

Re-Making Furniture Making at Hickory Chair Company

Their "secret weapon:" employees.

Deborah Porto and Michael Smith, PhD

Imagine that you are "the sales guy" for an old business in an even older industry. Imagine that you have watched as many businesses in your industry have either gone bankrupt or taken their operations offshore.

Now imagine that the company president suffers a heart attack and dies suddenly. He knew about operations, and you have never worked in the plant at all, but you suddenly find yourself the new president. You begin to assess the situation, and quickly determine that the organization is in declining health. Sales are falling, and you know that something must be done. Your colleagues tell you that you cannot continue to make your product in the United States.

In Brief

Can a traditionally-managed furniture manufacturing business turn itself around to meet global competitors? How can a company's employees be engaged as a "secret weapon" to build critical performance improvements into a long-term cultural change process? This article reflects Hickory Chair Company's continuing journey to become a successful collaborative, team-based organization with laser focus on customer needs.

Everyone knows that it can't be done here. Everyone is taking their production offshore. For you, such failure is not an option, but where will you find the resources and knowledge to make it work?

While you have only imagined this situation, we are describing the reality that faced Jay Reardon when he became president of Hickory Chair Company in Hickory, NC seven years ago. You will read how he discovered the resources within himself and the employees to not only turn the company around, but also enable the company to keep operating in the United States. Jay Reardon has expressed his desire to contribute to success in other organizations in agreeing to share his experience and access to the people and operations at Hickory Chair with us, so that we can describe what we found to the readers of *Target*.

The Reality

The improvement path has been long and difficult, but profits are up significantly. Sales in 2005 were 14 percent higher than in the previous year, and delivery times are down to between 14 and 21 days from six to eight weeks. Savings from improved

Hickory Chair, A Brief History

In 1911 the Surry Chair Company was purchased by a group of investors and relocated to Hickory, NC where it became the Hickory Chair Manufacturing Company. The Surry Chair Company's motto was "Chairs Made Better Than Seems Necessary." The new company adopted this philosophy and expanded the assortment quickly from just dining chairs to all types of chairs, rocking chairs, and sofas. It became the first residential upholstery manufacturer based in Hickory.

The Hickory Chair Manufacturing Company merged with two other companies, Martin Manufacturing Company and the Hickory Furniture Company during the Depression, their combined strength enabling prosperity during this difficult period. The Hickory Chair Manufacturing Company also pioneered the marketing of reproduction furniture during the 1930s. After an antique English spool bed was found in the home of Dorothy Robinson, a descendant of Henry Weidner, the first settler in the Catawba Valley, the company developed the successful Dorothy Robinson collection with this bed and an accompanying suite of furniture. Its tradition of antique reproductions and adaptations had begun.

During World War II, most furniture manufacturing was eliminated to support war efforts. In 1941, the Hickory Chair Manufacturing Company negotiated for the rights to manufacture and market reproduction furniture under the James River Plantation license. Plantations along the James River in Virginia, the homes of early presidents and other prominent families, were filled with fine 18th century furnishings. Although the collection was not manufactured until 1943 because of war restriction, it became the oldest and largest collection of 18th century mahogany reproductions in America.

After the war ended, Hickory Furniture and Martin Manufacturing became Hickory Manufacturing Company and the Hickory Chair Manufacturing Company became Hickory Chair Company. Hickory Chair Company manufactured dining chairs and upholstery and purchased its James River Collection wood products from the Hickory Manufacturing Company. This relationship continued until 1967 when the Lane Company purchased Hickory Chair Company.

Hickory Chair reissued the James River Collection to celebrate its 50th anniversary in 1961. Mrs. John F. Kennedy's announcement in 1962 that the White House had undergone a massive restoration and that period furnishings would be acquired to return the historical appearance of its rooms spurred demand for antique reproductions.

The Lane Company began manufacturing the James River Collection for Hickory Chair Company in 1968. In 1982, Hickory Chair opened a wood products factory to manufacture its own case goods (helping the company to improve quality and expand its offerings beyond the James River Collection).

Hickory Chair Company facilities (factories, warehouse, office, and showroom) encompass nearly one million square feet. Located in Hickory, NC, the company is now owned by Furniture Brands International (the largest furniture corporation in the world, publicly traded as FBN).

Hickory Chair has a staff of over 450 non-union skilled craftsmen. Its product selection ranges from 18th century mahogany reproductions to Romantic furnishings and casual furnishings in addition to designer collections by Thomas O'Brien, Mariette Himes Gomez, and Alexa Hampton.

Note: This description is drawn from the company's website www.hickorychair.com where additional company information and its products can be viewed.

business processes have meant that in spite of rapidly-increasing prices for materials and services that Hickory Chair purchases, they have not had to increase prices in more than four years.

The success at Hickory Chair contrasts sharply with the general performance of the furniture industry. The news in North Carolina, traditionally one of the major centers for furniture manufacturing, has been full of stories about plant closings and lay-

offs in the furniture industry. As awareness of the changes at Hickory Chair has spread, it has created a buzz among furniture companies and other manufacturers. We have repeatedly been asked, "What is happening over there?"

Jay Reardon explains that the company is doing EDGE (Employees Dedicated to Growth and Excellence; see the box, "Employees Dedicated to Growth and Excellence [EDGE]"). He continues that it is

Employees Dedicated to Growth and Excellence (EDGE)

Originally EDGE was a program:

- Employees were asked to identify problems
- The EDGE Steering Committee determined the priority of the problems to fix
- EDGE teams were created and they found root causes and proposed solutions
- The EDGE Steering Committee determined what suggestions would be implemented
- Employees applied tools such as Kanban.

Managers as well as all employees learned from experience and had a key realization:

- People are the most valuable component
- Only people are capable of learning, creating, and problem solving
- Only people are limitless.

Today EDGE is:

- Attitude, a way of thinking, constant change for the better
- Organizational change
- Development of a culture that continuously improves everywhere, everyday
- Creating an environment that strives to make every process the most efficient work flow considering safety, quality, quantity, and cost
- Culture focused on the customer first — both internal and external
- Factory and office applications
- Next person in line is the customer
- The supplier adds value
- The dealer adds value.

EDGE teams:

- Use data to focus on the real cause of a problem and make the best decision
- Ask directly for employee ideas.

not the popular "lean manufacturing" or the renowned Toyota Production System (TPS). Instead, "It is the Hickory Chair business system," he said. "It is a business system that engages employees to make their work safer and easier so that our customers can be sitting comfortably in their chair or sofa they order in their house." Related performance improvements include shorter cycle times, reduced waste, higher quality, and faster product shipment. (See employees in various work areas in Figures 1, 2, 3, and 4.)

