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The Furniture Research Unit
Department of Forest Products
Forest & Wildlife Research Center
Mississippi State University
Contact: Liam Leightley
662.325.4444
lleightley@cfr.msstate.edu

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Furniture HIGHLIGHTS

Helping furniture manufacturers achieve and sustain international recognition and competitive advantage through nationally recognized research, technical assistance and educational programs.

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November 2004
Mark your calendar to attend the Conference on Competitive Strategies for the Furniture Industry: Emerging Issues in a Global Environment.

FWRC

Sustaining Competitive Advantages for Small Furniture Companies

by Amy Garrard

The furniture industry is well aware of the toll that Chinese imports are taking on domestic producers of household furniture. According to a recent report from the University of North Carolina at Chapel Hill's Kenan-Flagler Business School, China's furniture industry now consists of more than 50,000 furniture manufacturers employing 50 million workers and exported products worth $2.8 billion to the U.S. market in 2001. Several factors indicate that this trend will only deteriorate in the future. Chinese labor rates are holding steady with an almost limitless labor pool of 800 million workers; Chinese manufacturers are making strides in quality improvements; and Chinese companies can add capacity much cheaper than U.S. companies due to construction costs. The University of North Carolina report estimates that even after freight costs are added to Chinese products, a container of furniture imported from China can be priced 20 to 30 percent lower than the same furniture produced domestically.

With this kind of threat to U.S. furniture producers, the overriding question becomes "What can we do now to take back the market from China?" Many industry experts recommend that the furniture industry must stop selling based on price and focus on the competitive advantages that companies in the U.S. have over import companies. Jerry Epperson, industry analyst, said that furniture retailers should "wake up and realize their strengths and weaknesses." He continued, "We have selection, service and can come to your house, but all we talk about is price."

Steve Lawser, Executive Director of the Wood Component Manufacturers Association also maintains that to cope with imports, it will be necessary to stop selling on price. From the consumer's point of view, progress should be made based on faster order fulfillment, reduced inventories, better communications, consistent quality, broader wood species selection, sustainable forest resources, and political and economic stability.

Schuler and Buehlmann recommend that in order to take back market share from imports, a paradigm shift in the overall business model is needed to avoid cost-based competition with low cost producers. They believe that nonquantitiative factors, such as managerial ability, entrepreneurial spirit, or employing a more appropriate business model may be more important to becoming globally competitive. This shift would include a new business model which moves away from a commodity type product toward an assembly process consisting of customized furniture produced on demand. If the U.S. industry could differentiate its products to customer requirements and deliver them quickly while providing the expected service and quality, the opportunities for foreign imports can be reduced.

If service, instead of price, becomes a competitive advantage for manufacturers of household furniture in the U.S., can small to medium sized firms compete with the large manufacturers? Absolutely! And in fact, small companies may have some inherent advantages over larger companies with respect to being able to react to changing market conditions and taste. A recent study by a graduate student in the Department of Forest Products found that the relationship between firm performance and competitive strategy was not dependent upon size of company—small companies perform equally well and use a combination of business strategies.

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Furniture faculty & staff

Liam Leightley, Head
Forest Products
marketing, strategic planning
662.325.4444
lleightley@cfr.msstate.edu

Steven H. Bullard, Director
Institute of Furniture Manufacturing & Management
furniture production and distribution
662.325.2781
sbullard@cfr.msstate.edu

Steve L. Hunter, Associate Professor
Forest Products
lean manufacturing, ergonomics
662.325.8344
shunter@cfr.msstate.edu

Philip H. Steele, Professor
Forest Products
manufacturing processes, automated processing
662.325.8083
psteele@cfr.msstate.edu

Jilei Zhang, Associate Professor
Forest Products
furniture testing, finite element modeling
662.325.9413
jzhang@cfr.msstate.edu

Duane Motsenbocker, Extension Instructor
Extension Service
management and production assistance
662.325.2160
duanem@ext.msstate.edu

Craig Boden, Research Associate II
Forest Products
software development
662.325.8343
cboden@cfr.msstate.edu

Amy Garrard, Research Associate III
Forest Products
marketing, distance learning
662.325.8453
agarrard@cfr.msstate.edu

Mark Maupin, Research Associate I
Forest Products
mechanical testing
662.325.9309
mmaupin@cfr.msstate.edu

Franklin Quin, Research Associate I
Forest Products
finite element modeling, furniture testing
662.325.3067
fquin@cfr.msstate.edu

Bob Tackett, Research Associate II
Forest Products
finite element modeling, furniture testing
662.325.3096
btackett@cfr.msstate.edu

