

Automation: The Only Future for U.S. Manufacturers

The choice is simple. Automate to add value to your product or "die " using the obsolete processes that drain your profitability.

BY GUNTER GEIGER

WHETHER OR NOT we like it, furniture makers are competing for American consumers who are much smarter and much more influenced by their work environment. They are computer literate and quite at ease with e-mail and the Internet. What's more, they are becoming more comfortable with the notion of making purchases electronically in their home environment.

On top of that development, big stores such as J.C. Penney, Montgomery Ward and Sears are, forcing a direct market change by electronically placing a customer order directly with the factory and bypassing their own warehouse. This establishes a direct electronic link between the customer's credit card, the retailer and the manufacturer. The product is shipped directly to the customer's front door via UPS, FedEx or other carrier.

All the elements are already established in the marketplace: Electronic payment, electronic selections via the Internet and electronically controlled delivery. Yet, in spite of all this new e-commerce infrastructure, many furniture manufacturers are still doing business the old-fashioned way. Too many are not lean and productive enough to compete in the New Economy, let alone prosper in the wake of furniture imports that reached more than \$8 billion last year and are still growing.

Combat Plan for Success

The combat plan for success begins with furniture factory owners changing their old way of thinking. They may be adept at reacting to what their two to five nearest competitors do, but what about the new competitors from overseas, many of which they have never even heard of?

Worldwide competition is exactly the force that will likely steal their next order. This is not a time to duck and cover. This is a time to act.

In helping readers map out a successful combat plan, I offer the following five rules.

Rule #1 - Know the worldwide competition and what they do.

Raw material is plentiful in North America, yet lumber-rich Canada makes little high-tech woodworking machinery, and even in the case of the United States, most high-tech equipment comes

from countries that have little precious timber. Furniture manufacturers in Europe and Asia and other areas must make do with less expensive substitutes that capitalize on new finishes, vinyl and paper laminates, soft-formed edges, and product styles to fit new, high-speed factories and machines built in Italy, Germany and other countries.

Rule #2 - Know the high-tech woodworking equipment worldwide to make your product for the lowest cost to you.

Bar-coding is an American invention which was immediately applied in warehouses, big distribution chains and supermarkets to keep tens of thousands of items numbered and inventoried on a daily basis. If an item is mislabeled, the mistake is usually corrected the next day.

The U.S. woodworking industry has been slow to adopt bar-coding on the shop floor. I ask you, how many bills of material (BOM) exist in your furniture factory? I visit furniture factories every week. I see many bills of materials that go uncorrected for a week, a month or even a year. Stop and think. Doesn't it make sense that the furniture industry could easily benefit from bar-coding, just as supermarkets do? Automation and technology with precision tooling are 60 percent more efficient when used on bar-coded parts. Using these technologies makes productivity soar.

Rule #3 - Never start up a new factory, division or workcell in your plant without providing barcode technology for machine set-up, parts control and recording labor content for each cell.

Two major reasons why offshore manufacturers have been successful with exporting to the United States is that they enjoy significantly lower labor rates and have been clever in finding ways to reduce their transportation costs.

Material costs are high in every country, even in Indonesia where labor rates are 27 cents per hour compared to 25 cents per minute in the United States. How else can we compete, if not to automate?

The combat plan for success begins with the furniture factory owner changing his old way of thinking

What's more, many furniture importers transport an inventory of machined parts to a facility in the United States where they are assembled to order. Assembly in the United States requires relatively low labor content. With lots of inventory on hand, ATO (Assemble-to-Order) short ship cycles at the importer's U.S. factory location take place in days not weeks.

What this means, is: far too many U.S. furniture manufacturers have 8 to 10 week delivery times, with high labor content and relatively high material cost due to poor optimization of materials and poor labor productivity. If they are to compete with imports, they have to move product out the door much faster with far less labor content.

Rule #4 - Cutting your cost to the bone must include material and labor content optimization (the amount of labor minutes spent on a product) combined with quick delivery in days, not weeks, to match the import competition.

Standardization of material thicknesses and materials, coupled with reductions of labor content via automatically cycled, 100 percent CNC processes, are the answer to the competitive threat. Product reengineering is essential to simplify the product assembly process while cutting cost and material to the bone.

When a machine operator costs \$30,000 to \$40,000 a year or 25 cents to 30 cents minute, you must minimize labor content. You need to use just enough machine time and labor support to make the right product quickly. Low labor content, precision accuracy and quick ATO assembly are the hallmarks of competitive manufacturers of the 21st Century who want to sell their product successfully.

Rule #5 - Apply labor trained with computer technology to operate CNC machinery that use high-tech tooling. Use barcodes to automatically set up machines every time at lower cost.

Applying this final rule will result in the following:

- Standardization that incorporates a high-degree of flexibility to make any product within reason.
- Repeated accuracy every time.
- Productive, computer-trained operators.
- Lowest labor content possible.
- Highest return on your capital investment by intelligently applying your investments in CNC equipment, high-tech tooling and operator training.
- Best automation technology concepts.

Simplify Before You Automate

The need for the correct process automation concepts are everywhere. Using automation correctly and on a factory-wide basis will result in a factory that delivers 200 units of different style and size products in any combination in five days from order entry through shipping.

Never start up a new factory, division or workcell in your plant without providing barcode technology for machine set-up, parts control and recording labor content for each cell.

Furthermore, the products can be delivered repeatedly with high-quality standards to any domestic customer, as well as being exported to the global marketplace. This is better than importers can do with their huge inventory in the pipeline. It is the only way we will stem the flood of imports to the United States.

A half-hearted approach such as using one or two CNC-driven machines or single-machine concepts without automated material handling, will lead you to bankruptcy faster. On the other hand, there is the opportunity to make a 20 percent profit by correctly applying the best available and affordable automation. Doing so will put you ahead of the competition, not only down the street but around the globe.

How many more old-fashioned factories will have to go out of business before true change takes place. I predict the need for change will not become urgent until more manufacturers "die." Then, those that see the light will make the necessary changes, and in the process become strong, successful and very profitable. The fittest will survive with automation and an Assemble-To-Order system.