While Hickory Chair's success in the face of substantial bad news would appear

to present unbridled opportunity, such industrial decline presents challenges, even for the remaining successful firms. As furniture manufacturing has moved offshore, Hickory Chair has become concerned that they may not be able to continue obtaining the high-end metal hardware that represents an important contribution to the perceived value of their furniture from local suppliers. When the market constricts, important suppliers face critical business challenges, and this is but one of many trials that may face successful companies in declining industries. For Hickory Chair, and others in similar positions, there is need for a healthy manufacturing sector and vitality in their respective industries in order for them to sustain their success (one reason for sharing on the part of successful organizations).

Taking a Closer Look

We decided to document their improvement because changes in how they work and think have led to outstanding performance. The challenges that Hickory Chair has surmounted are starkly evident in that the furniture manufacturing industry has drastically reduced manufacturing capacity in the United States during the seven-year period that has seen Hickory Chair's resurgence. (See the box, "Industry Context of Improvement at Hickory Chair Company.")

We sought to understand how and why Hickory Chair had such performance improvement while others in the industry retreated and hunted for solutions based upon cheap labor in other countries. This article represents our synthesis of some of the reasons for their success, presented in the hope that it might help to embolden other manufacturers, above all other furniture operations, to take the steps necessary to successfully improve the performance of their operations.

We expected "lean manufacturing" to be a part of the answer, but when we toured the manufacturing plant and talked with the employees we saw more than what we expected. At first we saw clean and color-coded work areas with orderly

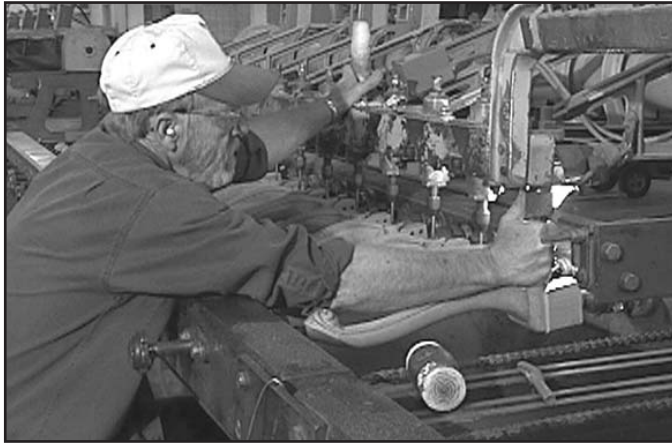


Figure 1. Vance Snyder, a Hickory Chair Company carver.



Figure 2. Finish operation; Bobby Michael is shown.



Figure 3. Hand-painting furniture; pictured is Lynn Killian.

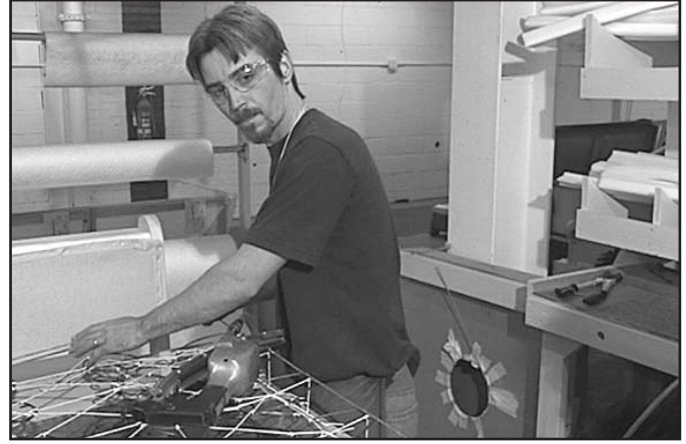


Figure 4. Johnny Davis in the spring operation.

Industry Context of Improvement at Hickory Chair Company

Hickory Chair Company is part of an industry that has long been an important part of the economy in North Carolina. Data from the Employment Security Commission of North Carolina (ESC) indicate that employment in the type of furniture manufacturing conducted by Hickory Chair accounted for approximately seven percent of manufacturing employment in the state in 2000.

In recent times, furniture manufacturing has increasingly been sacrificed to furniture importing, so that Hickory Chair's success as described in the article is notable at a time when the industry and manufacturing generally have fared poorly. Based upon employment data available from the ESC, in 1990 there were 69,580 people employed in manufacturing household/institutional furniture in North Carolina. By 1997, the year in which Jay Reardon became president of Hickory Chair, there were 58,544 people employed in such manufacturing, a decrease of 11,036, or 15.9 percent in employment. Between 1997 and the first quarter of 2005, employment in manufacturing household/institutional furniture saw an additional loss of 15,637 jobs, a decline of 26.7 percent relative to employment for 1997, and a cumulative reduction since 1990 of 38.3 percent. This loss in employment in furniture manufacturing has taken place against the backdrop of tremendous losses in manufacturing employment overall, down by 229,616 jobs between 1997 and the first quarter of 2005 in North Carolina, according to ESC data.

tools and materials. We saw well-organized wood, frames, sewing, and upholstery work areas with squares painted on the floor indicating what and how much should be there. More extensive study revealed that the reasons for success lay deeper than these first impressions. Success was not rooted in the tools and techniques of lean manufacturing, as such. When we looked closer we saw people laughing, talking to each other, and teams working on improving their processes. The inanimate objects we saw at first are what many people understand "lean" to be. However, those inanimate objects are really just the result of the spirit and drive among employees to improve how things are done at Hickory Chair. So we wondered if they aren't doing "lean," what are they doing? This is what we set out to understand and share with other organizations.

The term "lean" was coined to describe the physical processes researchers observed at Toyota.¹ TPS, a system combining philosophy, management, and people, has been written about extensively,² but it has not been applied as successfully at other companies. A large industry of consultants has developed to provide their interpretation and experience of lean, for a fee. We believe that Hickory Chair has captured the spirit of TPS, not simply applied lean tools.

Hickory Chair's initial attempt at implementing lean was to hire an outside consultant. The consultant did some process mapping and told management what improvement steps were needed. He did not explain to the production employees what he was doing or how he was doing it. When the consultant left, a newly-hired supervisor who had experience with lean manufacturing started working with employee teams on improvement projects and training all employees on the basic concepts behind EDGE. The early results were small spot improvements, but the results grew as more and more employees were involved.

