Midwestern Region

Whirlpool Corporation, Clyde, OH: Journey to Worldwide Excellence

Leadership by turning the operation upside down

Marvin Simon

The most significant impression to Whirlpool workshop participants was the response one High Performance team leader made to a question from a workshop participant. The team leader previously described improvement contributions from his team, noting that implementation of their ideas resulted in the elimination of Saturday work for the group. Asked if this change reduced his annual income and how he felt about it, the team leader responded, “It’s nice to be home with my family on Saturdays and I’m confident of getting my profit sharing check regularly.”

“Four years ago, we took our operation and turned it upside down. And let me assure you, that caused more agitation than you can get in one of our best-built washers.”

Quantum Jumps at Whirlpool

W.C.M.  CRIMSON  L.E.A.P.

L.E.A.P.
• New design
• Automation
• Volume
• Functional organization

CRIMSON
• Full court press
• Quality
• Cost
• Business unit organization

W.C.M.
• High performance
• Quality at the source
• Total cost productivity
• Component organization

Figure 1. Roy Armes

Figure 2. Quantum jumps toward improvement.
That First Jump Was a LEAP

The first quantum jump began in 1982 with the new LEAP (Laundry Engineered Advanced Product) which resulted in a global design in production on all models by 1985. Concurrent, computer-aided design, early release of long-term components, early supplier selection and involvement, extensive competitive analysis, periodic formal and informal design reviews, and multi-functional teams in production and other areas were among the elements of this effort. Also included in this jump was consolidation of Whirlpool's washer manufacturing at Clyde to allow greater production volumes and additional automation.

Second Jump: More Employee Participation

Armes later realized that, to remain the world leader, the highly-successful plant needed to make another significant improvement in its cost and quality performance. By 1987, the Clyde Division began its next jump, called the “Crimson Phase Strategy.”

This phase began with the change from a functional-based organization to a business unit organization at the division level designed for maximized employee participation. Management asked for employees' commitment to the change before it began. Armes said he wanted to use the head, hands, hearts, and souls of all employees in a new culture of all-out commitment to cost and quality improvement. The new relationship was called the "High Performance Partnership."

Candid communications about the status of the business, including face-to-face meetings with all division people, helped to build commitment. Costs, quality, competitive factors, and future directions were reviewed in these sessions. After employees learned about the “partnership,” described as the “high road” to avoid what was happening to competitors’ plants and jobs, management asked for volunteers for a new product line requiring about 20 people using the new concepts. There were 350 volunteers.

Don’t forget to talk with the employee who is closer to the process than anyone else and who may have the best idea for improving the process, reminded Armes. He also said that empowering employees to make decisions in their work areas means management must be willing to let them fail. Once employees realize they had management support to be part of the solution to problems, they became highly motivated. Asked about the greatest contributing factor to Clyde’s improvements, Armes replied, “Some of the management levels got out of the way and let the people do their job.”

Third Jump Toward World Class Manufacturing

The third jump in the Whirlpool Clyde story is just beginning. This phase, called “World Class Manufacturing,” will build on the continuous improvement and employee participation phase (second jump), said Jim Spicer, director of technology and engineering. It will also emphasize new technology applications.

Key elements in the World Class Manufacturing plan are:

1. Component manufacturing centers
   - Family of processes to produce a component
   - Customer or supplier activity
   - Common objectives

2. Quality at the source
   - No defect forwarding
   - Testing equipment at the source
   - Quality verification at the source

3. Total Productive Maintenance
   - Quick response to danger signals
   - More operator involvement
   - Breaks barriers between classifications
   - Enhances teamwork
   - Proactive versus reactive

4. World class performance measures
   - Customized for each area
   - Simple and understandable
   - Tied to company-wide objectives
   - Reviewed and rewarded consistently

5. Design for Manufacturing
   - Reduction of the number of parts
   - Adequate tolerances
   - Dimensioned simply

6. Process Simplification
   - Removed non-value-added work
   - Concurrent design
   - Ergonomically sound

7. Point of use supply
   - Reduces handling
   - Enhances customer/supplier relationships
   - Layout efficiencies
   - Reduces inventories

