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JACK
WELCH
GE WAY

JACK WELCH *and the* GE WAY

Management Insights
Secrets of the Legend

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lower the number of errors, the higher the quality. One sigma means that 68 percent of the products are acceptable; three sigma means 99.7 percent are acceptable; six sigma, the ultimate goal, means that 99.999997 percent are acceptable. Six sigma denotes more quality than three sigma: at six sigma, only 3.4 defects per million operations occur; At three and a half sigma, which is an average quality measure for most companies, there are 35,000 defects per million.

Quality has long since been associated with the Japanese. Companies like Motorola knew that to be truly competitive meant taking on the Japanese in their own quality ballpark. Japanese goods like watches and televisions have for some time met six sigma standards. The quality of American goods, in contrast, was hovering around four sigma. But Japan's high standards of quality applied only to products such as electric equipment, cars, and precision instruments—and only to the area of production. Japan continued to lag behind in the effort to improve quality and productivity by improving business *processes* (as GE would attempt to do through its six sigma quality initiative).

Should We Follow Motorola?

In the late 1980s and early 1990s, Motorola pioneered the six sigma initiative and in the process reduced the number of defects in its products from four to five and a half sigma, yielding \$2.2 billion in savings. Other firms, such as AlliedSignal and Texas Instruments, began to adopt their own six sigma quality programs. Six sigma was becoming so popular that it spawned an offshoot industry of consultants and missionaries. One such missionary was Mikel Harry, who had been at the center of the quality effort at Motorola, and later became a GE consultant during the early stages of its six sigma quality initiative. Another was Richard Schroeder, who had supervised quality improvement efforts at Motorola affiliates. Together Harry and Schroeder founded a consulting firm called the Six Sigma Academy in Scottsdale, Arizona.

Throughout 1994 and early 1995, Welch and other GE executives began mulling over what to do to improve GE's quality. The chairman was in a quandary. He agreed with others that GE was ripe for a massive effort at quality improvement. But what he first saw of the six sigma approach turned him off. He worried that it was inconsistent with his other business values and strategies:

- It was centrally managed.
- It seemed too bureaucratic—
clature.
- It called for specifically agree

In short, the initiative simply didn't

Work-Out, on the other hand, breaking down bureaucratic bound-
urging people to learn from one an

But ultimately Welch was swayed
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In April 1995, a month before V
for triple-bypass heart surgery, the
that GE employees were dissatisfied
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It was increasingly apparent that
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results through six sigma programs.

A Crucial I

Then in June, the CEO at Allied
Welch's Corporate Executive Council
GE. He was a former GE vice chairm
est friends. In 1994, Bossidy had la
AlliedSignal. Now, a year later, he t
was with it and how he thought GE
undertaking a similar effort. "GE is
CEC. "I know. I worked there for thi
you can do to become greater. If GE
you'll write the book on quality." De
Bossidy's presentation "had a real ri
posters, but real substance." Welch, w

quality; but it was really the series of team presentations of that class that helped to cement the need for improving GE quality."

Having decided to launch a quality improvement program, it seemed natural for GE to invite expert Mikel Harry to address the Corporate Officers meeting the first week of October. Harry talked about the virtues of the six sigma approach in making quality improvements in business processes.

But, once it decided to embark on a serious quality program, GE wanted to launch it the GE Way, a way that had never been done before. Paolo Fresco comments: "When GE decides to do something, it goes for its own objectives with a vengeance, with an intensity that is unique."

Reiner was put in charge of GE's new quality program. From his travels to other enterprises, he learned that only a quality initiative that involved all GE employees had a chance to succeed. "What we learned was that unless you have a singular focus on quality, you don't get it. We focused quite a bit on speed. We measured it and we made real progress in achieving the speed with which we developed new products and the way material flowed through a factory. But the work required to get to a six sigma level of quality is a lot and you need trained resources to really think through why you're not getting the quality you want."

If GE could pull off a successful quality program, the potential rewards were enormous. The cost of remaining at three sigma or four sigma amounted to as much as 10 to 15 percent of a company's revenues. For General Electric, that would translate into a cost of \$8 billion to \$12 billion. According to Gary Reiner, GE hopes to recoup that money through its quality initiative "probably within five to seven years."

Fresco notes that improved quality means not only cost reductions but increased sales. "By increasing your quality level you make much more money for the shareholder; but you also acquire market share because your customer is going to be much more satisfied with you than with your competitors."