Hickory Chair made the critical realization that organizational change was

needed and that without this change, "lean tools" would not work. Reardon insisted that managers must first change from a traditional top-down management style and instead act as leaders, coaches, and supporters. Improvement momentum did not increase until a high degree of employee involvement was achieved. The new outlook required persistence and a willingness to learn from trial and error, fed by enthusiasm for improvement. The focus would be on "what we should do" instead of "what we can do."

One method for comparing the essence of what Hickory Chair is doing compared to various "lean manufacturers" is to put what you see and hear through a people filter. Pour all the activities, reports, and projects through the filter and only actions involving people pass through. At Hickory Chair, most of what they do would pass through. Actions that involve people are what make the difference here.

Originally, EDGE was a program where formal teams were chartered by an EDGE steering committee. However, the management team came to realize that this formal structure limited the implementation of new ideas for improvement. As the organization took ownership of the concepts and processes, EDGE became more of a philosophy of values and how work was done, driven by employee concerns than a standard process. Today there is formal chartering of teams when issues and anticipated changes extend cross-functionally. Control for changes within departments rests with the departments, and such teams may consist of just several employees directly involved with the immediate issue. Finally, the least formality exists at the level of changes in processes at the personal level, which are dealt with individually in many cases.

Today, many formal teams actually function primarily to train the next group of team leaders, who in turn enter their work areas to implement the more informal processes described here. Reardon notes that by removing a top-heavy controlling system, Hickory Chair is now able to see

continual improvement occurring all over the organization at a rapid pace. Creativity cannot be controlled into existence, and with the release from control, all the members of the organization are positioned to contribute innovation. The key to avoiding chaos, according to Reardon, is that respect must be present throughout the organization. Thus, an individual or team that is considering a change in a process that may affect others will consult those potentially affected as a matter of respect. The employees, as we describe below, have translated this respect into consideration of other employees as neighbors.

What We Observed: the Role of Leadership

Both the criteria for the Shingo Prize and Malcolm Baldrige National Quality Award Program Criteria for Performance Excellence place heavy emphasis on the role of organizational leadership in initiating and sustaining organizational excellence. From this perspective, it was clear that we needed to explore the role of leadership in the transformation at Hickory Chair Company. What we found was that Jay Reardon displayed an awe-inspiring degree of intensity and focus on sustaining and improving his company (and the furniture industry), while serving his customers and employees. Our experience with Reardon suggests that he is a sensitive, intuitive, and driven individual with a high moral code. In our interviews, we found sources of his driven approach to his work and life in his sense of right and wrong, and of responsibility to family, employees, and the community. He talked about the importance of respecting local mores, a potential source of his concern about doing things in ways that were both right in a broad sense and correct for his industry, his community, and his company. As will be illustrated by examples presented later in this article, everyone from senior management to employees in all functional areas continue to build leadership skills.

Before becoming company president, Reardon was a self described, "sales guy"

and did not know what to do in manufacturing. As the new president, he did two very important things: 1) He asked employees for help and 2) he started experimenting with different improvement ideas.

Reardon read articles and books about what other successful companies were doing to improve, and noticed that many of those companies mentioned work based on TPS. He sought out and met Hajime Ohba and his team at TSSC, Inc. (originally the Toyota Supplier Support Center, information available at www.tssc.com). Ohba is known and respected worldwide for his efforts to assist organizations where the leadership is prepared and willing to learn about TPS and apply TPS principles to their own situation, a description that readily fit Reardon. In Ohba, Reardon found an advisor who generously provided help and advice, enhancing improvement work at Hickory Chair.

However, in our study, we found consistent evidence that the team at Hickory Chair did not simply adopt external methods or wait to be told what to do. Instead, they learned by trying and experimenting. They did not implement TPS, but developed their own approach, assisted along the way by the pointers, experience, and road signs offered by TPS, as presented by Ohba.

One indicator of this personalization is that Hickory Chair employees developed EDGE as their method for engaging employees in continuously making their work safer and easier. Orientation materials for new employees point out that when all employees adopt and use EDGE principles (such as being an active participant in identifying and solving problems in their work areas), they continually develop new ways for making furniture so customers benefit by receiving their furniture order, customized to personal preferences, in less time. We found that the Hickory Chair business system brings a clear focus to meeting customer needs and desires more quickly, at lower cost by making work safer and easier for the employees.

EDGE-inspired results are evident in both the administrative and manufacturing areas. Customer service employees, for

"Believe in your heart the potential of your employees and you will achieve great things from your employees."
Jay Reardon

example, identified their problem of not always having information to answer customers' questions. The lack of information meant that they had to research the requested material and then call the customer back, which slowed down the customer's order. To improve this process, customer service employee training was enhanced, so that these employees now answer 94 percent of customers' questions during the first call.

Another example of the EDGE process is in the finishing area where the final stain is applied to the wood. Changing from one finish to another involved cleaning, loading, and resetting the finishing equipment. An employee in the area had the idea that the finish area should be like a soda fountain where the finish, like Coke or Dr. Pepper beverages, were always available at the touch of a button. The finishing area was rearranged so that the common finishes were always available and no changeover was required. This modification helped to bring the work in process (WIP) inventory down and allowed more flexible color options.

The multiple floors of the manufacturing plant present challenges to communication and product flow. Furniture frames are assembled on the floor below the upholstery area, and initially there was limited communication between the two departments, resulting in hundreds of wooden frames sent up to upholstery staging and manufacturing areas. The frames were scattered in large bunches, cluttering the upholstery area. An EDGE team identified this as a problem to implementing sequencing and created a simple signal to request the next frame, pulling a string that turned on a light bulb overhead the upholstery station making the request and in the staging area, indicating that another frame was needed. A material handler looks for the light, retrieves the next frame, and puts it in a designated area in front of the lighted upholstery employee's work area. The employees emphasized that in this example, it isn't the light that is important, but the process that was invented.

