Metrics: Essential to Work Team Success

Building trust helps, too.

Lea A.P. Tonkin

Vision, purpose, goals, and much of that other good stuff in managers' team-building toolkits come in handy. But team members would like to make sure that their tools also include a well-sharpened set of metrics to help them figure out how well they're doing and what needs fixing.

Some of the ways that Harris Semiconductor people in Palm Bay, FL use team development models, awards criteria, and other measures to craft teamwork excellence — within a support network of corporate resources and an environment increasingly based on trust — were described by Ed Rose, training manager at Palm Bay, during the recent "Planning and Implementing Self-Directed Work Teams" seminar in Melbourne, FL.¹

Designing a Collaborative Environment

Palm Bay helped to design a “new work force” focused on team-based management, called Quality By Design in 1988. Ray Odom, then a director of wafer fab and now plant manager at Palm Bay, championed the transition within his area. Since that time, he has led the cultural change by providing resources and leadership through the tough times. His vision called for a collaborative environment where workers (most employees have a minimum of two years’ college-level education) are goal-oriented, self-managed, team-oriented, empowered, ready for change, multi-skilled, and customer focused. Such “new” workers will ideally be involved in win-win interactions, horizontal decision making, and ownership of quality. That’s quite a list. Rose credits Odom for keeping the transformation alive during difficult challenges as the defense market shrank.

Three key assumptions guide Harris

Figure 1. Source: Harris Semiconductor.

\[ S = \text{Supervisor}; L = \text{Leader}; F = \text{Facilitator}; C = \text{Coach}. \]
Semiconductor’s overall strategy leading toward team-based management:
1. Most employees want ownership.
2. Those closest to the work have the knowledge.
3. Teams provide greater potential.

Effectively managing change requires an integrated plan that recognizes the effect of change on employees’ personal security, Rose said. That means controlling the rate of organizational change, and in turn, sharing more information with employees. Involving people affected by change in decisions and replacing fear with positive employee/management attitudes are additional ingredients. Providing resources needed to implement changes — investing in training and other resources — is essential.

Harris Semiconductor’s investment included development of a training department (five facilitators and two training specialists — full-time). It also included two rooms used for team meetings and training. Five dedicated facilitators and three part-time facilitators from human resources (HR) also help potential and current team members sort through issues in team building, coaching, and training.

Providing Structure

A six-step process for team development encompasses the work of defining purpose, vision, goals/objectives, strategy/tactics, roles/responsibilities, and standards/norms/expectations. Technical and social models for team development, created by Rose and internal HR consultant Steve Gilmore, spell out the criteria of four phases or maturity levels. (See Figures 1 and 2.) Similar descriptions of team evolution abound, but Rose believes that giving people detailed, accurate information about what’s expected of them and what they’ll encounter along the teaming journey is helpful to employees.

A Teaching, Learning, Involvement (TLI) core curriculum for team development also helps to provide structure for teamwork expectations. These courses were identified by a cross-functional Harris Semiconductor project team. Their mission was to enhance self-directed work teams (SDWT) development within the company. Selected courses are

**Figure 2. Source: Harris Semiconductor**
designed to help teams, and individual team members, progress through the “forming, storming, norming, and performing” phases of teamwork, referred to as the Tuckman Model for team development.

Three types of TLI classes are available. First, there are social classes. They focus on building the interpersonal relationships and skills of team members (giving constructive feedback, stress management, listening skills, etc.). Next, technical classes cover the technical aspects of building SDWTs — skills needed to become self-sufficient as a team; team dynamics, goal alignment, and customer orientation are among the course offerings. Finally, there are administrative classes which focus on planning, scheduling, tracking, and general administrative duties of SDWTs. A sample of the TLI core curriculum for team development is shown in Figure 3.

An entire team typically takes a particular class in 1.5 to two hour segments, allowing for schedule flexibility. The classes are arranged by a team facilitator, at the team’s request or as management decides, during the team’s shift. Team requests and certain classes are required to meet SDWT development criteria; Rose designed the training materials.

