

Midwestern Region

Employee Involvement's a Way of Life at 3M, Hutchinson, MN

Gutsy employees-turned-sleuths check out their competitors at a shopping mall, visit customers, and ask about their complaints — and then translate their awareness into action.

Robert A. Reynolds

What do you do when your competition significantly increases its Third World capacity, and your 34-year-old factory is designed to manufacture video tape in a traditional high labor, high inventory mode? If you are the 3M Magnetic Tape plant in Hutchinson, MN, starting in 1986, you:

1. Educate employees about the new competitive marketplace.
2. Develop seemingly impossible performance improvement goals and involve employees in *every step* of their achievement.
3. Challenge employees to act as though they own the business.
4. Selectively automate operations without increasing maintenance costs.
5. Significantly reduce the cost of quality and heighten customer perceptions of product quality. Achieve double-digit improvements in the plant measures of product quality and customer service for each of the past four years, as productivity increased and product selling prices dropped (see Figure 1).
6. Triple output per employee without adding any bricks and mortar.

From Evolution to Revolution

Such feats demanded extraordinary efforts. Teamwork for change needed to become a way of life. "Like a lot of plants, we used to get by with

evolutionary improvements in the single-digit range," said Glen Bloomer, plant manager.

"When we became locked in a battle for survival — competing with producers in Japan, Korea, and Europe — we recognized that we needed *revolutionary* goals," Bloomer said. "We also recognized that we could not be successful until we harnessed the brain power and spirit of everyone in the plant."

Employee Involvement: "I Am a Somebody"

Cultural change is reflected in employee involvement activities (EI), as explained by hourly workers during the AME workshop at the "Hutch" plant. The plant motto is, "Nothing will be changed unless employees who are affected by the change are involved."

Employees lay out their work stations, select new equipment, answer customer complaints, and even select the background music played during their shift. The "I am a somebody and my input counts" philosophy is widely shared.

Employee action teams plan annual kick-off meetings where next year's business plans are reviewed. The in-plant cafeteria was planned by a team, and they selected the manager from a list of candidates. Another team tackles waste recycling; its efforts were featured on a PBS special, "Inherit the Earth."

Employees Stalk Customer Preferences

Hutch employees conducted their first market survey (the first one by plant employees in 3M's history) in January 1987. Their objective: Get a first-hand look at their competition in the video tape business.

Fifty employees were selected at random and bused to corporate headquarters. They met with top management for a briefing on the company's strategic plan for their operation.

Dividing into two-person teams, they fanned out to every major shopping center in the surrounding Minneapolis-St. Paul area. Each team received \$20. Their objective: Buy video tape for the best available price. They were not allowed to buy 3M's "Scotch" brand video tape, but they were allowed to ask questions about the quality, cost, and service of "Scotch" brand products.

Teams rendezvoused at the end of the day and shared their experiences. This session was captured in a one-hour tape and shown to the entire Hutch workforce.

A nine-minute version of this tape, shown during the AME workshop, vividly showed what management can do to accelerate the cultural change process through employee involvement. At the beginning of the outing, the mood was similar to a high school trip with lots of happy conversation. Later experience sharing had a differ-

About 3M Magnetic Tape, Hutchinson, MN

Video and audio tape for consumer and professional markets is produced at 3M's Hutchinson, MN plant. The magnetic media facility was built in 1958 to produce magnetic tape. Changes in plant layout and organizational structure reflect the need to compete more effectively with off-shore marketers, as the selling price for video tape dropped significantly.

ent tone. The travelers now realized that brand loyalty was somewhat less than expected, price was a significant buying factor, and that occasional shortages or missed shipments caused lost sales.

More Ways to Enlist Employee Support

Plant employees also traveled to customer sites for their comments on product quality. More EI activities: workers analyzed competitors' tape and benchmarked world-class manufacturers' products.

Hourly and salaried employees did all of the planning for the AME workshop. They also participated in the presentations and the plant tour.

Randy Nordling, an hourly tour guide, is a member of a team that's responsible for selecting packaging equipment used in his area. He traveled to Italy to check out the equipment. The packaging machine may belong to 3M, but it was apparent to everyone that Nordling and others in the team are committed to successful operation of "their" machine.

Workshop attendees reviewed a training manual prepared by the team. Doug Ward, team manager, said, "We usually have to wait until after the scale up to complete the training manual. This one was completed by the operator team *before the machine arrived.*"

Predictive Maintenance: Corrective Action Cuts Costs

Predictive maintenance activities

provide another EI example. Ralph Danielson, plant maintenance and resident engineering manager, related how these practices helped Hutch increase equipment runtime and reduce maintenance costs starting in 1988. Describing predictive maintenance as a regular medical physical, he said it involves checking vital signs, setting up a program for continued good health, and performing surgery as needed on a planned basis.

Danielson set up a team of hourly and salaried employees to investigate predictive maintenance basics in 1988. They read trade journals, benchmarked the world's best operations, and attended technical institutes. Compared to previous time-based, *preventive* maintenance checks and the accompanying "run until catastrophic failure" mode, the new ways promised elimination of unscheduled downtime.

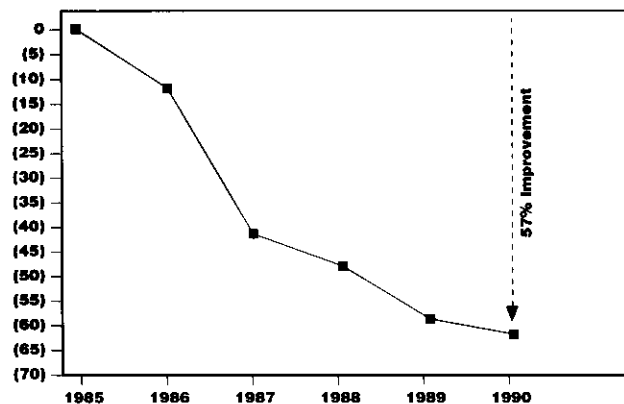
Examples of vibration, ultrasonic, and motion analysis; laser shaft alignment; thermal imaging; and other tools helping to reduce potential equipment failures were shown by Gary Maus, an hourly maintenance team member. Some of the test equipment — costing from \$5000 to \$75,000 — paid for itself in one month's operation (in reduced downtime).

Predictive maintenance saved the Hutch plant several million dollars so far, according to Bloomer, "making real believers out of EI skeptics. Without a sense of ownership and dedication by users like Gary, these tools would be much less effective."

Robert A. Reynolds is a manufacturing systems manager for Briggs & Stratton Corporation. He is president of the Midwestern Region of AME.

Target editors appreciate Glen Bloomer's (3M) contributions to this article.

Cost of Quality



Total Plant Productivity

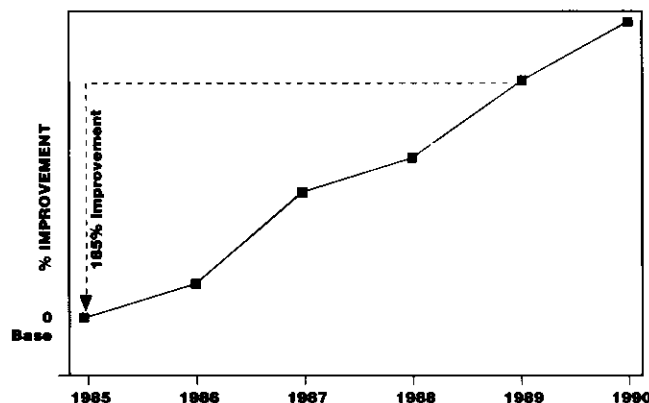


Figure 1. Cost of quality and total plant productivity measures.