

A View From the Factory Floor

David J. Mattingly

How would employees rate improvement activities in your plant? An AME research report.

Blue collar employees being led down the continuous improvement path do not universally accept the notions of continuous improvement's (CI) champions. *A Continuous Improvement program is a strategy with a new set of values — a never-ending quest to eliminate waste.*

However, a survey of employees at six manufacturing facilities shows a surprisingly high acceptance level.

Younger employees with fewer than five years' seniority tended to look more favorably on CI changes and management's role in the process. Education level and gender differences also showed up in responses.

For those concerned about the effectiveness of the "CI Age," these findings confirm that CI is not just another fad. They also reflect management's need to reach out to *all* employees for performance improvements.

Employees Surveyed at Six Plants

Launched in August, 1989, this AME research project was simple: Survey blue collar workers at several companies to determine management's effectiveness in implementing CI programs.

Six companies participated in the survey (see Figure 1, page 24). Each participating company received a private report containing the data on their employees and agreed that the results could be used in this article. The only stipulations were that the data from all six companies would be combined for this article and no individual company would be singled out for praise or criticism.

The survey was divided into three sections: 1) management effectiveness, 2) CI program impact, and 3) employee feelings. Participants circled numbers between 1 and 5 on 102 questions. A "1" represented strong agreement; "2," agreement; "3," no impact or change recognized; "4," disagreement; and "5," strong disagreement.

Management Effectiveness

Forty-two questions in the Management Effectiveness section probed management's success in implementing the CI strategy. Hourly employees were asked to rate managers' performance in communications, trust, equality, culture change, goals, recognition, quality focus, management style, customer service, team

Demographics on Participating Companies

Company/ Location	Products	# Blue Collar Workers	# Survey Participants	Year CI Program Began	Union
Monroe Auto Equipment, Paragould, AR	Shocks/ struts	900	106	1987	No
*AT&T, Shreveport, LA	Telecommu- nications equipment	2500	*1500 (16)	1986	Yes
Westinghouse, London, KY	Circuit breakers	60	54	1988	No
Mobilite, Orlando, FL	Home care beds	120	112	1989	No
Gilbarco, Greensboro, NC	Gas pumps	575	78	1989	Yes
Northern Telecom, Nashville, TN	Telephone repair/ distribution	127	119	1989	No
TOTAL		4282		1969	

*The AT&T data were drawn from a Stanley Peterfreund Associates survey performed six months before my on-site visit. During my visit, I surveyed and personally interviewed 16 employees who had participated in the Peterfreund study. The correlation between that survey and my questionnaire results was high.

Figure 1.

orientation, problem solving, listening, supplier performance, training, eliminating waste, and other areas. Responses from each company were calculated, and then average scores were converted to an acceptance percentile as shown in Figure 2.

No correlation existed between the strength or weakness of answers and a union/non-union environment or the number of years the CI strategy had been used. Recent layoffs accounted for a 3-5 negative percent impact on acceptance percentiles at two plants. Results from three plants with 10-15 percent foreign-born labor work force matched findings for American-born counterparts.

Concerns of workers about management: Communications, trust, and visibility of top managers; job security, supplier quality, suggestion/recognition programs, and quality issues. Management does not really seek employee opinions, training programs are inadequate, and team building is not facilitated properly, according to some survey participants.

Management's strong points, as blue collar workers see them: Management does a better job at goal setting, building pride and a more positive environment, identifying customer satisfaction and competitive objectives, and eliminating waste.

Impact: How Effective Are CI Programs?

CI program impact was the topic of section two in the questionnaire. Participants answered questions about TQC, employee involvement (EI), training, leadtime and waste reduction, preventive maintenance, kanbans, housekeeping, scrap and rework, customer complaints, supplier quality, material handling, quality costs, WIP reduction, and other topics. Average scores for employees at the six plants, converted to acceptance percentiles, are shown in Figure 3. When employees evaluated CI activities and philosophy and left managers' personalities out of the equation, workers' responses were more positive with less variation.

Concerns: Although morale is improving, it requires management attention. Survey participants said EI is moving slowly, employees hear little about customer complaints, quantity is still stressed more than quality, outside supplier part quality is marginal, there's too much inventory for the available floor space, employee recognition is weak, they fear JIT deliveries will cause job loss, and there's too much material handling.

Strengths: Ratings were higher on CI training, leadtime reduction, delivery performance, preventive maintenance and housekeeping, scrap and rework reduction, cost of quality calculation, and waste elimination. The TQC strategy is understood and accepted by many respondents.

How Do You Feel?

