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Manufacturers can compete vs. low-wage countries

GUEST COMMENT

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The U.S. manufacturing sector has recently seen large numbers of jobs being lost to countries with lower labor costs. Unfortunately, in many cases this is the result of accounting systems that micromanage business processes and do not see the total picture. In other cases it is because companies don't realize the opportunity that exists for competing in the 21st century.

At the University of Wisconsin-Madison's Center for Quick Response Manufacturing, we have addressed both these issues and worked with dozens of Midwest companies to help them regain their competitive advantage despite labor cost differentials. Quick Response Manufacturing (QRM) is a strategy developed over a decade of partnering with more than 50 companies that have implemented and refined this technique.

To understand how QRM works, managers first need to see the opportunities in 21st century markets. Unlike Henry Ford's customers — his production line of 1913 turned out the same Black Model T in large quantities — customers today expect to select from thousands of options. In some markets customers even want products individually designed to their requirements. The 21st century customer also has the expectation of quick delivery — a few days or, at most, a couple of weeks. These expectations remain true whether your customer is an individual or another corporation.

Products made overseas spend two to three months in transit. If there are only a few product options, those can be shipped ahead to a U.S. distribution center. However, if you can supply thousands of options, the competition would have to stock all of these in a large warehouse — a big financial drain for them. You gain even more competitive advantage if you can tailor each product to an individual customer's requirements and still deliver it within a couple of weeks. The overseas competition would need transit time plus design and manufacturing time.

But it's not just the time dimension that gives you an edge. QRM also gives you a cost advantage. Typically, labor accounts for just 10 percent of the cost of production at a U.S. firm, another 50 percent is for materials, and the remaining 40 percent is "overhead" — other activities and resources needed to run the business. At the QRM Center we have shown that long response times add a lot of overhead costs such as forecasting, expediting, managing work-in-process and warehousing finished goods.

REDUCING OVERHEAD

By reducing response times by 50 percent or more, our partner companies have significantly reduced their overhead. Also, by working with U.S. suppliers to reduce their response times, companies have been able to reduce their material costs as well. Added together, these reductions have often exceeded 20 percent, eliminating the labor cost advantage of overseas competitors.

When we started our center, we found that reducing response times was not easy. Traditionally, manufacturing companies were organized to minimize the cost of each step, not to minimize time for products to flow through. Also, newer "lean manufacturing" methods for improving product flow are suited to higher volume and lower variety production, not the high variety or custom production opportunities we are targeting. Working with our partner companies, we have developed a complete theory of how companies can reduce their response times even for custom products. This QRM theory begins by detailing the organization structure needed to slash lead times, not only on the shop floor but also in the office. Next are new methods for capacity planning and material planning, and we complete the implementation with ways to change the mindset of the whole organization including use of novel performance metrics.

As reported in dozens of case studies at our conferences and seminars, with this QRM approach companies have reduced lead times by more than 80 percent and product costs by 20 to 40 percent.

We have not only demonstrated the successful partnership that can exist between university and industry, but have also enabled local manufacturers regain their competitive edge and retain significant numbers of jobs in the Midwest.

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