The EDGE process is not limited to

employees inside the company. Hickory Chair dealers are invited to attend the "Hickory Chair University" at the manufacturing plant. At the one-day session, the dealers meet the management team and supervisors, learn about the company philosophy, meet the employees, and observe how the furniture is made. Before the factory tour, the tour guide invites the group to participate in helping Hickory Chair attain the national safety record for the furniture industry by wearing safety glasses. Hickory Chair takes this opportunity to ask the dealers directly, "What is your dream of how Hickory Chair could double your business?" Responses at the session we attended included providing larger stained finish samples to better see the stain color, a brochure to explain why veneer is more ecological than solid wood, design and offer more small occasional tables, and make a video to show end customers how the furniture is made to emphasize the craftsmanship of furniture built in the United States. The dealers discussed what impressed them after the factory tour. They mentioned that Hickory Chair was minimizing lot sizes to increase volume (different from competitors), the simplicity of light signals versus computerized scheduling, the courage to give employees the freedom to make improvements, the fact that quality is enhanced at every work station rather than at the end of the line, and the impression that no one in Hickory Chair would ever say in response to a problem, "That is not my job." The dealers also expressed the idea that what they observed at Hickory Chair would encourage other furniture manufacturers not to give up on manufacturing in the United States. At the end of the day, Reardon summed up the company philosophy to the dealers as, "Believe in your heart the potential of your employees and you will achieve great things from your employees."

In the next section, we look at how an organization can initiate change like what we have seen at Hickory Chair. In particular, we examine the extent to which leadership involvement is necessary for organizational transformation, and the essential elements

of such leadership for substantial sustainable transformation that yields new levels of organizational performance.

Learning to Lead More Successfully

Jay Reardon and his team have been working at transforming Hickory Chair for seven years. Our observations suggest that part of what makes the company stand apart from less successful organizational transformations, and lean transformations in particular, is the type and style of leadership in the organization. It appears that the commitment to improvement and disciplined focus on the customers and employees is more important to success than are the exact actions or their timing. Leadership needs to maintain and communicate a sustained desire to attain a clearly-defined organizational future. They also must intensely focus on the human relationships at the heart of the organization. Although there is no roadmap for success in remaking your organization, there are things that you can learn to help you lead your organization more successfully.

Whatever personal attributes Reardon brings to his role, for example, he would not be effective without *leading in a fashion that is genuine and unique to him and his situation*. Reardon's early experiences helped to form his leadership style. He may also have personality elements that provide a good foundation for leading in the way that we have observed. Our description of what has worked for Reardon at Hickory Chair does not represent a recipe to be followed, but instead suggests that other leaders fashion their own unique recipe for leadership. This leaves room for you, the reader, to shape your own means to lead and implement improvements. In fact, your leadership cannot be genuine without your unique leadership formula.

Caring about people, getting them involved, and seeking ways to make their lives better is another central focus of Reardon's conversations and activities. Reardon often notes that people skills and communication skills are extremely important to the transformation of Hickory Chair,

yet these skills are not adequate to accomplish the transformation. Instead, they must be genuinely applied to get people involved. This is an area where your background may make a difference in how easily this comes to you, but most people can work to develop better connections with people (in this case, particularly with employees and customers).

Effective connections with internal and external customers are critical. The best sales people can all tell stories about the lives of their best customers and what is important in the lives of those customers. Reardon readily recognizes the importance of connecting with and meeting the genuine needs of customers, but the same personal focus that helps him in the sales role also helps with his employees, the internal customers. Early in his career, he was an insurance adjuster. He recounted how at one point a family lost their pickup truck in an accident that also severely injured the daughter. The father wanted a new truck, but Reardon could see that the daughter was going to need extensive cosmetic surgery and medical care. His supervisor told him to settle for the new truck and nominal personal injury — a lower personal standard that led Reardon to a career change, and employment at Milliken.

At 27 years of age, Reardon became a driver at the Furniture Market for Mr. Milliken. In this role, he learned a great deal about how Milliken did business, and also added to his listening skills. *He learned to have confidence in people, and look to them for knowledge about how to make things better*. He also learned about how some people are mavericks, while others are trouble makers. In Reardon's description, the maverick does things differently, but without pushing too far. By contrast, the trouble maker may undertake similar actions, but fails to observe the limits of organizational and interpersonal tolerance. Thus, the maverick, as portrayed by Reardon, is successful in promoting change, where the trouble maker is viewed as an organizational pariah, which he sees as causing to be ineffective in implementing change. Reardon later moved into the furniture business and even-

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tually became the vice president of sales at Hickory Chair. When he was suddenly promoted to president, he realized he had a great deal to learn, so he called people within the organization together and listened to what they had to say. This approach set the tone for what was expected from the management team.

Looking to a broad range of sources for information also works well. As he began to work to develop his role with Hickory Chair management, Reardon instituted a reading program, finding books and readings that seemed to carry an important message for the business, and asking the management team to read and discuss the readings. In retrospect, not all of the readings pointed in the right direction, but the program served to emphasize a requirement for a sustained effort to find new ways to orchestrate the organization's work, and to underscore mastery of new thinking as a focus for the management team and the entire organization.

Reardon readily addresses the importance of *changing the style that many managers initially utilized in approaching implementation of new ways of doing work* at Hickory Chair. All managers, including Reardon, participated in 13 weeks of team-building training. He somberly admits that this effort was only partially successful. Underscoring the challenge of changing long-standing approaches, he noted that as more collaborative practices evolved, the company turned over about 70 percent of the managers. Among the turnovers at Hickory Chair were two vice presidents who set up battles between workers. Reardon initially tried to work with them, but eventually both of them retired. The human resources director also indicated an inability to make the necessary changes.

Such turnover is sobering, yet it is in keeping with experiences reported in other successful transformations. While the approach was different when Toyota and GM formed NUMMI, given that a termination and re-hiring process was utilized, 85 percent of the hourly employees from the old GM-Fremont plant were re-hired and almost none of the salaried employees were re-hired.³ The evidence available sug-

gests that the style and personality of the managers are critical to successful transformation.

While we believe that it is possible for anyone to *develop greater sensitivity to those with whom they are working*, a critical point is that such a change can only occur when the individual is genuinely committed to making such a change. Some people initially want to do so, and others may be willing to be led into non-traditional ways, but where managers actively resist such changes, termination may be the only practical approach. The central concern is that without leadership expressed through a management team displaying genuine concern for the employees of an organization, progress will be significantly hampered.

Reardon pointed to the *involvement of employees* as vital to successful organizational improvement. As noted above, their contributions are only leveraged when the proper management philosophy is present. One index of such presence can be seen in employee turnover. About four years ago at Hickory Chair, turnover was about 13 percent. Last year it was seven percent, of which voluntary turnover was about two-three percent. The difference is accounted for in part by a no-smoking policy that drove a number of people away, but this is seen as a safety issue.