While the first two sections of the questionnaire asked factory workers' opinions of management's role and how well "they" were doing, the third section asked workers about their feelings as individuals. "Quality of life" and environmental issues were covered in questions about management as a positive influence, customer image, positive reinforcement, job security, employee motivation, internalizing goals, teamwork, productivity, overtime, costs, job enjoyment, rework, valued skills, opportunity to advance, pride, bonus plans, responsibility for solving problems,

Management Effectiveness

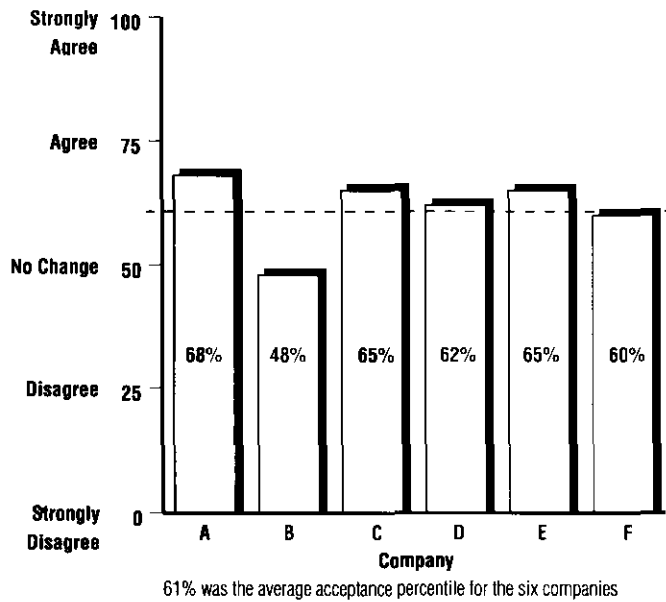


Figure 2. Blue collar work force acceptance of management's effectiveness at six plants is reflected in this illustration

CI Program Impact

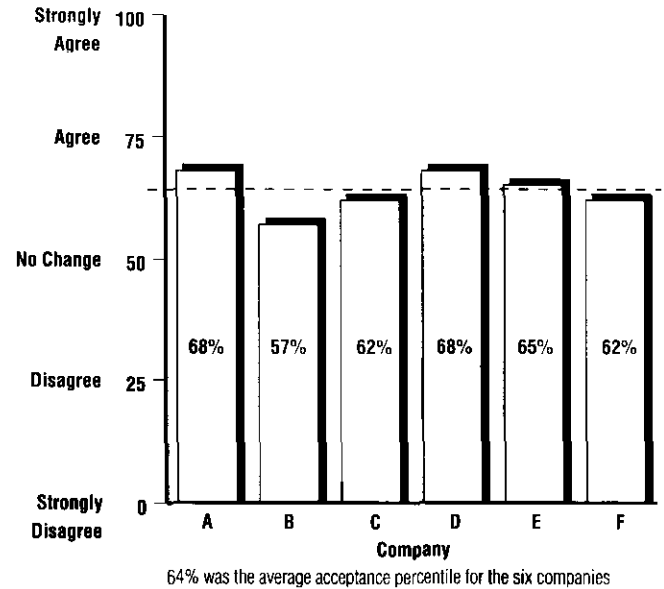


Figure 3. When plant employees left managers' personalities out of the picture and evaluated only the principles of continuous improvement, results were more positive with less variation (program impact section).

Employee Feelings

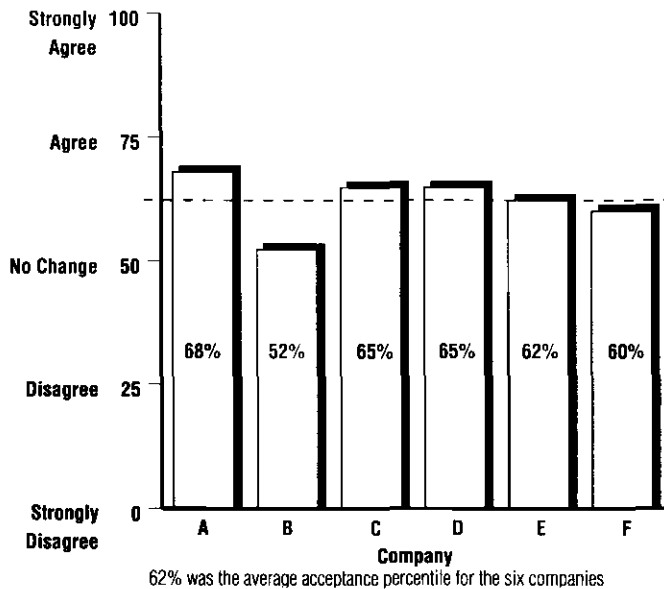


Figure 4. Job security — and its effect on the willingness of employees to trust management — was the number one issue in employees' responses about their feelings.