Reiner's point was taken seriously at GE. Two years into the program, six sigma has spread through the ranks. Banners on the walls of GE businesses proclaim its importance. Conversations are peppered with references to quality efforts. Traveling around GE plants and factories and the offices of senior managers, a single phrase rings in one's ears: "Six sigma. Six sigma. Six sigma." It is GE's new mantra, its new war cry in the late 1990s.

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Powell that he wanted him to lead the quality effort at Plastics. Until then, Powell had been doing environmental health and safety for GE Plastics. Powell's response was typical: "Don't do this to me. Anything but a quality staff job." (Powell said later, "This was the most challenging and rewarding opportunity of my career.")

Rogers said Powell's first task was to fill thirty slots from GE Plastics for a class that would train people to become master black belts at Crotonville, starting December 4. Mikel Harry from the Six Sigma Academy was brought in to Crotonville to teach the course, which provided two weeks of training, one in December, the other in February.

Powell sought people out to attend the class, but the response was often, "Why should I do this? I have a great career. I don't want to go into quality." Despite the indifference he encountered, Powell knew he had been challenged to get the very best leaders for the class. After all, Welch had said he wanted the movers and shakers of each business to get involved, and that was that. The thirty who took Harry's course became the first master black belts at GE Plastics. And, Welch kept in close touch with the senior managers who ran the quality program at Plastics.

On a Thursday in March 1996, the chairman got in touch with all GE officers, asking them to provide him with written documentation that would help him decide how large their bonuses would be. In essence, Welch was asking the managers to justify their bonuses by demonstrating the strides they were making in the quality program. He let it be known that 40 percent of their bonuses would be based on their work in this area.

The chairman gave them until Monday to hand in their responses, by which time he had their answers in hand. He was disappointed by the results. Some officers at Plastics had made the error of replying vaguely that they planned to train as many black belts as possible. But Welch wanted specifics. *How many?* Some said, with equal vagueness, that they expected benefits to flow from the quality program. The chairman again decried the lack of specifics: *How large would the benefits be?*

By Tuesday an exasperated Welch fired back notes to the officers. "This isn't even close," he told them. He demanded more aggressive commitments from his executives. The chairman's stinging retort got the manager's attention. "There was panic in the leadership team," Gary Powell recalled. "Few understood the level of change the CEO

wanted from them. Even fewer a process to change the way we worked up with acceptable answers."

A lot of people at GE Plastics would work. With Welch putting some pretty aggressive goals, the first year of 1996 (\$20.5 million) committed themselves to putting of 1996.

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Putting additional pressure on that in order to get promoted by green belt training.

Six Sigma

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GE Plastics became so enthusiastic 1997 it held a six sigma tournament from the Asia-Pacific region compete quality project.

The winning Singapore team, July 1996 and calling its project reducing minor differences in color variance between each product ur

wanted from them. Even fewer appreciated the power of the six sigma process to change the way we worked. But they worked hard and came up with acceptable answers."

A lot of people at GE Plastics wondered whether the quality initiative would work. With Welch prodding them, the quality leaders set some pretty aggressive goals, reaching \$20 million in benefits in the first year of 1996 (\$20.5 million was in fact achieved). They had also committed themselves to putting 300 staffers in the program by the end of 1996.

GE Plastics had "only" 13,000 employees. Adding 300 in that short a period seemed daunting. Because Welch expected only the best employees to be among the 300, that caused some friction in the ranks. Some vice presidents were opposed to freeing their best people to take on quality responsibilities. But the CEO lit a fire under Gary Powell and the others. As Powell recalled, "Before, we never fully had the leadership's commitment; we had only a cocktail commitment. And we had never really resourced a quality initiative. This was an opportunity to do it right and to drive results. We had to get off to a quick start."

Putting additional pressure on GE Plastic's resources was the edict that in order to get promoted by January 1, 1998, people had to have green belt training.

Six Sigma, Year 2000

In August 1996, GE Plastics called in 260 people from around the globe and brought them to Florida to do a critical assessment of the quality program thus far. It had been working at such a maddening pace to train and get people into projects, that some felt it was time to take a measure of where the program was going. This "global time-out" meeting became a model for other such efforts around GE.

GE Plastics became so enthusiastic about the initiative that in May 1997 it held a six sigma tournament in which ten GE Plastics teams from the Asia-Pacific region competed against one another for the best quality project.

The winning Singapore team, which began measuring quality in July 1996 and calling its project "color for money," triumphed for reducing minor differences in color between plastic products. Color variance between each product unit was considered inferior quality.

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