decision process could be further facilitated by the consultant.

12. QC members' training

Training was considered to be very important in QC process. Training circle leaders were basis to the success of QCs. QC members needed to be trained during regular circle meetings. During training, management needed to offer basic techniques first and more sophisticated techniques later. Training needed to be related to QC members' work situation, and different training was offered to different background employees. Cross training could be beneficial because it could make QC members more competent and increase the understanding between QC members.

13. Involvement of union officials

The involvement of union officials was considered to be very important in QC programs. More attention needs to be paid to the structure of relations between management and union officials. QCs were considered to be a threat to the union's survival, so it was necessary that union leaders and managers had positive relations. Powerful sponsors from

both labor and management might be needed. Labor-management

formal agreements on goals were necessary, but bargaining

issues needed to be avoided in the early stage of the

initiation of QCs and could be dealt with in cooperative

ways later.

14. Transactional analysis

Transactional analysis could be a tool in preparation

strategy preceding the actual QC organizational effort. The

main objective of transactional analysis was to get

employees satisfied with their work environment which could

motivate them to communicate with managers.

Conclusions

After interviewing, the researcher realized that QCs

could be in different forms or names. Because of the

cultural difference between the United States and Japan, we

could not copy QCs from Japan. The ideas of QCs could be

very useful for American managers to encourage employees to

offer valuable suggestions.

Recommendations

The people whom I interviewed all agreed with my

library research results. The following recommendations

could be given based on my research. The fifteen

recommendations are as follows:

1. QCs can be very beneficial to organizations in many ways: improve quality, reduce cost, increase cohesiveness, increase productivity, and accurately assess workers.

2. QCs can not be automatically successful. Too much competition between groups and high pressure to submit suggestions can make QC members see QC as a burden. When QC members get disappointed with the program, initially effective QCs can later fall out.

3. Organizations need to be ready for QC programs. They must have adequate communication skills and be willing to share power and information with QC members.

4. QC leaders need to have communication, listening, and circle meeting leadership skills. They also need to try for members' individual development, reward and recognize members' achievement.

5. Employees must trust and be confident in the appreciation and commitment of management.

6. A facilitator needs to emphasize short and long-term goals, be sensitive to problems and members' feeling changes, and bring up leadership within QCs.

7. Leaders and members need to attend QC meetings with specific responsibilities and concentrate on the same problem. Meetings can not be dominated only by supervisors.

8. QCs need to be separated from collective bargaining issues, and individual and organizational goals need to be

compatible. These are the basis for employee participation.

9. White-collar QC members need to be treated quite differently from blue-collar QC members. Their thorough efforts need to be recognized, and their recommendations need to be implemented as soon as possible. Their training needs to be high standard and offered when appropriate.

10. Management needs to support facilitators and QC leaders, give QCs financial aid, and have high attendance on QC meetings.

11. Middle management needs to be involved in initiating QCs and training programs. They can be members of a steering committee.

12. A steering committee needs to get 100 percent consensus of its membership. The process can be further facilitated by the consultant.

13. Circle members need to be trained during regular circle meetings. Basic techniques are offered first, then more sophisticated techniques later. Training need to be related to QC members' work situation, and different training needs to be offered to different background employees.

14. Union leaders and managers need to have positive relations. Bargaining issues need to be avoided in the early stage of the initiation of QCs.

15. Transactional analysis can be a tool in the preparation of strategy preceding the actual QC organizational effort.

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