8. High performance partnership
   - Full participation of all employees
   - Decisions made at the lowest possible level
   - Self-directed workforce
   - Extensive team training
   - Shared goals and rewards
   - Peer selection and discipline
   - Mutual trust

9. Point of use knowledge
   - Information gathered at the lowest level
   - Visual management

10. Supply management
    - Early supplier selection and involvement
    - Supplier partnership
    - Predetermined improvement goals
    - Shared rewards

About Whirlpool and its Clyde Operations

Whirlpool Corporation is now the world’s largest major appliance manufacturer and marketer with production operations in 12 countries, marketing products in more than 120 countries. The company has 38,000 employees around the world and nearly $7 billion in sales. The appliance maker’s growth in sales and profits during the 1980s is notable, considering the number of global appliance manufacturers shrank from 50 to 22 while U.S. appliance makers’ ranks dropped from 16 to live during the period as a result of consolidations and businesses dropping out.

The Clyde, OH plant is the world’s largest manufacturer of automatic clothes washing machines. It’s the flagship division of Whirlpool, daily producing more than 10,000 units. The non-union division has approximately 3200 employees on three shifts.
- 70 percent scrap reduction
- 70 percent increase in inventory turns
- 60 percent reduction in product repairs
- 14 percent reduction in manpower while volumes increased 24 percent

Additional achievements:
- Consumer Reports top rating four consecutive years
- Sears Partner in Progress Award eleven consecutive years
- Sears-Canada certified supplier

**Figure 3.**

11. Organizational integration
   - Redefined around product
   - Alignment toward common goals
   - Focused on customer satisfaction
   - Rewarded as a unit
   - Total knowledge of the business communicated

12. Inventory triggers
   - Pull system
   - Visible inventory
   - Reduced inventories, handling, and damage

13. Continuous improvement
   - Obsession with finding improvement
   - Small steps
   - Involves everyone
   - Requires innovation

14. Environmental awareness
   - Safety and housekeeping
   - Involves people and improves trust
   - Implies quality

**Crucial Steps**

The focus of all improvement activities is one goal, according to Armes: exceeding customer expectations (also, see “Measured Improvements” in Figure 3). “First and foremost, you must have a vision — a vision of worldwide excellence, of building a product of master quality, of creating a workforce to compete with anyone on this planet,” he said.

The next step was to develop a strategic (long-range) plan to implement the vision. Two important questions during this process were, “What actions are necessary to accomplish our vision?” and, “Where is the competition?” Armes commented that “The customer is always right, and the competition is always right behind you.” Customer surveys and benchmarking projects helped the company know what direction to take. At Clyde, the term “customer” means the end user of your product as well as the retailer, and the internal customer who is next in line to receive the results of your efforts.

**Communicate and Train for New Way of Thinking**

Clyde employees needed a new way of thinking to accomplish their vision. Although management acknowledged that they faced many challenges during the “stormy” phase of cultural change, consistent communications during the past several years helped employees understand and learn to use new improvement tactics. “Be open, candid, and honest in your communication and don’t forget that important aspect of communication called listening,” Armes said.

Clyde provides extensive education and training for employees. For example, each employee received approximately 40 hours’ training on work in the self-directed team environment. The education process includes supplier visits, customer visits, and benchmarking trips. The division also established a “lifelong learning” center to improve employees’ basic skill levels.

Whirlpool's Performance Share system, the company's gainsharing program, is an important part of the business. It's a reward system for continuous improvements.

1. Roy Armes, Clyde Division vice president at the time of the AME workshop and a related interview, later was named Whirlpool's vice president, manufacturing and technology, Cooking and Dishwasher Products, and is no longer in that division.

Marvin Simon is an associate professor in the Mechanical Engineering Technology Department at the University of Dayton in Dayton, OH, where he specializes in manufacturing engineering technology.

© 1993 AME®

For information on reprints, contact:
Association for Manufacturing Excellence
380 West Palatine Road, Wheeling, IL 60090 708/520-3282