1-1-1984

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Abstract

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Quality Control Circles May Answer Industry's Needs

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For a number of years the U.S. has experienced a serious negative balance of trade with Japan, particularly in the automotive and electronic industries. Among the reasons for this is the success the Japanese have had in product improvements and lower costs through the effective use of quality control circles.

The phenomenon of the quality control circle is a relatively recent innovation, credited to two Americans who visited Japan in the early '50s to lecture to Japanese management. The first, W. Edwards Deming, stimulated them to think about statistical methodology and its relationship in helping identify problems. The second, J.M. Durant, discussed the management of quality control.

These original series of lectures were to teach Japanese managers how to improve the quality of their products, especially those destined for world markets. Most managers and engineers were being encouraged to attend these lectures in the hope that Japan would be able to regain world prominence in trade and increase its GNP.

At this time most of the articles produced in Japan were cheap replicas of world-renowned brands. Volume was there, but profit potential was low; the Japanese realized that only through quality improvement could they hope to realize world markets and once more gain their self-respect. Their sense of pride in good workmanship still lived, and any system that could help them regain that pride in quality that they had become known for would be quickly grasped. So it was with these lectures.

Today the names of Toyota, Datsun, Sony, Nikon, and the Miyako hotel chain are as common to us as Ford, General Motors, Kodak, General Electric, and the Omni hotel chain. Japanese optics, television, radio, and electronics in general dominate the world's marketplace. Japan realized a long time ago that if it were to remain competitive, then there was no option but to continue to improve its products.

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Japanese Work Together

The Japanese absorbed the American quality management concepts but did not keep their use restricted to the "ivory towers" of management and engineers, who were regarded as the planners in the American system. The selfish, nonsharing concept of the Western manager was certainly not in keeping with the centuries of upbringing of the Japanese, where the family was considered a tightly-knit group and, quite often, the work force for many factories. In many instances this meant an entire village or community. They were accustomed to work together as relatives, as neighbors, as friends, as countrymen.

The Japanese managers and engineers discussed their ideas with the masses on the factory floors. Planning and decision-making was being done among family members, neighbors, and friends. In the Japanese model the management training sessions were then passed down through the ranks to the foremen, to the shop stewards, and finally to the individual workers.

The Japanese foreman (called the Gamba-cho) realized that his task was overwhelming, and through this teamwork principle a scheme was devised where mass vocational training programs were provided throughout the factories. One of the leading proponents of these sessions was a Professor Ishikawa, whose training manual, "Quality Control Text Book For Foremen," was published in 1954. In conjunction with the book, the initial courses were held on the radio. Some 91 lessons of 13 minutes each were broadcast daily in all the factories throughout Japan between June and September 1956. This same program was repeated annually until 1962. In addition to the radio, a televised series was shown from April 1960 to March 1961 in weekly segments of 30 minutes each. A monthly journal in existence since 1961 carried tales of the novel methods employed by other factories in solving problems, providing insight into solving similar problems at other plants.

Worker Representatives Exchange Ideas

The managers of Japan's factories have put their valued training to good use. They now have annual conferences where tens of thousands of such worker representatives meet to exchange ideas. They have managed to implement quality standards for their products so that today they are ranked as better than most. Through the help of their partners and fellow workers, they have been able to prove to management that the sharing of their training and knowledge was in fact appreciated. These leaders have formed themselves into groups or circles for quality, hence the name quality control circle.

Participation in quality control circles, though voluntary, is coordinated by management. As practiced in the Orient, these circles consist of a small team of employees (5 to 20) who are employed doing similar work or related tasks. They meet regularly to identify, analyze, and solve problems in their sphere of the operation, in contrast to other international work forces whose workers spot problems and do little in the way of finding solutions.

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Under the Japanese model, blue-collar workers are on the firing line and are trained to identify, act, and make rational decisions in solving problems as part of a team, with no individual glory to any one member. There are several other occurrences which do not mesh with the Western working norm. Circle meetings, which are not held on company time but on the workers' off-duty time, are chaired by one of the supervisors who, like the others, only has one vote and becomes the conduit of suggestions, decisions, and recommendations of the group to top management. In addition to dealing with productivity and quality-related problems, the circle works with other employee and nonproduction situations such as security, vacations, etc.