Sustaining Competitive Advantages for Small Furniture Companies *(continued)*

Small companies may allow for more personal interaction between top executives and line workers, and communicate goals and objectives more clearly because of fewer layers between management/owners and production workers. By creating a positive organizational culture that runs through all levels of an organization, it may be easier to instill the company mission in each individual worker, thereby making the workplace a source of pride and commitment for every single employee of the company, and pride goes a long way toward producing quality products and satisfied customers. In fact, in "25 Lessons from Jack Welch: Management Insight and Leadership Secrets of the Legendary Former CEO of General Electric," Welch advises companies to "Behave like a Small Company". He continues, (small companies) "are uncluttered, simple, informal. They thrive on passion and ridicule bureaucracy. Small companies grow on good ideas—regardless of their source. They need everyone, involve everyone, and reward or remove people based on their contribution to winning. Small companies dream big dreams and set the bar high—increments and fractions don't interest them."

Small furniture producers may find similar advantages consistent with those of small lumber mills. A recent national study of sawmills conducted by the Department of Forest Products found that product quality, attributes and value were ranked as most important by vendors when deciding which mills to purchase from, followed by importance placed on long term relationships with the customer, and being responsive to customer needs and market conditions. It was recommended that small mills use these findings to maintain consistent quality of product and all associated variables, to place special emphasis on serving long term customers and to react to changing market conditions quickly. All of these findings are encouraging for small furniture manufacturers.

If the overall goal of the organization is to build quality products, to sell at a fair price so as to fill the needs of customers, the satisfied customers will provide word of mouth advertising for the company, and the company gains new customers and repeat purchasers. One study, by James Hesket, and others estimates that, "A 5% increase in customer loyalty can boost profits by 25% to 85%." This study suggests that by linking employee satisfaction, loyalty and productivity on the value of products and services delivered, a service-profit chain can be developed.

So, if profitability and growth are based ultimately on customer satisfaction, which eventually leads back to employee satisfaction, the logical place to start in order to improve customer satisfaction, would be to examine and improve employee attitudes and morale. Management literature is filled with countless ways to improve employee job satisfaction but many of the ways can be categorized into four broad areas which include effective leadership, training, motivation, and appropriate compensation and reward systems. An appropriate balance of these four principles will contribute to positive employee attitudes, increased productivity, and better product quality. The first step toward sustaining competitive advantages is to get moving and small companies can turn their size, flexibility, and responsiveness into advantages over large firms. Subsequent articles will discuss leadership, training, motivation and compensation in detail.

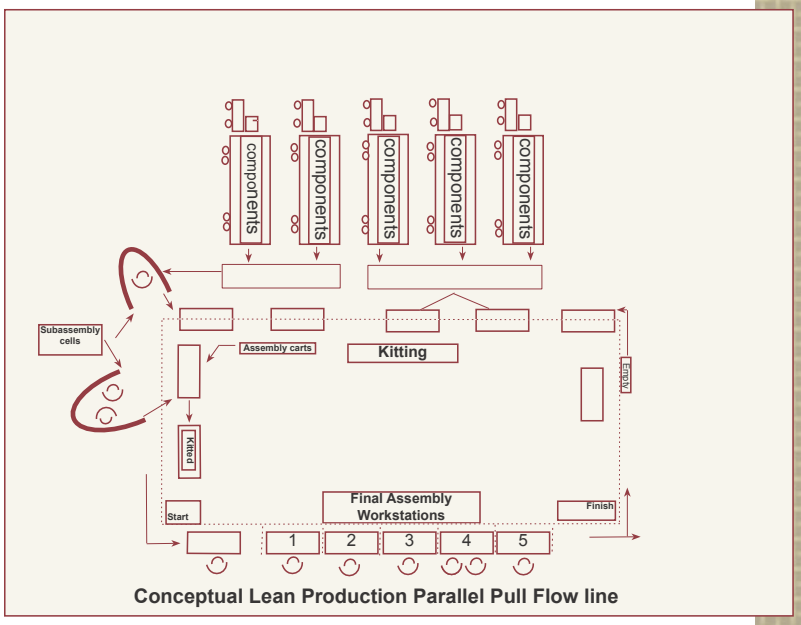
Links in the service-profit chain

1. ***Customer loyalty drives profitability and growth.***
2. ***Customer satisfaction drives customer loyalty.***
3. ***Value drives customer satisfaction.***
4. ***Employee productivity drives value.***
5. ***Employee loyalty drives productivity.***
6. ***Employee satisfaction drives loyalty.***
7. ***Internal quality drives employee satisfaction.***

Parallel Pull Flow: A New Lean Production Design

Lean Manufacturing Case Study Number Two

by Steve L. Hunter and Amy Garrard



Conceptual Lean Production Parallel Pull Flow line

This is Case Study Number Two in the series of Lean Manufacturing Case Studies in the furniture industries. This case study illustrates how productivity can be increased in a furniture manufacturing plant by using parallel pull flow (PPF) in the final assembly areas. A "pull" system as utilized in lean production (LP) cells is driven by downstream system needs at any given time as opposed to "push" systems. The push system produces to a predetermined schedule, which often results in excess production. A pull system maintains accurate control of inventory levels by producing products and components just-in-time. By sending signals upstream in the production process when products or components are needed by downstream processes or final assembly, the pull system increases productivity and decreases stock-on-hand.