We found it exciting to witness Reardon and other managers' connection to the employees. We saw it when they stopped and talked with employees and joked with them about getting the visitors to sell more furniture. Noting that respect can also be reflected through genuine interest in employees, wanting to know, "What is their story?" Reardon expressed disappointment when other corporate leaders seem unable to uncover the value in their employees. In this context, *the lesson with the greatest value is that your success is not dependent upon some magic ingredient from outside, but instead springs from recognizing the worth of those already in your employ.* Recognizing their value and communicating that their input is valued rests at the very heart of your success, but unless the message is heart-felt, do not

expect it to take hold. The leader must be able to tell a new story, but the story that you tell must include the story of the people upon whom your success will depend.

Sustaining the Improvement Momentum

To sustain improvement, Reardon and other managers needed to create an atmosphere of positive tension to keep a routine and pace of improvement. While they can describe the performance of the organization in terms of traditional data, we found that they also described decisions as being informed by walking the factory floor and visiting with customers. Intuition derived from contact with the work, workers, and customers was described as critical in establishing improvement targets, such as new goals for leadtimes.

Reardon noted that intuition (in addition to more routine measures) allowed him to take a more holistic sense of the system into account. That holistic perspective might be utilized to determine the extent to which the system could realistically be expected to improve some measured value, however. Another attribute ascribed to intuition was sensitivity to current situations; that is, "having your antennas up all the time" — to address individual concerns while looking to do the right things for those affected by the system.

Among the right things Reardon described is that we should be manufacturing in the United States: "We owe it to ourselves to make things here." He hates it when someone gives up, such as when organizations chase low labor costs. There is no end to cheap labor, he said. For example, furniture manufacturing has moved from Michigan to North Carolina, to Mississippi, to Mexico, and now to Asia in pursuit of low costs. "Can't we think of a better way?" he asks. "Can't we stay close to the market?" He explains that by being both close and responsive to customers, manufacturing at home is an opportunity.

The spirit behind attempts at organizational change directly affects their level of sustained success, Reardon believes.

Successful application of TPS concepts, for example, depends on an underlying spirit. As an example, if you are asking, "Why did I have to do those sit-ups?" after leaving your personal trainer, you probably did not get the fitness spirit, and only a list of things to do.

Likewise, the manager who directs that lean tools be utilized has missed the essential point. Those who grasp the underlying philosophy focus on improving the working environment of employees. Reardon described the proper emphasis as shop floor well-being, making people feel part of the environment, not a tool. He observed that you can't embrace inanimate words such as quality, cost, and delivery — the buzzwords of lean. Employees and customers want a personalized environment that meets their needs. Walking through the workplace regularly and frequently, an offsite recognition dinner, and active participation in EDGE closeout meetings are among the ways that company leadership draws personal connections between what the company does and the employees.

Path to Engagement of Employees: "Really Caring"

The path to engagement of employees has been supported by drawing on internal as well as outside resources. Although the management team had prided themselves on an employee focus, they decided to request a TPS facilitator from TSSC to work with the employees to enhance ongoing improvement activities. When the facilitator arrived, she introduced herself in a rather cursory manner, and proceeded directly to the plant floor. Although she was polite, her concern was the floor employees and their work at the point where value is added to the product by transforming wood, springs, and fabric or leather into chairs and couches.

Reardon noted that by her actions, the facilitator showed what, "Employees are our greatest resource" should mean. He learned that in spite of the management team's sense that they had made tremendous strides, they needed to learn the

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importance of a people focus in order to really improve their processes and improve customer satisfaction.

The TPS facilitator, for example, modeled people talk rather than talk about things. Her facilitation helped employees examine processes relative to the seven wastes (overproduction, waiting, transportation, the process itself, stock on hand, movement, and defective products)⁴ characteristic of TPS-based approaches and how she could help them make their work easier on the floor. For instance, in looking at a process that added six cushions to a couch that required lifting, she asked why the people have to lift six pillows rather than about how the six pillows are added to the couch.

The facilitator also encouraged participation by having the team members present their work at the end of each project. Each team member was required to share what they had learned with members of the management team (not by merely putting up slides). The facilitator encouraged full discussion, so that each member got credit for what they learned.

The management team saw through her actions that the facilitator "really cares about people. She showed the total focus on people by living the example," Reardon said.

Not everyone who hears of such concern with the welfare of employees perceives it in positive terms. Some executives have condescendingly referred to the Hickory Chair approach as a "kumbaya" style. Reardon pointed out that caring about the employees does not mean that business performance is sacrificed. Without being financially viable we can't be socially responsible, he said, but social responsibility is the process measure to achieve the financial viability.

Employee Reaction to Changes

We now turn our attention to employee reaction to the changes. Change has become standard at Hickory Chair. Perhaps one of the most visible reminders of continuous change can be found in the transi-

tion of the former expediting room to a continuous improvement room where teams could have a quiet place to meet. The conversion was plain for the employees to see as they walked by the room's large glass window on their way into the plant each day. There was a clear message that the work in the room has gone from picking up where the system has failed to making things so they work correctly.

We interviewed a number of employees at Hickory Chair in completing our study, including both managers and line employees. We found that people throughout the organization felt very positively about changes, and were enthused about their personal roles, as well as about their personal assessments about the future for the company.

We had observed substantial advances in organizational performance ahead of formally beginning our interviews. Employees were involved in improving work processes as part of their personal daily activity in organizing their work areas; work area formal and informal teams working on exposed problems of standardized work; and EDGE teams working on cross-functional problems such as sequencing; and the company was reaping the benefits. However, shortly before we began our formal study, a new TPS facilitator helped the leadership at Hickory Chair take employee involvement to a new level, and our interviews reflect employee responses following this intervention. Our description will focus on interviews of some of the initial participants on teams that are being replicated rapidly throughout the organization.

The facilitator worked with the Hickory Chair employees to demonstrate the spirit of TPS — all employees are capable and responsible for problem identification and solving. She first walked the production floor and then selected a team of two men and two women from different areas of the plant — upstairs and downstairs (Hickory Chair is in an historic building with multiple floors). While the facilitator selected the team members, their supervisor, Steve Parkhurst selected a

quality problem for the team to address.

The facilitator trained the team on the basics of waste identification and problem solving for one-and-a-half days. Her training material was simple — just a single sheet of paper with problem solving depicted as a funnel with inputs and outputs. She encouraged team members to see what was actually occurring in work processes and to discuss what they were witnessing.