When QCC is first started in a work group, management and supervisors should initially try to identify a start-up project that would be easily solvable, thereby developing the problem-solving confidence of the group. Prior to this, however, leaders and members of the group are sent to a series of classes that provide them with the in-depth training needed to understand the complex methodology and approaches to problem-solving. Some topics would encompass the following:

- histograms,
- understanding graphs,
- statistical control methods,
- several basic record-keeping techniques,
- pareto diagrams with vertical axes,
- financial matters,
- cause and effect diagrams,
- flow process charts,
- critical path planning,
- scatter diagrams,
- binomial probability data collection and calculation,
- sampling techniques, including random and stratification, with an emphasis on identifying acceptable norms.

Through such painstaking training, each member understands the above principles. This is considered a must before any serious quality-related problem is tackled by the work group.

Group Interaction Is Key

The company provides the information, training, meeting place, and teaching personnel. The employees offer their time voluntarily. When the theme or problem is selected by the group or management, part of the dictum is that, at that time, a target date for completion and other parameters such as cost or personnel or quality improvement will also be identified. To help ensure follow-through, these plans and deadlines are publicized to make the group's commitment more solidified. Recognition for problem-solving is not directly rewarded, but the company as a whole benefits through this exercise. In turn, each individual worker indirectly benefits as well since the rewards or gains are spread throughout the work force.

Presentations of the solution are made by any or all of the members of the group, an involvement which is encouraged in order to develop

self-confidence, competence, and a feeling of growth and achievement among all members.

In comparing enterprises in the world marketplace, it can be found that less productive operations tend to emphasize specialization. Work is done in isolation from other members of the group, with the expectation of being awarded merit, promotion, and salary increases because of the uniqueness of the trade unionists who stand up for the workers' collective rights. Today's manager no longer has to justify promotions, salary increases, and the like; bonuses are paid whether they have been earned or not.

In the Japanese model the culture and ethics are completely opposite. People work together for the good of the entire group because the employer has invested the time in training them. Through this they seem to develop strong ties with the company; sense of obligation and the pride of belonging are fostered on the part of both. Workers seldom feel they have to be recognized or promoted to get the feeling of being needed, respected, or valued. The extended training helps them develop a sense of upward mobility; progress is assured. Job security is positive and no one feels threatened since the culture tends to have them subordinate their individualism for the collective progress of the unit or organization.

Because of the extraordinary ties among family members and their attitude and cultural upbringing, one realizes that they never let down another family member or cause that person to lose face. The more progressive and profitable companies, if investigated, would also show this trait—even if no two employees on the work force were related. Any company which tends to treat or encourage the workers to treat each other as relatives will show greater productivity potential.

In theory, most companies today say that there are opportunities for every worker to move to the top. Because of unions many companies are forced to promote on longevity rather than merit. The aggressive person with ideas quickly becomes restless, since management is not often open to listening to solutions to problems from workers.

Mobility Is Key

It has been found that when the job offers little satisfaction, slow to no prospect for advancement, low social status (like maids, waiters, dishwashers, etc., whose jobs are considered little more than servants), and no opportunity to be heard, productivity falls and absenteeism rises. If nothing more, the worker then thinks only of just "enjoying life," sort of taking an extended vacation and getting paid for it, too.

Many supervisors try to effect change in their employees to try to offset the ultimate frustration that is bound to develop from this atmosphere. No one, however, is yet able to tell what exact management tools would be necessary to control the identified symptoms of impending problems. The results of these symptoms can be seen every day in just about any hospitality operation around the country. Personnel try to fight the system. They start swearing or exhibiting fits of anger and are usually the cause of dissension among the ranks; when

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that does not work, they finally quit, becoming a turnover statistic.

By allowing their workers to develop hidden talents and offering them a way of expressing their ideas, the Japanese in their QCC system have conquered most of the management malaise. They, in turn, have given their work force a reason to come to work plus the added benefits of increased efficiency, increased productivity, higher quality services or workmanship, a sense of pride in work and company, an inner contentment, elation, and a satisfied work force. They have certainly tried to remove all the symptoms that cause under-utilization.

Behind every human action there is usually a conscious or unconscious motivator. This is the concept that the Japanese have used over the centuries to convince their work force that, by completing the task, they are satisfying their own needs, and, coincidentally, those of the company. The Japanese desire to learn and to improve themselves and their stations in life was possibly one of these motivating impulses. Productive use of time and space seems paramount.

