

MALCOLM BALDRIGE NATIONAL QUALITY AWARD

A Recipe For Excellence

by **Susan E. Daniels, associate editor**

The Bama Companies' 2004 Malcolm Baldrige National Quality Award[1] is based on a recipe that includes building quality at all levels, developing and maintaining long-term relationships with customers and suppliers, giving back to the community and committing to employee well-being.

In 50 Words Or Less

- **The Bama Companies' recipe for excellence was cooked up in a Texas kitchen 78 years ago.**
- **Today Bama makes frozen, ready-to-use flour based products for casual dining and fast food chains.**
- **A guiding principle of consistent quality led Bama to a Malcolm Baldrige National Quality Award in 2004.**

The recipe was first developed in the Texas kitchen of Cornillia Alabama "Bama" Marshall in 1927. Her pies were so tasty people used to line up on the sidewalk, waiting to buy a slice, outside the soda fountain in Texas that sold them.

In 1937, Bama's son, Paul, and his wife, Lilah, moved to Tulsa, OK, where they started a pie making business.

Today, the Bama Companies Inc., a third-generation family owned business, makes more pies in a day than Bama Marshall could make in a lifetime. The three main products are frozen, ready-to-use handheld pies, biscuits and pizza crusts for the quick service and casual dining restaurant business and family dining chains.

Bama's quality processes include:

- Its own proprietary Business Opportunity Management Process (BOMP).
- Six Sigma and Deming philosophies to ensure quality innovation.
- Product development that provides customization for each customer.
- Continuous improvement throughout every product's life cycle.

With more than 1,000 employees and revenues of more than $200 million, the corporate office and



END OF THE LINE: At the Bama frozen dough plant in Tulsa, OK, 120 frozen pies are put into each box prior to shipment.

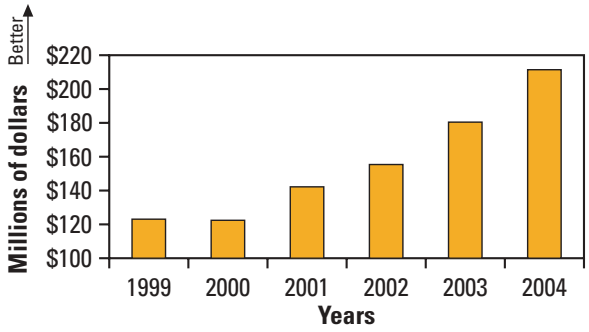
four production facilities are in Tulsa, OK. Embracing the global economy, Bama opened a production facility in Beijing, China, in 1993 to serve the Asian market needs of its largest customer. A second facility was opened in Beijing in 2004 to support growing business needs.

A Statistical Look

Bama's recipe has led to some pretty amazing statistics:

- In the overall frozen baked goods industry, which has remained fairly flat since 1999, Bama's sales increased 70%—from $120 million to more than $200 million (see Figure 1).
- Sales from new products as a percentage of overall sales have grown from less than 0.5% in 2000 to 25% in 2004.
- Using BOMP, sales per employee have gone from $175,000 to $205,000, exceeding the *IndustryWeek* magazine benchmark by $40,000.
- The focus on productivity improvements through such methodologies as Six Sigma has saved the company more than $17.3 million since 2002.
- Employee satisfaction rose from seven (on a 10-point scale) in 1999 to eight in 2004, and employee turnover has been well below the Tulsa area's average since 2001.
- Since 2000, Bama has had 100% compliance to the hazard analysis and critical control point food safety system—in fact, it has had no safety, health or environmental violations in that same period.
- Overall customer satisfaction for the company's national accounts has increased from 75%

FIGURE 1 Total Companies' Annual Revenue

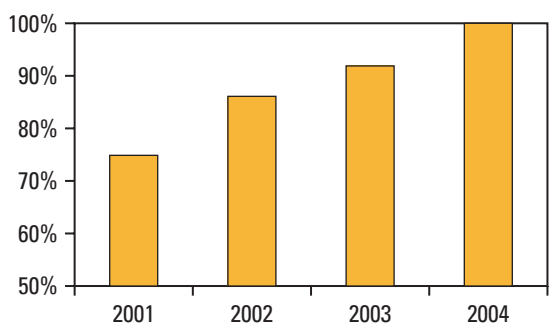




PIE SHELLS: Jo Jo Parkinson makes sure containers move smoothly on Bama's graham line, which supplies ready made pies to grocery stores.

in 2001 to 100% in 2004, far above the food manufacturing benchmark of 85% (see Figure 2). Bama's customers include national chains whose names are iconic to the restaurant industry.