The reader may want to compare this approach to the typical approach with large notebooks and extended training conducted in a formal classroom as part of many lean training programs. According to the employees who served on the EDGE team that worked with the TSSC facilitator, the facilitator immersed the team in work addressing real situations and had them base their work on personal observations. The focus was not on the impersonal, inanimate concept of waste, but forms of waste that created hard and awkward work (such as work that required lifting or bending) for people.

The team worked to solve the quality problem on the second day and presented their results on the third day to the senior management team. The presentation had many "before" and "after" pictures with explanations of the improvement on simple forms and an EDGE newspaper of follow-up items. The facilitator helped employees set up a problem-solving structure and expectations of employee roles, and also modeled a cadence of weekly problem solving. In the presentation on the work accomplished that week, each team member shared what they learned. The facilitator did not allow them to simply put up their slide in silence but encouraged them to discuss what they had learned. We found that the process modeled by the facilitator impressed the organizational leadership as a display of her sincere concern for the employees and energized the employees by engendering a sense of pride in their accomplishments. These themes are further elaborated in describing our discussions with several EDGE team members to learn more about their experience and reactions to the problem-solving teams.

Tim Causby was one of the four team members who initially worked with the TPS facilitator. He has worked at Hickory Chair for 23 years. A sense of pride in what had been accomplished was evident as Causby showed us the work of his team in resolving the initial quality problem. He said that what he was showing us was the work of the team, and that the facilitator encouraged and let the team have all the credit for their work.

The researchers, in examining what happened with this team, found that the situation differed significantly from what we have observed in some organizations where lean consulting groups are engaged. Often it appears in the final reports that the team is simply the supporting cast as the credit is claimed by the consultant.

Presentation skills, not often part of life for line employees, need to be developed in order for the team members to share their experiences. Causby described how the facilitator worked with the team to develop a presentation to management, and then required that each employee focus on describing what he or she had learned. While he said that this made him anxious, the presentation also helped him recognize that he could do something to fix problems, feel pride in his abilities, and motivate him to do it again.

Previously a team member, Causby next graduated to leading a team. He described how he modeled his experience with the facilitator by selecting his team members and getting another problem to work on from his supervisor. In addressing this problem, the team developed an approach that reduced the number of pieces of wood involved in a part where the upholstery meets the frame of a chair, improving the fit and appearance while simplifying production. This problem well illustrates the cross-functional nature of the projects the teams were tackling, involving workers from the wood and upholstery portions of the operations. From his perspective, Causby reported that the EDGE process and new teams were making a substantial difference in how he saw his work, since he was now involved in identi-

fying problems and getting them fixed, instead of just writing problems down for someone else to fix and then seeing the problems ignored and forgotten. He noted that he would not want to return to previous ways of working. He particularly credited Reardon for bringing change to the organization, noting that "Jay is a real human. He is here even on Saturdays. He makes us feel good."

The theme of a nervous start on the team was echoed when we talked to another team member, Mike Farley, who was also a department manager. Farley noted that he overcame nervousness when he saw what the team accomplished. Farley told us that there were plenty of problems to keep any number of teams busy, if not in his area, then in other areas of the plant.

Another employee emphasized the importance of the philosophy, noting that at a previous employer, the approach was to get the product out, even if there were problems. He described how at Hickory Chair the EDGE process gave them a way to fix problems now and prevent them in the future, instead of fixing them later.

Increasing Buy-in, Looking Out for Your Neighbors

Danny Milam, who has worked at Hickory Chair for 12 years, told us that the EDGE teams' improvements led to increasing levels of interest and involvement from employees who had not previously supported change. He said the facilitator had promoted this new state by showing team members how to see waste. Milam reported his pleasure as others around him started seeing the waste. He had worked on a problem that resulted from a specification change that was not adequately communicated to all the parties who needed to respond to the change. He described shock in learning of this, and pleasure when the team's proposed solution was accepted. Milam noted that he could see the extent of the new philosophy at Hickory, noting that he did not feel enthusiasm for the problem-solving teams at first but that "seeing what

I could do and that senior management listened" changed his mind. During his first team presentation, he said that he was sweating, "but senior managers listened to me and they took notes on what I said." At the end of the team's presentation, "Jay gave us the green light."

Milam's sense of what the teams are accomplishing shows in his assessment of where the company stands. He described Hickory Chair as the "top dog" in furniture, based on an assessment of his previous work experience and what he has heard from friends who work for other furniture manufacturers. He noted that Hickory Chair is promising short delivery times and doing it.

Milam echoed a theme that we previously identified in Hickory Chair's implementation of EDGE, when he described how continued improvements could be made if everyone just looked out for their neighbors. From his perspective, his neighbors were the departments before and after the area in which he worked, in contrast to a more typical approach the next process in line as a customer and the previous process as a supplier.

Paula Lowman has worked at the company for 26 years. She said that no one liked the changes at first. In the upholstery area, which had been paid on a piece rate (an incentive for rapidly producing good or bad parts), employees previously had been able to pick and choose work to maximize their money, but that had changed. She had not wanted to go to standard hourly pay, and working on items in order. She described herself as one of the most resistant to the change. However, she now acknowledged that quality suffered under the old system, and today she is an advocate for EDGE. She says that she could not return to working under the old philosophy, which she described as supporting a management approach captured in the phrase, "Keep your mouth shut and do your job." Her work with a team gave her a platform to go ahead and say things about her work area and processes that she had been thinking earlier.

Lowman told us that as she gained comfort with the EDGE process, and saw

Financial, Other Performance Improvements

- Sales are increasing by double digits
- Profits are strong without any price increases in four years
- Inventories are one-half of what they used to be
- Inventory turns rose significantly
- Quality performance improved.

Jeff Anderson, the vice president of operations at Hickory Chair, said the indicators used to measure their business success are "safety, quality, customer service, and continuous improvement:"

- *Safety*
 - Over seven million safe man hours, which is the industry record
 - Large decrease in the number of recordables (the number of times someone goes to the doctor)
- *Quality*
 - Significant decrease in returns and allowances as a percentage of sales
- *Service*
 - Parts bins 96 percent available
 - Fabric and leather 96 percent available
 - Upholstery cycle time of 14-21 days 96 percent of the time
 - Wood products delivery in two weeks or less 96 percent of the time
- *Continuous Improvement*
 - Setup reduction
 - Sequencing
 - Employee training.