Key Plant Metrics

Teams use the team development models, their training, and teaming experience to improve their performance against key plant metrics in on-time delivery, customer satisfaction gap analysis (the difference in rating from what the customer desires and what Harris employees do — a small difference, or zero, is desired), and factory cycle time. Examples of improvements included a 40 percent increase in volume accompanied by a 2X improvement in die yield (resulting from quality improvement), a 23 percent reduction in cycle time, and a 16 percent improvement in throughput yield in a wafer fabrication area. Although many other tools help in these improvements, the team structure facilitated the results, Rose said.

Award Program

Key support for this process is provided through an award program. Rose believes that the award program helps to provide a road map and a sense of continuity for teams’ activities. The related evaluation processes clarify expectations and offer guidance for their performance improvement, he said.

A team receives a Bronze Award (plaque) when they’ve demonstrated the technical and social characteristics associated with Phase I of team development, as shown in Figures 1 and 2. For example, team responsibilities are established and a code of conduct is developed; team skills still are low for this “directed team.” To receive the Bronze Award, the team must meet criteria such as:

- 80 percent of the team attended Phase I training classes in team dynamics, TQM...
problem solving, and goal setting
- The team has completed two projects using the prescribed problem-solving technique; the problems tackled by the team must fall within their area of responsibility.
- 90 percent attendance is required at team meetings for the quarter preceding nomination.
- The team records and maintains minutes.
- The team uses an agenda for all meetings.
- The team has identified its customer and supplier relationships and requirements; etc.

As a team progressively improves its technical and social skills, it becomes "functional" (Silver Award), "empowered" (Gold Award), and finally, a "self-directed" team (Platinum Award).

Platinum-level teams solve behavioral problems, make process adjustments, show sensitivity to internal and external customers, express appreciation freely, and exhibit other outstanding teamwork qualities. These more mature Phase IV teams typically perform 85-90 percent of the day-to-day operations required to deliver their product or service; "we" rather than "I" thinking prevails within the team; the teams handle disciplinary issues; the teams control all aspects of quality; and additional Phase IV criteria are met.

The team's coach/facilitator (old supervisor), freed of previous responsibilities, searches for education/training to keep team members up to date on quality tools; interventions may be required as new members join the team.

"This program was put together to reward teams for their progress toward SDWT status, and also it was conceived in the context that we need to establish up front what we want for teams," Rose said. "In the past, we didn't have this structure. We give plaques to teams to recognize that they've achieved a particular status (reached a given phase of team maturity). We've only been using this approach about three years. We have a couple of teams in the third phase, but many are not there yet. In the meantime, we've been downsizing, and this structure has been good for us during these changes."

Changing Environment
Teaming structure and support as well as the awards criteria will continue to be needed during changing times. As military and aerospace markets shrank during the past several years, Harris Semiconductor faced many new challenges merging two divisions into one that would service both commercial and military customers. The company projects a bright future with leadership from President John Garrett focused on "building an environment that fosters employee excitement and passion in what we do," Rose said.

"Employee morale and attitude were tremendously important as we've gone through downsizing and turmoil during the past three to four years," he said. "Our empowerment and SDWT structure implementation have helped in this area." A research survey conducted by Rose in September 1995 showed that 87 percent of the workforce at Palm Bay liked the new team-based structure; 96 percent felt that the new approach provided a structure for achieving their goals; 100 percent felt increased self-esteem; 100 percent believed that training contributed to the success of teams; and 75 percent reported an improvement in their attitude about the company and their work since SDWTs were implemented.

Building Trust, Playing Games, and Celebrating
Finding ways to build trust through actions and sharing information is emphasized at Harris Semiconductor. Rose said Stephen R. Covey's book, *The Seven Habits of Highly Successful People* (Simon and Schuster), offers an effective benchmark or model.

Zipping Through the Basics of Business with Zodiak
Want to help your employees learn the lingo and the basics of business using an interactive game? One of the choices available is "Zodiak: The Game of Business Finance and Strategy," developed by Paradigm Learning of Tampa FL in collaboration with Harris Semiconductor.