FIGURE 2 National Accounts Customer Satisfaction Survey



An Evolving Effort

From the very beginning and continuing until the present, a guiding principle for Bama has been consistent quality. Third-generation CEO Paula Marshall-Chapman has enhanced that tradition as an avid reader of books offering challenging ideas about all aspects of business improvement.

After attending a W. Edwards Deming seminar in 1989, she began introducing his concepts into the organization and implementing the Bama quality management system. By the early 1990s, she made reading about Deming's philosophies a requirement for Bama management, with all management level employees required to attend a series of Deming classes Marshall-Chapman teaches every year.

The 1990s saw continuing evolution with a change in the company's culture to a principle centered one based on Stephen Covey's *Seven Habits of Highly Effective People*.[2] The Baldrige performance excellence model then became the way to increase organizational awareness of doing the



Applying for the Baldrige Award

by **Glenn Bodinson, B&A Performance Partners**

Alan Vanderburg, Bama's training manager, had positive hopes about the company's application for the 2004 Baldrige award.[1]

In past years, Bama had written applications for five Baldrige awards, one state quality award and three Baldrige criteria based customer quality awards. In fact, by the time he and Vicki Adams, from Relations Inc., attended the 2004 Quest for Excellence Conference, where the previous year's winners presented workshops on their achievements, they had already completed a draft of the 2004 Baldrige award application.

With five weeks to go before the deadline, Vanderburg thought the application was in good shape. His optimism quickly faded at the conference as he and Adams realized the process was more complex than he had thought.

He asked 2003 recipient Stoner Solutions for advice, and Stoner recommended bringing on a coach—me. (See the May issue of *Quality Progress*).[2]

The first critical decision was to toss the original draft and start fresh, focusing on strengths and what made it a role model company so the examiners would understand Bama's story better. We then wrote the organizational profile to focus on what was key to Bama, its customers and suppliers.

"Our strategy for focusing and aligning the application was linked to our five strategic outcomes," says Brenda Rice, Bama senior vice president. Adams already had buy-in from senior leaders, but now it was time to get them more involved preparing responses to the Baldrige criteria.

The next few weeks were a whirlwind as the team attempted to accomplish in weeks what normally takes months. Key processes had to be described the right way.

Templates developed by B&A Performance Partners were used to identify and create tables and charts. Adams took input from category teams and wrote a new draft, which then went through a rigorous review and improvement cycle.

Even as the application was being written, the team began preparing for site visit training because there's really not enough time to prepare if you wait until being notified of the visit.

Mike Frihart, a Bama Six Sigma Black Belt, had written the application in prior years. When asked what made the difference in 2004, he replied:

- "Getting senior leaders personally involved in championing and preparing a category really improved buy-in and ownership.
- Using graphics made our application clear to the examiners and made the writing easier and more effective.
- We focused the application on our 'wow' story, and Adams used words that made it exciting and added sizzle.
- Using a Baldrige coach is like hiring a guide who knows where the big fish are. It saved us at least a year."

REFERENCES AND NOTES

1. A copy of Bama's Baldrige application summary can be found at www.quality.nist.gov.

2. Glenn W. Bodinson, "How To Prepare an Excellence Award Application," *Quality Progress*, May 2005, pp. 43-51.

right things while improving business performance.

Early on, Marshall-Chapman stated Bama's policy regarding the Baldrige award very clearly, however: "As we identified key initiatives and aligned individual goals with corporate goals, we used the rule that we should not do anything just for Baldrige. We would implement only changes that were good for Bama."

Forethought and Fire

The performance improvement system at Bama includes extensive use of a strategic planning and execution practice called the Prometheus process, which was created by John Warden, a retired U.S. Air Force officer.[3] Prometheus was considered the wisest of the titans in Greek mythology and was said to have created man and provided mankind with forethought and fire, allowing him to overcome every obstacle. Today, the Prometheus process is used to fuel high performing organizations.