Composite Score for Each Company

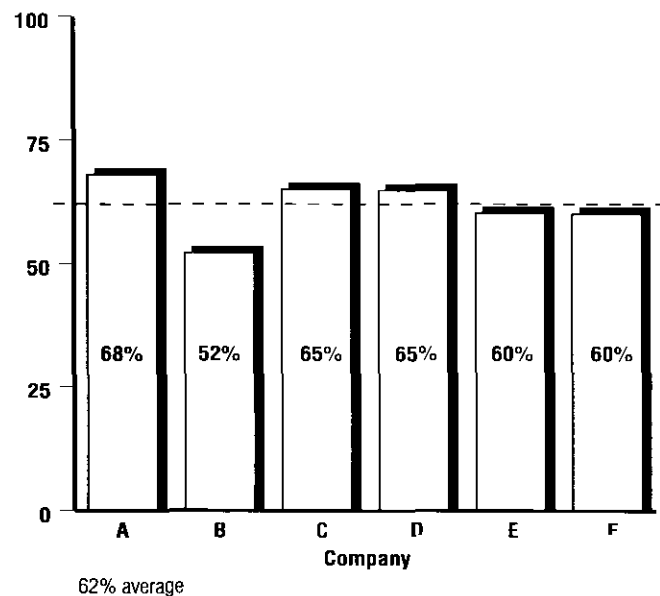


Figure 5. Composite acceptance scores for each company are shown in this illustration. They were calculated by averaging each set of scores from the three survey sections.

and other areas. Converted to an acceptance percentile for each plant, the results are shown in Figure 4 (page 25).

Job Security is the Top Concern

Job security resoundingly emerged as the number one issue, affecting blue collar employees' willingness to trust management. Strong feelings indicated that no matter how committed the work force may be to CI, jobs will continue to disappear to other countries where labor is cheaper. This concern diluted the CI strategy in the eyes of many respondents.

Positive reinforcement is weak or non-existent, said many respondents. Every question about positive reinforcement or recognition programs as a strong motivational influence received an average score of "no change" or a slight degree of change. On questions related to trust, aggregate responses were at or near 3.0 — no change.

Aggregate scores for questions about quality being more important than quantity were weak. The numeric score was a positive 2.8, which was above the mean average for all questions in this section.

Concerns: Blue collar employees' apprehension about job security and their belief that CI is just another program must be addressed by management. Employees also are concerned about the lack of positive reinforcement, gain-sharing or profit sharing programs, training, future opportunities and growth, and "not all managers are changing."

Strengths: More positive management, employee impact on customer image, pride, and motivation have improved. Caring team members, understanding goals and how they are measured, and concern about cost, quality, and productivity drew favorable responses.

Composite acceptance scores for each company are shown in Figure 5 (page 25). They were derived by averaging each company's set of scores from the three survey sections.

Demographic Differences

In the Management Effectiveness Section (first section), more positive scores were received from women, employees below age 25, workers with a

high school diploma or higher, and people with service less than five years.

No measurable difference between male and female answers was found in the second section (Program Impact). Employees below age 25, with at least a high school education, and service less than five years again gave more positive scores.

In the last section, Employee Feelings, more positive scores were noted by women, the higher educated, and junior service employees.

In summary: The more positive overall scores came from employees with less than five years' service, workers with a high school diploma or more, and women as the third-most positive group. More negative scores correlated with men over the age of 46, the least educated, and employees with 16 or more years of service.

Conclusions: Better-than-expected Results

When I began this project, I believed that I would find only 50 percent acceptance levels among the blue collar workers involved in CI activities. To find 62 percent of the survey group supportive of CI strategies was heartwarming! (See Figure 5.)

If we accept that somewhere between five and ten percent of employees will be difficult to convert to any program management devises, we realistically have a chance to make believers of 90 to 95 percent of the work force.

I conclude that the companies in this survey are two-thirds of the way toward meeting their CI objectives. The key to further progress lies in addressing the following fundamental challenges:

1. Job security remains a major concern.
2. You can't communicate enough.
3. Trust is still an issue.
4. Quality still struggles to be on a par with quantity as a key management issue.
5. Training is inadequate for both managers and blue collar workers.
6. Blue collar workers want responsibility for solving problems.
7. Positive reinforcement is weak.

When Continuous Improvement concepts and activities are effectively communicated and reinforced, management finds a more receptive audience in the blue collar work force. Although the blue collar employee comments represent greater

acceptance of CI ideas than expected, management is challenged to build and maintain trust and support. Managers at the participating companies said they used the findings of this project to evaluate their progress and future direction.

Author's note:

I extend a personal thank you to the following individuals for their support of this project: Doug Blanchard, Harold Diggs, and Bill Erwin, Monroe Auto Equipment; Ed McGovern and John Albritton, AT&T; Jim Kotala and Joe Parsons, Westinghouse; Chris Allard and Jo Carol Rutherford, Mobilite; Mark Snowberger and Jerry Smith, Gilbarco; Burgess Oliver, Northern Telecom; John Kenfield, AME research director; Robert W. Hall and Lea Tonkin, Target; and Dan Van Duinen, president of Jacuzzi Brothers, Inc.

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