The Parallel Pull Flow concept consists of a return-loop system—a rectangular or oval line of processes or workstations. Assembly components, some from pre-qualified vendors, are unloaded directly from the vendor to bays along one side of the line as needed. These components do not need to be inspected because vendors are pre-certified. Subassembly cells for components or subassemblies may also be produced in manufacturing cells connected to the PPF lines. In PPF assembly, components are loaded onto wheeled transport apparatus and passed (pulled) from workstation to workstation by assembly workers as they perform assembly tasks. The assembly cart holds a complete kitted set of components to complete an assembly. The line is staffed by workers capable of carrying out all tasks necessary to build a complete unit and is initially balanced so that each worker has about the same amount of assembly time. Downstream workers pull semi-completed assemblies from upstream workers and then partially complete the assembly before passing the partially completed assembly to the next worker.

The parallel pull flow system allows workers considerable flexibility and is based on proven lean production principles. Several criteria are necessary before converting to a parallel pull flow line. First, workers must be capable of performing all line tasks, a portable assembly worksite is necessary to transport all fixtures along with a complete set of assembly components. All of the necessary tools and a complete kit of parts must be available to each worker at each station. Finally, the assembly procedures must be followed exactly.

For this case study, a PPF line and subassembly cell were designed for an upholstered furniture manufacturer of a variety of styles of products. After the PPF line was operational, productivity gains were measured. The advantages of switching from a traditional flow line assembly at this plant were impressive. A 50% increase in the number of units produced per nine hour shift was realized as well as a 50% increase in total units produced per week. The number of workers required was reduced by 13% even though units produced per worker increased by 72%. The time required per unit dropped by 33%. Other benefits included floor space savings and ergonomic benefits for workers. Workers experienced increased communication, increased flexibility, and increase job responsibilities.

The results of this case study demonstrate one component of a gradual changeover from the old job shop system to a modern manufacturing and assembly cell system of which one component is a PPF line. The new PPF line clearly outperforms the old system in productivity measures and improves worker safety, job satisfaction, and health.

New Publication

Parallel Pull Flow: A New Lean Production Design by Steve L. Hunter, Steven H. Bullard, Philip H. Steele, W. Duane Motsenbocker, and Al Schuler is now available. This publication is Case Study #2 in the series of studies of lean manufacturing in furniture and supplying industries to foster increased international competitiveness. This research bulletin is available free of charge from the Forest and Wildlife Research Center. You can download this publication from the Institute Web site at www.ifmm.msstate.edu. To receive a printed copy, contact Karen Brasher at 662.325.8083 or E-mail at kbrasher@cfr.msstate.edu.

Past issues of the Furniture Highlights Newsletter are also available on-line at www.ifmm.msstate.edu.

Distance Learning Update

Phase I of the Distance Learning initiative at the Franklin Center is currently being completed. Equipment has been purchased to provide the basic building blocks for outfitting the computer classroom, 40-seat classroom, auditorium and conference room for distance education. Gifts by the American Furniture Manufacturers Association and Weyerhaeuser have funded the purchase of 12 PC's, 3 Lap tops, 3 suspended projectors, a portable audio visual cart outfitted with a sympodium, DVD, VCR, and document camera, a permanent multi-media podium with document camera, DVD, VCR, sound system, and multi-media control switch. An audio conferencing system has also been ordered for the first-floor conference room. This equipment should be installed and ready for use this fall for classes, seminars and workshops. Planning is already underway for Phase II which will allow the Center to provide state-of-the-art distance programs including credit and non-credit courses, training, certification training and workforce development programs as requested by the industry.

The purchase of distance learning equipment will allow the department to increase services to the industry through the use of the Franklin Center facilities, Please contact Amy Garrard with specific needs including technical assistance, training, development, and educational needs of the industry. You can contact Amy at 662.325.8453 or by E-mail at agarrard@cfr.msstate.edu.

Mississippi State University

Department of Forest Products
Forest and Wildlife Research Center
Box 9820
MS State, MS 39762

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