"Bama uses Prometheus teams at the corporate, facility and department level to develop and execute action plans that align with organizational priorities and opportunities that are identified as part of the planning process," explains Mike Frihart, Six Sigma Black Belt (BB).

Bama's quality management system ensures key requirements are met in day-to-day operations, particularly in the areas of food quality and food safety. Methods used include:

- Statistical process control and systematic random sampling plans.
- Equipment maintenance, including regularly scheduled preventive maintenance.
- Preproduction checklists and microbiological

FIGURE 3 Boxplot of Product Strength

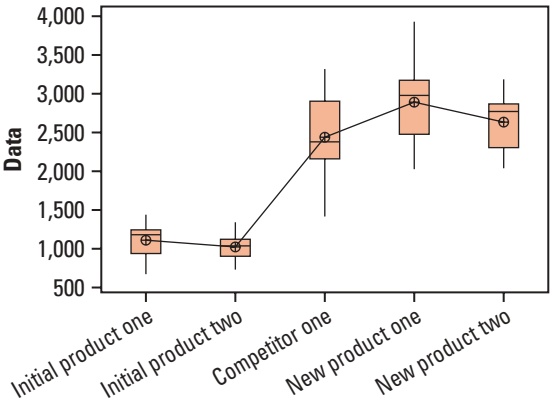
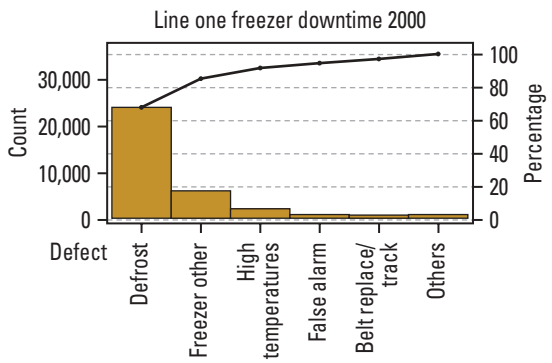


FIGURE 4 Six Sigma Project Example

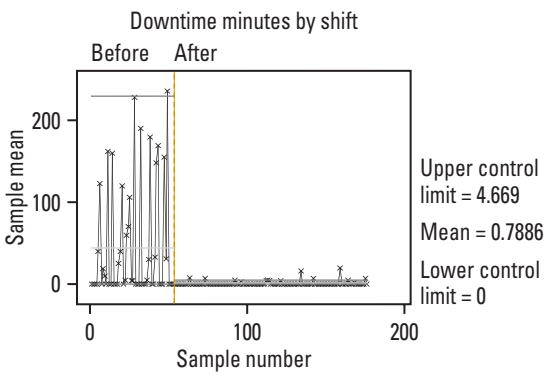
Key metric analysis—data mining



Count	24,005	6,081	2,306	1,008	967	1,008
Percentage	67.9	17.2	6.5	2.8	2.7	2.8
Cumulative percentage	67.9	85.0	91.6	94.4	97.2	100.0

FIGURE 5 Six Sigma Project Example

Key metric analysis—project results





READY FOR THE FREEZER: At the makeup end of the pie line at the Bama frozen dough plant, all the raw materials come together and are put into their final shape before being frozen.

tests to ensure production lines are prepared adequately.
- Sanitation practices, such as compliance with good manufacturing practices.
- Maintenance of lot traceability to comply with internal, customer and regulatory requirements.
- Automated monitoring of process temperatures.
- Design of experiment methodologies.
- Deming's plan-do-study-act problem solving approach.
- Quality function deployment processes for continuous improvement and control of costs associated with inspections and performance audits.

Six Sigma

When Marshall-Chapman became aware of Six Sigma in the late 1990s due to publicity enjoyed by organizations such as General Electric and Allied Signal, Frihart says Bama already had a culture that promoted the shared responsibility for quality in all that it did—not just delegating it to the quality assurance department.

By 2000, Marshall-Chapman had become convinced Six Sigma would provide additional focus and energy toward rapidly improving process performance and product quality while reducing operating expenses.