The parent company, Furniture Brand, looks at revenue, cash flow, and return on investment across its different companies. Jeff Anderson points out that Hickory Chair's excellent financial performance is the result of achieving safety, quality, service, and continuous improvement goals.

He emphasized that Hickory Chair's business success is not from one area, but a combination of many efforts. He said, "The customer wants design, service, quality, and value. Hickory Chair is responding to what the customers want."

- Design — with new products made quickly with customization. With small batches so customer changes can be reflected in weeks rather than months.
- Service — continuously improving
- Quality — better than ever
- Value — no price increases in four years while at the same time design, service, and quality have improved.

"There will always be a place for furniture manufacturers in the United States that make customized products," said Anderson. "Some offshore furniture manufacturers have lower prices but not the quality and customization ability."

things improving, she realized that she could contribute to resolving long-standing problems. Now she is hearing from other workers about problems that they have, and realizing that these issues can be resolved, often by implementing relatively small changes (such as moving equipment or improving standardized work). Like others who we spoke with, she highlighted the work of teams across areas in the plant,

noting that she now feels like she can look at how work from other areas impacts her work, and she can also participate in trying to address how work done in her area impacts others. She said that she has come to appreciate how a small issue in one area can result in large problems elsewhere, expressing the theme we heard earlier about employees needing to take care of their neighbors.

Lowman described improvements that had been made as making for a more pleasant and better organized workplace. For example, in the past, upholstery material was spread out and poorly organized. She said that now material is organized and grouped "like a family."

In addressing how she became an ardent supporter of the change efforts at Hickory Chair, Lowman attributed the shift to the effects of seeing positive changes, feeling appreciated, and seeing persistence in making things better. She contrasted such persistence with the past, when improvements would start and then fizzle out. Today, she believes that the company is headed in the right direction, and that she can see this change through better organizational communication. She told us that she feels that senior management consistently treats people with respect, and shares information, including financial information, both the good news and the bad news.

Like another employee interviewed in the upholstery area, Lowman expressed the wish that the people part of the changes had come earlier. From her perspective, leaders can motivate employees to join in change efforts by getting to know the people who work for the company, getting to know the product, and then showing the workers that they are willing to help make things better for all employees and customers.

Accepting — and Questioning — Change

Clearly, things at Hickory Chair are changing, but one manager was very concerned that we recognize that things are not perfect. In her words, "We've still got ugly babies." She added that there is "not a single day that goes by that we don't change something."

Dramatic change has been difficult for various people within the organization. For some managers, change from traditional ways does not work well with their personality or mental models of how work should be managed. In some cases a manager's

inability to make the transition may require that they be moved out of the organization; in other cases the disconnect is not that extreme. In cases where there is enough movement toward accepting change, and the value that they contribute to the organization is great enough, disagreement may remain largely out of sight (although some individuals were willing to share their angst with outsiders). One manager we interviewed was not as optimistic as were the employees reported above, but he did acknowledge that Hickory Chair might not have remained in business without the EDGE-related changes.

Another indicator of the company's transition is in retrospective views of people who shifted their perspective. Many of the supervisors at Hickory Chair will now tell you that they can not imagine managing in another system. They have seen how much easier supervision is now, and would not like to return to the old ways of doing things. In our conversations with managers, we found that many of them were clearly imbued with this new spirit — evidence that the company's continuing improvement progress has gained broader acceptance.

As the transformation has progressed, the perspective on the need for external resources has changed. Initially, Hickory Chair relied on a number of "experts" hired from outside the firm. In some cases, these experts were recruited from firms where the transformation has proven far less durable than have the efforts at Hickory Chair. While these outsiders may have spurred movement in new directions, they brought with them a top-down approach to transformation. From the perspective of hindsight, Reardon can see the value that some of these outsiders brought to the early efforts, but he now recognizes the need to look internally to identify rising stars and start grooming them toward leadership.

Once again, this dawning realization serves to highlight that while help from outside may be useful, the ultimate challenge is to create a system that nurtures nascent talent within the organization and fashions a path that is unique to your

Comparison of traits associated with effective transformation efforts contrasted with the traits associated with unsuccessful efforts.

Effective	Ineffective
Genuine, honest and open	Situational
Urgency, based upon legitimate concerns about the business	Any crisis will do; a new crisis every day
Believes in people	Searches for "better people"
Driven to improve things, sets an example	Directs change
Knows that when things look great, there's more to be done	Proclaims success
Patient, but driven	A moving target
Knows that what matters is what the employees think	Looks to change behavior
Makes transformation unique to the organization	Implements programs
New thinking permeates the culture	Thinking is personality-dependent
Leverages assistance from outside to develop unique solutions; seeks alignment	Adopts approaches of outsiders -- What's the next wave?
Customer-focused	Business results-focused.
Delivers and sustained by results	Derailed in search of results.

organization. There is the temptation to look toward apparent successes in other organizations. Yet leadership needs to question whether "outsiders'" contributions will be useful for their own organization and can withstand the test of time. Even if such examples are found, their leaders may not be well positioned to nurture the embryonic community of internal leadership that would be best positioned to fashion your unique path.

Pride, and Believing in Employees

While the methods of leadership may appear soft, and indeed, they rely on soft skills, the results are anything but soft. The changes at Hickory Chair have had profound impact on the business. Last year they did \$62 million in business, and Reardon projects \$70 million in the coming year. His question is, "When will Hickory Chair reach the goal of \$100 mil-

lion in revenue?"

Other "hard" impacts were readily visible in our visits. For example, as we entered the factory, we passed through the storage area for raw lumber. A number of bundles of raw wood awaited processing. It was noted that they currently average about \$150,000 in raw wood inventory, which is down from about \$3 million in the past. Improvements such as greater efficiency, faster cycle times, reduced WIP, and smoother process flow, coupled with vigorous pride in accomplishment and the desire to keep making things better, was clearly evident everywhere that we looked.

Overall, a central theme is that of driving change by listening to people and helping them to figure out how to change things. In some ways, Jay Reardon is very much an orchestrator of a context in which others can engage in changing the system. Such organization-wide leadership emergence represents the only sustainable approach to fomenting continuous

Management needed and respected the employees. Management listened, took notes, walked the floor to see in person, and treated employees with respect.

improvement for your organization.

For some people the role of the orchestrator may be more challenging than for others, but we have come to believe that most people, if driven by a genuine desire to change their own thinking and behavior, can make the changes necessary to lead successful organizational change.