Lots of changes have taken place over the last century in the way man earns a living through work. In fact, the meaning of work has certainly changed considerably over this time frame. With the Industrial Revolution came gigantic changes: the steam engine, locomotion, telegraph and telephone, radio and television, automobile and aviation, atomic energy, and space travel. But the greatest of all changes is the way man now earns a living and the new meaning he has applied to the word work. In the 1800s about 90 percent of the world's population lived on farms of one sort or other and worked their own plot of land. Labor relations then were in fact "family" relations. Life was less comfortable, but few people had any worry about unemployment, retrenchment, layoff, or the lack of job security. People were their own bosses.

Even if he worked for someone in earlier days, the worker knew that, before long, if he learned well and worked hard, one day he would be his own boss. How different is work today for his great-grandson in the hospitality business? No matter how hard he works, he will probably never be able to amass the wealth needed to own a Hyatt or even be his own boss in his very own McDonald's. The work then meant the opportunity to be creative, to make decisions. It was satisfying. The Industrial Revolution and its scientific management styles have brought with it great advantages; production of goods and services have been increased by the thousands. With this, there have also been disadvantages in that man has lost his sense of accomplishment and pride in his work, while at the same time experiencing boredom and a feeling that his talents are under-utilized.

Hospitality Industry Deprives Individuals

In most instances in the hospitality industry, the worker has no say in the development of his job or talents. Management, the engineering department, the industrial engineer, etc., just about determine every detail of the job, depriving the individual of showing his initiative and skill, his originality and unique ability. Specialization and automation have sharpened the dividing line between worker and management in the typical hospitality job. A simple decision may

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involve a dozen staff and management types; the worker is never consulted.

The maximization of return on investment has somehow become the major criterion by which most organizations are judged. Many major decisions are then made for the sake of the short-term goals of year-end reports or quarterly profits and broadcasted to anxious stock purchasers. All they are interested in is the bottom line. This is a very short-sighted management style, indeed, one that has led to most leaders realizing that if they do not produce numbers, then they become expendable.

The hospitality industry has a great deal of "fluidity" in its management; that helps explain why there are so many problems in terms of increased productivity. For one, there is little if any continuity, little if any follow-through. There is also a great deal of confusion in the perception of all who work within the confines of that property: "Why should I show pride in my work when this might not be what the manager tomorrow will want from me?" A lack of commitment by all classes of workers is bound to exist, from room boy to general manager. This concern then for the return on investment and lack of concern for the human factors that make it all gel is certainly a short-sighted approach by operators.

In this same light, maintenance of the quality and dependability of the product being sold also tends to give way to the R.O.I., as management skimps to look good this month, this quarter, this year. Managers will continue to sacrifice quality for sake of the computer print-out looking its best. In this business climate, people become expendable. They become digits on a balance sheet. Empathy for workers is lost. Service to the customer becomes a calculated risk. On closer scrutiny of such losers, one will find that they have as their chief executive officers people who are, by profession, lawyers and financiers, none of whom have any knowledge about production or the kinds of services the company is supposed to deliver.

High Profits Are Bottom Line

It becomes easy to be indulgent toward a manager who is keeping investors happy with what apparently appears to be high profits. His techniques must be right; his philosophy about quality and the work force must be in line because the bottom line says so. Innovations are often placed on the chopping block for the sake of "expediency." In the hospitality industry, managers have been much too preoccupied with merely servicing existing clients and have failed to develop new markets far afield.

With Latin American markets drying up, Miami's managers are at a loss as to where to turn for tourists. They blame everything from Disney to the Born Again Christians and Southern Baptists who prevent them from getting their "life saving" gambling casinos. Miami's managers thought their superiority as a major tourist area would be everlasting and did not realize that if it was not cared for it would bring disaster. They ignored the erosion of their beaches. Investment in the future would probably have proven to be the competitive edge to delivering a superior product that would not have them today mourn-

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ing the disappearance of the tourists. One can be certain that customer complaints were mounting up, fermenting in the caldron for years, but management only prescribed aspirin for the headache, which was only the symptom of a possibly greater problem, without really looking deeper for the cause of the pain.

The Japanese are now computerizing many areas that the workers decided it would be to the company's advantage to improve. In America, management decides, usually based only on bottom line projections. Management will agree to automate only if they can realize tremendous savings.

It has been known for years that more than 85 percent of the variables that affect productivity are not only internal to the establishment, but also lie within easy control of management. A lot of people seem to feel that a great percentage of these internal variables can be changed through managerial activity. It is felt that only a very small portion can be effected at the worker level. Only management should, and can, make decisions that affect productivity.