Six Sigma Champion training was conducted in late 2000, and by January 2001, the senior management team (SMT) had identified eight candidates—all managers, directors or VPs from different parts of the organization—for BB training.

While the number changes constantly, Bama currently has one Master BB, 11 BBs, 79 Green Belts and 81 trained Yellow Belts. BBs are trained externally, while the others are trained internally by the BBs.

Project Examples

Six Sigma projects have led to some impressive results at Bama. In one case, a customer was dissatisfied with a specific performance characteristic—crust strength. Frihart says, "We were charged with either matching new targeted performance level or losing a long-time customer."

The first step was to implement a measurement system to assess the baseline. After identifying the potential source of failure, we implemented a combination of reformulation and improved manufacturing methods.

"The result," says Frihart, "was that the new product performed better than the competitor's, and we reduced the defect rate on product weight from 0.5% to less than 0.00034%—greater than a 6 sigma performance level" (see Figure 3).

Cost savings from the various actions associated with the focus on this issue exceeded $150,000. More importantly, Bama was also able to keep a multimillion dollar account.



High levels of waste initiated a scrap reduction project at another manufacturing facility. Analysis of failure points led the team to focus on two specific areas, and multiple solutions were implemented, including equipment modification and operator training.

The results: The scrap rate was reduced by 40%, generating a bottom-line cost savings of more than $440,000. Frihart says the additional capacity gained represented a nearly $1 million contribution to direct margin (sales minus direct costs).

Figures 4 and 5 (p. 58) illustrate steps taken in other Bama Six Sigma projects.

Measuring What Matters

Bama's data warehouse system uses technology to integrate information from its various data sources to provide information for the balanced scorecard, Six Sigma and profit improvement team.

The system is based on defined customer requirements and helps integrate data and information for tracking daily operations and overall organizational performance. Its purpose is threefold:

1. To seek out information that has a direct correlation to progress or deterioration within a key strategy. The SMT, facilities and departments select information to be repeatedly validated and tested during quarterly Prometheus planning retreats and monthly balanced scorecard meetings.

   The balanced scorecard measurement system is based on the five strategic outcomes that are the principle areas of focus. The five areas and key metrics (called Paula's top five) associated with them are shown in Table 1.
2. To use the primary collection and alignment mechanism, Bama's balanced scorecard system, to ensure measurements are directly aligned with the five strategic outcomes.

   The SMT holds various support functions such as quality assurance, purchasing and finance accountable for data integrity, reliability and timeliness. These support functions collect and align usable and meaningful information.
3. To provide key information/reports from facilities and departments during weekly and monthly meetings. The SMT integrates these data into the decision making and innovation process.

If the review of information and reports is aligned with one or more of the five strategic outcomes and if there are any unfavorable or unusual trends, they are flagged for further investigation. If needed, a specific area of concern may be turned into a BB project or center of gravity (COG) or both.

COGs are components of a system's leverage points that exert a greater influence on the whole system than do other components. If you reach the desired effect of the COG, you change the system, explains Frihart.

Organizational level data analysis thus supports the identification of key improvement opportunities and allows the SMT to better allocate resources to achieve desired outcomes.

TABLE 1 Balanced Scorecard Example

Strategic outcome	Paula's top five measures
Create and deliver loyalty, prosperity and fun for all	Employee satisfaction
Learning and innovation	Six Sigma project delta (the average monthly progress in all open Six Sigma projects)
Continuous improvement	Six Sigma cultural assessment score (a monthly survey)
Customer focus	Across the counter quality—compiled from Bama and mystery shopper evaluation of our products purchased in restaurants
Value added growth	Operating income per pound

HR Focus

At Bama, there is a lot of emphasis on the Baldrige HR criteria. You may have noticed the first strategic outcome in Table 1 deals with people—"to create and deliver loyalty, prosperity and fun." The second outcome is learning and innovation.