Tapping the Intellectual Capital of Employees

The feel of the Hickory Chair plant is different from many others where attention is drawn to the physical accomplishments like kanban cards and work cells. At Hickory Chair, our attention is drawn to the changes in people. The average tenure of employees is 10.5 years, so the majority of employees responsible for the transformation today are the same employees who worked in traditional ways. What has changed is the addition of a system that allows and encourages and respects the creativity of the employees. Hickory Chair's transformation is based on using the intellectual capital of their existing workforce.

Reardon expressed great concern that we should not over-state the role of his leadership in Hickory Chair's transformation, emphasizing that it is about the employees. He cautioned that charismatic leadership can be superficial (leaders either taking on the traits of a benevolent dictator or becoming a patronizing leader, expressing the belief that employees should be "involved," but only as long as the decision making stays with the managers). In some "lean" organizations, the departure of a charismatic leader reveals how all directives had been coming from the leader and the improvement responsibility had never been transferred to the employees.

Sometimes visitors to Hickory Chair remark about the company's successful transformation to a collaborative, employee-focused organization, adding that, "We can't get our people to do that." If they go back to their companies and discuss only the lean tools they had observed at Hickory Chair, they have overlooked and discounted the capability of their own people.

Hickory Chair employees told us how they felt about their role in the transformation. Their comments reflect the spirit of the company — a key to its success:

- Pride in their abilities, "seeing what I could do."
- Feeling that their ideas were important and appreciated. EDGE has given employees the opportunity to say what they had been thinking.
- Management needed and respected the employees. Management listened, took notes, walked the floor to see in person, and treated employees with respect.
- Optimism for the future of the company.
- Employees don't want to revert to the old way which was, "get the product out" and "keep your mouth shut and do your job."

A key accomplishment of Hickory Chair is capturing and developing the intellectual capital of the employees by developing a culture of respecting employees and giving them responsibility for identifying and solving their own work problems individually and in a team-based environment. The degree of employee responsibility and accomplishments, as well as their feeling of being respected by management and optimism for the future, make Hickory Chair employees shine. EDGE, as one employee said, "gave me the opportunity to say what I had been thinking ... and to do something about it." That spirit is hard to see but easy to feel.

Hickory Chair boosted employee responsibility by making all employees salaried and providing them with cross training. Furniture manufacturing is one of the last industries to make the change to a salaried workforce. Jay Reardon noted that when Hickory Chair went to salaried pay instead of incentive pay, they learned that "incentive rates were cancerous to quality." Piece rates were a barrier to enlarging employees' responsibilities to improve their work conditions and processes. A salaried work force can accept more flexible work assignments, Reardon said.

The company chose to build upon the new-found flexibility by making sure that all employees were cross-trained to do multiple

tasks in the completion of a particular component. In order to cross train, they developed visual and written standards for everything they make. The standards make variations and unusual conditions more visible so that employees can readily identify troublesome conditions and bring it to the attention of their supervisor or to their own EDGE team for improvement.

What has prevented most businesses from using the potential of their employees? What we learned from the example of Hickory Chair is that the senior manager's job is not problem solving but teaching, enabling, and encouraging employees to identify and solve their own problems.⁵ By better leveraging the problem-solving capability of their employees, the company can begin to address problems throughout the organization. The potential of this multiplier effect, conservatively 12 problems identified and solved per employee per year initially, is huge. The improvement rate accelerates over time as each employee becomes more skilled at identifying and solving problems.

Conclusion

Hickory Chair Company is transforming the way it does business. They have made many successful financial and strategic decisions, but their ongoing success has been enabled by something much less tangible. The leadership has inspired the employees to believe in the future of the company and in their personal ability to contribute to that future. Hickory Chair has built a foundation of people whose ideals and values contribute to success in manufacturing furniture in the United States. These attributes are then directed toward positive change through universal involvement in an internally-developed process for problem identification and solving. But in spite of early success, everyone we met at the company recognized that success in the future depends on their working together to build upon and grow the foundation that they have established.

Jay Reardon, his staff, and employees have been aided in developing EDGE by

their experience with TPS. They followed its spirit as they designed processes that were useful in making furniture. Jeff Liker writes in his book, *The Toyota Way*, about the spirit of TPS, "The more I have studied TPS and the Toyota Way, the more I understand that it is a system designed to provide the tools for people to continually improve their work. The Toyota Way means more dependence on people, not less. It is a culture even more than a set of efficiency and improvement techniques. You depend upon the workers to reduce inventory, identify hidden problems, and fix them. The workers have a sense of urgency, purpose, and teamwork ..." ⁶ This description applies to Hickory Chair and EDGE.

Much of the literature on how to implement lean manufacturing discusses tools and their application. The organizations most successful at transformation have designed tools that fit their specific needs and have not force-fit lean tools to all situations. The development, dissemination, and standardization of lean tools may be the visible portion of a lean transformation, but they are dependent on the more invisible foundation of establishing a culture among the organization's people to support new ways of thinking. We believe from our observations that this is Hickory Chair's unique accomplishment. They have developed a foundation of a people-based culture — respect, responsibility for problem identification and solving, and total integration into the methods of improvement. Without this foundation, initial gains from the application of tools will be temporary. Tools alone might provide brief symptomatic relief, but without new thinking based in a supportive culture, the tools do not support continuous improvement, and their use is not sustained. Ultimately, the use of lean tools without leadership-spurred cultural transformation appears doomed to fail.

Employees are Hickory Chair's "secret weapon." This is also the secret weapon that every business already has, and deployment does not require a search for either capital or new employees. What is required is the persistent, energetic, and

But in spite of early success, everyone we met at the company recognized that success in the future depends on their working together to build upon and grow the foundation that they have established.

disciplined pursuit of a new way of thinking grounded in ideals, values, a vision of the future, and good storytelling ability to unlock and use the skills of your existing employees.

"You've got to have faith in people. The creativity of our employees has been there all along," said Jay Reardon. "As we gained momentum with our improvement projects and recognized our employees' early successes, more of our employees have become involved and developed great ideas for even more improvements. Hundreds of little things are better than one home run. We see this as a continuing journey. As you achieve each new threshold, it gives you perspective about new opportunities."

Deborah Porto is the director, applied research, Industrial Extension Service, North Carolina State University in Waynesville, NC; she can be reached by email at deborah_porto@ncsu.edu.

Michael Smith, PhD is an assistant professor of management and international business at Western Carolina University in Cullowhee, NC; email at mesmith@wcu.edu.

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