

Speed—Manufacturing’s New Competitive Challenge

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Picture the manufacturing world of 10 years ago. Manufacturing companies could produce good quality products, control their costs reasonably well, keep their employees and customers safe and generally build to a forecasted schedule and all while still surviving and even prospering. What would happen today to a manufacturing company with that kind of performance? Would they prosper? Could they effectively compete? Would they survive? I think the answer to all of these questions is “No.”

Today’s manufacturing companies are facing an entirely different set of circumstances than existed even a few years ago. Competing on product quality and price isn’t enough. You must be competitive in quality and price to even be in the game. Big companies, who have been thought to have an advantage of scale, may actually be less competitive than more nimble, quickly responding competitors. As John Chambers, CEO of Cisco Systems says, “it’s not the big that beat the small, but the fast that beat the slow.” In today’s environment even the fast have to be thinking about how to be faster. Today, it’s how fast can products be delivered to a waiting customer, how fast can the next generation of new products be designed and how fast can you respond to a changing marketplace? The key difference between manufacturing companies has become who can design, produce and deliver the fastest. Speed is manufacturing’s new competitive challenge.

Speed in product development means companies can’t think about taking years to design and test a new product. Advanced technology, improved design processes and accelerated testing must be used to dramatically shorten development cycles. As product life cycles shorten, so must the development cycle. Manufacturing companies that cannot adapt to speed in design will be left behind with products that are obsolete and quality and costs that are not competitive.

What Speed Really Means

Speed in production means lean and nimble manufacturing processes are being effectively used. Manufacturing processes must be designed to be flexible to account for a wide

variety of products (customization) and modular to allow production processes to change output rapidly. Companies must rely more on a focused factory approach to streamline flow and minimize the complexity of the manufacturing process. Manufacturers will only produce what they can produce at the speed and cost demanded by the marketplace. Everything else will be outsourced to a manufacturer who is fast enough and flexible enough to compete.

Speed in delivery means multi-level distribution networks with smaller, focused regional distribution centers and crossdocking operations. The entire distribution and transportation network will be designed to minimize cost and maximize delivery speed. Cumbersome inventory and distribution planning systems will give way to fast, flexible systems which are capable of meeting the increasing demands of the marketplace.

Customer and end-customer expectations have driven the need for speed in manufacturing. The Internet and our increasingly fast-paced lifestyles have caused a dramatic shift in customer requirements. Expectations have increased at a much faster rate than manufacturing company's ability to perform. Customers and end consumers now dictate what will be produced, when products will be delivered and what they will pay for that level of service. With a click of a mouse an order can be placed and consumers expect the rest of the supply chain to respond as quickly. Customers want to place an order and expect the product to be shipped within hours or minutes. The only choices a manufacturer has is to carry an excessive inventory of finished goods, which is cost prohibitive or adapt their manufacturing process to build to order (BTO). This means that as customer orders are received, they become the manufacturers' production schedule. Manufacturing processes are designed to produce in small lots so the entire manufacturing process can respond to ever changing demand in very short time frames. The challenge for manufacturers is to take this BTO concept from an academic pursuit to a cost-effective method of operating. Manufacturing companies who effectively adapt to the BTO world and meet the challenge of speed are likely to effectively compete and prosper.

Meeting the Challenge

So, how does a manufacturing company meet the challenge of speed?

- 1) Employ the tools and techniques that produce speed in design, production and delivery—tools like rapid prototyping, concurrent engineering, simulation and 3D modeling, BTO through lean and agile manufacturing, Six Sigma, outsourcing, third party logistics, crossdocking and many, many more. It also won't be enough to just use these tools. Companies must use them efficiently and effectively in order to gain a competitive advantage.
- 2) Embrace technology—At no time in our history has technology changed so rapidly and been more important to our future. For a manufacturing company to be on top it must embrace technology and seek out new and innovative ways to use it. Today it's the Internet; tomorrow it will be something else.
- 3) Understand the process of satisfying customers—If a manufacturer does not fully understand their customers' requirements for speed, they will fall seriously short of their expectations. A customer's requirements for speed are as important as their requirements for quality and cost.
- 4) Effective communication—In order to achieve and maintain speed, a manufacturing company must continually communicate up the supply chain to customers and down the supply chain to suppliers. Communication allows a company to react to customer's requirements today and in the future. It's also communication that enables the supply chain to act as a continuously flowing river instead of a series of independent links.

The manufacturing world of today is expected to make a dramatic change in order to keep pace with customer's requirements for speed. The needs for today and the future will have even greater demands. The pressure to BTO, satisfy quality and cost needs and customize products for today's sophisticated customer is growing. Companies must aggressively address manufacturing's new competitive challenge—speed, or face the consequences.

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