Participants become Zodiak Industries "owners," initially writing "checks" for $4 million as their investment in the firm, explained Ray Green of Paradigm. Then they follow the company's progress for three years during a four-hour session — seeing to raw materials purchasing, production, product delivery, new product development, taxes, etc. They make decisions about solving problems in quality complaints, raw materials shortages, cash flow, cycle time, and other factors affecting the overall success of the enterprise, learning more about the "big picture" and key financial metrics. More than 175,000 employees in 150+ organizations have participated in the game since early 1995, in companies such as Xerox, Boeing, and W.R. Grace.

Attendees at this year's AME Annual Conference in Milwaukee will have an opportunity to play the game. It will be offered twice during the conference, on November 5 and 6. Paradigm Communications Learning Division is located at 5301 West Cypress Street, Tampa, FL 33607; phone 800/749-0228 or 813/287-0028.

"We use it as kind of our foundation," he said, noting the "ABCs of Teamwork" (see Figure 4). "We need to be trustworthy, to build bridges in different ways between management and employees." For example, information about financial performance, previously reserved for salaried employees, is now shared with all workers. Periodic celebrations (carnivals and other gatherings) mark milestones in overall performance.

Another way to build trust and greater understanding about ways to improve performance is to educate employees about how to run a company. Enter the game, "Zodiak: The Game of Business Finance and Strategy"
developed jointly by Harris and Paradigm Learning of Tampa, FL. (See the accompanying box about Zodiak.) It’s a fun way to discover the “ins and outs” of making a buck in business. So far, 85 percent of all Palm Bay people have been trained with Zodiak, and eventually all employees will participate in these sessions. “It can help employees understand where they can make a difference in business,” Rose said.

Sometimes, building teamwork requires a different approach. Rose credited Ray Odom for leadership in sponsoring the new “experiential ropes course” for all employees, designed to build interpersonal skills and teamwork. Teams of employees venture to a wooded area of the plant, where they face the challenge of 66 various “initiatives” such as being asked to figure out how to get everyone in their group over a 12-foot wall. Managers for several years have participated in such types of events with excellent results. Odom felt that all employees should have the same experience. Rose pointed out that other major companies such as Eastman Kodak and Saturn Corporation have developed courses on site for their employees.

And there are more measures being tried on for size. Team members are rated by their peers and “partners” at different levels in the company. Engineers may be reviewed by fab teams, as part of their customer-supplier relationship. It’s all designed to encourage the idea that everyone’s in a service organization.

Among the “lessons learned” here, according to Rose: Step-by-step teaming definitions, awards criteria, and other means of providing structure, measures, and feedback are essential to teamwork. “We would never go into teaming now without some kind of structure so that everyone is singing from the same hymnal,” he said. Standardizing the training at Palm Bay also has proved useful; they’ve experienced problems when different people go to different seminars and come back with varying ideas about what it means to implement teaming. Speaking the same language throughout the organization is beneficial to the success of the transition to a new team-based culture, Rose said.

Looking to the future, Odom has identified several tools to boost SDWT success: integrated yield management, Total Productive Maintenance, Failure Mode Effect Analysis, and theory of constraints. Rose and his staff are working on new training modules for these tools. After all, a team is like a mechanic—they are only as good as their tools.

1. Employees at Harris Semiconductor in Palm Bay, FL, manufacture discrete semiconductors and integrated circuits for analog and digital signal processing and power applications; there are two other plants in the Semiconductor division, in Finley, OH and Mountain Top, PA. Parent firm Harris Corporation focuses on four major businesses: electronic systems, semiconductors, communication, and Lanier Worldwide office equipment; its worldwide sales total more than $3 billion. Harris Corporation has approximately 10,000 employees worldwide; about 2000 people are employed at Palm Bay.

Acknowledgment: We want to acknowledge the contribution of OSW Cornerstone Associates, Canton, CT (860/693-9386; e-mail oswcornerl@aol.com) in the development of the article, “Visible Pull Systems.” The pull segment of improvement was executed under their general direction.

Ed Rose