Quality Circles Benefit the Work Force

The Japanese QCC system would appear to suggest a style which could in fact be the answer to the only way this phenomenon could effectively be introduced into the U.S. without all the trappings and other cultural differences that would normally surround it and bog it down. Quality circles are for the work force; they are supposed to give workers:

- a greater interest in their daily individual tasks;
- involvement in the making of decisions, especially those that affect them directly — and even extend to those areas that even remotely influence their work station;
- the freedom to express their views, thereby being able to achieve inner relief for personal and job-related problems and a sense of having attained some fulfillment of purpose;
- the ability to question directives and to be able to question the decisions made by superiors, even to the point of having them justify their stance;
- a feeling of creativity, which should create a more responsive work force of people who work with spontaneity;
- the will to create a work environment that is more cheerful and, hopefully, more productive;
- the esteem that management will seek out advice from the work force before implementing changes.

In reality, the preponderance of evidence shows that there are extremely few cases existing where workers even remotely suggested that management adopt quality control circles. It has nearly always been at the bequest of management. This top-down approach is diametrically opposed to what is usually propagated. However, in order to keep face and get the ball rolling, management in Japan goes around quietly and convinces the staff that QCC is essential, for their own interests. Only when managers feel that they have enough support will they go ahead and mobilize the setting up of a quality control

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circle system.

Key Advisors Ensure Compliance

The evidence further shows that since management would like the system introduced with little likelihood of failure, a number of well-chosen "key advisors" who usually are highly respected supervisors are appointed. They are given in-depth, extensive training prior to going out among the work force. This training covers:

- organization of a QCC;
- what to say and do, and what to avoid;
- a clear understanding of problem-solving techniques.

They then act like disciples, going among the "flock" and making converts. There is no accidental or haphazard selection of these group leaders. Nor are the groupings made up of just a mixture of friends. It's rigidly ensured that the group consists of the same people who work together, in the same unit or department section, on a daily basis. The hidden facts also show that these leaders (key advisors, group leaders, Gamba-cho) are instructed at length to the point where they are transformed from pushy, over-zealous, energetic, and even domineering supervisors, into friendly, supportive figureheads, all for QCC activities. Their jobs are to create a pleasant atmosphere, to somehow get all their subordinates to get involved with QCC, and to see that the meetings are 100 percent attended (on a volunteer basis, of course). They are to make sure there is ample participation by all members present, with the controlled exchange of viewpoints.

The Gamba-cho then records the discussions diligently and passes them on up the ladder so that the hierarchy will be kept abreast of situations before they get out of hand. If the key advisor and his group do not perform well, this will be an immediate reflection of the advisor's leadership quality and ability. He will be called aside and asked to give justifications for the demise of his work group. He may even be asked to attend special workshops to enable him to perform better and upgrade his group's performance.

With these seeming conflicts, quality control circles seem to work quite well. The workers tend to enjoy working for an understanding boss, and appreciate the leisurely pace. In most cases, the records have indicated that many, if not most, of the work force have become fanatics themselves for QCC. They seem to find pleasure in preparing intricate charts and detailed graphs and other quality control mechanisms and functions. Many strive hard, hoping that their group will be honored by becoming the group-of-the-year for the company, if not for all of Japan.

Even though there is an awareness that the spontaneity of management, though extraordinary, is contrived and the volunteerism carefully guided, the workers like it and seem to benefit from it, and management gets a lot for the money. This whole scenario, contrived as it is, should be the goal of every aggressive hotel manager.

Hotels would do well to note that the competitive edge sometimes means getting the best out of a small area. It might appear at first

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glance to be improbable and unrealistic to fight for more quality in an area; however, this might in fact be just significant enough to make one hotel a cut above the rest.

Failure Can Be Predicted

In many studies of companies practicing QCC, factors causing failure rather than success were

- dirty-looking, run-down facilities;
- numerous accidents because of improper safety precaution;
- poor maintenance, with little or no back-up of spare parts;
- confusing and conflicting management policies;
- poor scheduling;
- abundant grievances;
- absence of management;
- concern for "numbers" by management;
- few employees.

Japanese companies practicing QCC do the exact opposite of this. On the average, the Japanese company will have eight times more people solving problems as will its Western counterpart. They have long realized that one can only achieve top quality if top management gives supervision and attention to detail and its employees. In middle management ranks they have nearly three times as many people per number of employees as the typical U.S. company does. In addition, when things go wrong, they immediately try to put it right. If they can't accomplish it in-house, they call in experts.