Because Bama is a team based company, most of its employees are on at least one team. The culture supports individual responsibility and teamwork through such means as COGs and Six Sigma projects. The aim is to view work as a system in which



SEEKING EXCELLENCE: Twelve of the 17 Bama Companies staff members who attended the 17th annual Quest for Excellence Conference held April 10-13 in Washington, DC, are pictured. They are (front row, l to r) Bob Gordon, senior vice president, corporate services and special projects; Paula Marshall-Chapman, CEO; and Shelly Holden, director, business development. (middle row) Pam Winterscheidt, director, HR; Shirley Bailey, director, corporate purchasing; Vern Rathbun, vice president/general manager, Bama foods and corporate quality assurance; and Brenda Rice, senior vice president, sales, marketing and product development. (back row) Ted Easton, vice president, HR; Tony Rainwater, vice president/general manager, Bama Companies Inc. operations; Bill Chew, CFO, mergers and acquisitions; Mike Frihart, Six Sigma Black Belt; Monty Vanderburg, general manager, external manufacturing; and Randy Roark, senior director, engineering. Roark did not attend the conference.

everyone is both a customer and a supplier.

The Deming principle of not linking pay and performance appears to be generally ignored in today's highly competitive world, but that's not the case at Bama, which has used a Deming influenced policy since 1996.

The annual employee success discussion process is a positive feedback system that gives hourly employees and their supervisors the opportunity to discuss the employee's contribution to the success of Bama and to the future picture.

Frihart says, "We've separated pay and performance long enough that we have worked through most of the 'pain' associated with overcoming the traditional business paradigm that links a performance ranking system with the size of your raise. Our CEO's goal is to bring out the intrinsic motivation in people.

"Bama thinks linking pay with a performance appraisal outcome is a crap shoot in which it is rare for anyone to think they received an accurate rating," explains Frihart. "So how could they possibly get the raise they thought they deserved?"

Instead, Bama rewards performance through public and private praise or recognition, by giving people the opportunity to take on new challenges, roles or jobs, by sending people to specialized training to expand their skills and by then providing



opportunities for them to use these new skills through promotions from within.

The compensation philosophy is to pay employees at the market rate or higher base pay to attract and retain people. Also, since 2001, hourly employees have averaged $3,000 per year in success sharing and profit sharing when the company performance met or exceeded plans.

Bama elects to do business only with customers in its target market that share its philosophy of developing long-term relationships.

Customer Focus

Bama elects to do business only with customers in its target market that share its philosophy of developing long-term relationships. "We don't pursue any business opportunity strictly based on price alone, particularly if it involves annual bidding," explains Frihart. "While our long-term objective is to provide stable to declining prices for our products, we do not force our customers into this model. Instead we develop a customized pricing protocol that meets our customers' needs."

Frihart says for products that represent well over 50% of sales volume, Bama hasn't increased customers' price for eight years. "This is a result of our continuing focus on improving product quality, process performance and reduction of variation," he explains.

Bama says its long-term customers include the world's number one hamburger chain, pizza chain, Mexican food chain, casual dining chain and retailer.

Bama has received supplier awards from customers such as McDonald's (an award based on the Baldrige criteria) and Pizza Hut (supplier of the year and three consecutive years as innovator of the year).

Future Picture

In the increasingly important areas of nutrition and obesity, Bama has a goal that by 2007, 50% of its sales will be considered "better for you" as judged by its customers. This goal is a long-term strategic COG championed by Marshall-Chapman.

A few years ago, Marshall-Chapman said that by Dec. 31, 2010, Bama would have received the Baldrige award and be a billion dollar company. The former, of course, has already been accomplished. When you look at the rapid growth already achieved since 1999, the latter seems a distinct, albeit ambitious, possibility.

Bama's future picture statement continues, "As Bama expands its markets and product lines, it will offer all its stakeholders significant opportunity to grow, increase their personal wealth and be part of a pacesetting company. Its emphasis on its people—their well-being and their ability to help themselves, their families and their community—will become stronger with each passing year. The Bama brand—a brand that stands for quality, safety, taste, value and honesty—will be known around the world."

ACKNOWLEDGMENTS

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1. A copy of Bama's Baldrige application summary can be found at www.quality.nist.gov.

2. Stephen R. Covey, *Seven Habits of Highly Effective People*, Fireside, 1989.

3. John A. Warden III and Leland A. Russell, *Winning in FastTime*, Venturist Publishing, 2002, pp. 3-4.

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