

Engineers sought unique corporate culture

The problem: Too often, engineering projects run over budget and past deadline. That's what Billy Fulghum and Michael MacIndoe discovered after spending more than 20 years working together at several engineering firms. The results were less-than-happy clients and employees with unrealized potential.

Both Fulghum and MacIndoe realized that engineers received little, if any, business training in college. To overcome this lack of training, Fulghum enrolled in the University of Tennessee's Professional Masters of Business Administration program, which helped the partners refine their business plan and construct a unique engineering corporate culture that was different from other engineering firms they had known.

The concept: The two entrepreneurs created an engineering company based on lean principles studied in the Professional MBA program and commonly adopted by some of the world's most successful manufacturers.

Essentially, lean is a methodology for reducing waste and cost. Lean principles include specifying what creates value from the customer's viewpoint, identifying everything that contributes to the value of a product or service, facilitating the flow of information and products, supplying only what is needed by the customer and constantly pursuing perfection.

The concept for their company was to establish a competitive edge by effectively applying lean principles within their service industry. Their goal was an engineering team that was faster, stronger and more flexible.

The company: Fulghum and MacIndoe intentionally rejected benchmarking engineering firms as they structured their new firm. Instead, they studied successful manufacturing firms and entrepreneurial companies found in other industries. They interviewed potential clients to find out what they were looking for in an



Fulghum



MacIndoe

FULGHUM, MACINDOE & ASSOCIATES

Principals: Billy Fulghum and Michael MacIndoe

Founded: January 2003

Business: Engineering firm

Employees: 15

2007 revenues: \$3 million

Web site: www.fulghummacindoe.com

engineering firm, which was quality, speed and a fair price (although not necessarily the lowest).

The two entrepreneurs founded Fulghum, MacIndoe & Associates in January 2003.

The company works with local, state, regional and federal governments to develop and improve infrastructures and public services. It also works with private developers, architects and contractors to develop and redevelop property throughout the Southeast.

Since its inception, the company has grown to 15 employees and, by year-end 2007, \$3 million in revenues. "Our revenues per employee are 1.6 times the industry standard," Fulghum reports.

The solution: Several of the lean manufacturing principles practiced at companies such as Toyota, Wal-Mart and Nucor were applied to the company's engineering processes.

These include:

■ **Cross-docking.** No employee has a job title. There are no administrative employees, no departments and no draftsmen. All employees are cross-trained and assigned to jobs as needed.

■ **Lean principles.** "Delivering on-time and with no surprises" is the company's mantra. One example of the company's dedication to a fast-paced, paperless process is its refusal to own a copier. In addition, the pool approach to staffing eliminates bottlenecks on time-sensitive projects. The system is set-up to accommodate many people working on one project when necessary.

■ **Quarterly strategy meetings.**

The company's core values are reviewed quarterly to ensure goals are being met; adjustments and refinements are made as necessary.

■ **Weekly "lessons learned" meetings.** Every Thursday, project managers review the company's work load and allocate employees to projects. Every Friday, the entire company gathers, the work plan for the week is presented, and ideas are welcomed.

A unique corporate culture has developed at Fulghum, MacIndoe. Typical engineering firms are structured with departments, job titles and rigid job responsibilities. "Such is not the case at Fulghum, MacIndoe where human resources are 'pooled' and then 'pulled' as necessary based on the work load," Fulghum says.

At the end of each year, profits are divided among the employees. In 2008, the ownership aspect of the entrepreneurial culture was strengthened when three employees were allowed to buy stock in the company.

The outcome: In 2004, the company reported \$1 million in revenues. By 2007, that number had grown to \$3 million, earning the company national recognition.

It ranks 2,031 on the 2008 Inc. 5,000 list, which recognizes the fastest-growing private companies in America. It is listed on the Zweig Letter 2008 Hot Firm List, which recognizes the 200 fastest-growing architecture, engineering, and environmental firms in the U.S. and Canada.

When the company applied to be added to the federal vendor list, it scored 94 out of 100 on its evaluation, placing it among the top 20 percent in the nation.

"People told me ideas such as the cross-docking concept would never work," Fulghum remembers. However, he reports that the company consistently ranks among the top 90 percent of firms when evaluated against standard engineering industry metrics, such as profits and revenue-per-employee.

Case Study is provided by the University of Tennessee College of Business Administration. For more information, contact Cindy Raines at craines1@utk.edu.