In a Western establishment, only between 6 and 8 percent of the work force is involved in planning, thinking, or doing anything about problem-solving. In Japanese models, at least 90 percent is actively involved on a daily basis with problem-solving and decision-making. The average Japanese was found to have been given over 500 hours of intensive training in a 10-year span. That equates to approximately 50 days per year, per employee, or one day per working week to on-the-job classroom instruction in task and problem-solving techniques.

Equating this with surveys that have been done in the hospitality field, one would immediately discern that most employees do not even get an average of two days per year training. Some receive absolutely no training at all, even in doing their individual tasks, much less instruction on problem-solving and decision-making.

People feel more committed to an organization when they are allowed to

- feel more important,
- know they are needed,
- asked their opinions on matters of importance,
- treated with respect,
- feel a pride in their abilities.

The organization's problems become theirs. The organization's goals become theirs also. They prove to be less destructive and more creative. Management's job becomes easier, as very little persuasion

and motivational trickery is used to get workers to flow in the best direction for the company.

Japanese Want To Do Tasks

Many managers have to use coercive and persuasive tactics to get employees to do the bare necessities. The Japanese do the tasks at hand because they want to. The Toyota Motor Corporation, which uses QCC, reported a few years ago that they received a total of 859,039 quality suggestions for improvements from their 48,757 strong work force. This is the rate of nearly 18 suggestions per worker per year, and 94 percent of those suggestions were, in fact, put into effect. Toyota's auditors estimated that savings directly attributed to these suggestions resulted in profits to the company in excess of $30 million. This, in turn, also led to their superior product competitiveness within the U.S. and world-wide marketplace. For these to be incorporated into the production models, Toyota had to implement 3,365 positive suggestions every working day to keep abreast of their astute work force. Similar American companies of Toyota's size had fewer than 1,000 total suggestions for the year from their workers.

Researchers have found other factors that are directly attributable to the successful use of QCC. The first is an unshakable, full, sincere, and inbred commitment by top management and the organization it represents to improving quality, and not compromising it for the expediency of time, money, materials, or research propensity. The second is that management provides everyone with problem-solving techniques. Another condition is that the establishment supplies the time and the leadership skills and abilities of professional teacher/trainers in imparting the qualities of QCC.

The opportunity is also provided to practice and use the newly-attained expertise. Certainly newcomers need coaching, guidance, and help. But like Toyota, they need to have a management with a receptive ear toward change. Finally, to ensure the successful application of QCC it is necessary to plan for future improvements through a concerted effort by all members of the staff and through research. Time has to be set aside to keep ahead of the competition.

Pride Must Be Replaced

Over the past 200 years, the hospitality business has managed to destroy what little was left of pride in good workmanship and skills, preferring to open a can or flip a lid from a box top and accept that as top quality. These management practices and beliefs must now be replaced with that of QCC thinking, since these old ways have proved to be counter-productive. The responsibility of attaining quality improvement must be shared with every member of the staff. Lost or misplaced values and pride must be replaced. Few people or nations like being second best. In the hospitality field the Swiss have always excelled. Why? Because they paid attention to detail, which is no more than what quality is. People don't like doing a second-rate job when they know they are capable, with just a little help and encouragement from top management, to do a better one.

Keys to progress in the hospitality field include the following:

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- Objectives for the program must be drawn up in detail.
- The specifics as to who should first receive training and in what particular skill areas must be decided.
- The timing and sequence and use of these skills on the job must be covered.
- A steering committee should then be drawn together of managers who would most benefit from the use of quality improvement methods.
- A full-time coordinator should be appointed to direct the entire program and act as the supervisory link between the department heads.
- Other line managers should be trained in problem-solving and decision-making skills and should know all the problems of the department since they have line responsibility for the output of products and services.
- This core would serve as the cadre for teaching the rest within the organization, making them more valuable and skilled.
- Teaching should consist both of classroom work and applied practical sessions on the job, dealing with real problems.

By the end of the determined first phase of training it would have been obvious to all concerned participants that:

- their new problem-solving techniques work;
- they have management's full backing;
- they now know that, without much effort, productivity can be increased;
- the savings would have nearly paid for the investment so far.

The steering committee would be kept abreast each day of the progress being made by departments. Techniques and results would be documented, and costs and savings computed and published for all to see. Recommendations would be reviewed and implemented where feasible. Prizes, rewards, or recognitions would be given where warranted.

The continuation of the program is assured as mastery of the methodology is made. As more savings become evident to workers and management, employees will realize more in salary increases and bonuses, and management will be able to placate shareholders. The momentum will continue and high quality will become a way of life for a company, its employees, and its guests.

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