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# Beyond Theory

By Jeff Moad

Manufacturers need charismatic leaders to break the old conventions of the business/manufacturing process.

A central tenet of [Dr. Eliyahu Goldratt's](#) groundbreaking [Theory of Constraints](#) philosophy is that it is critical for managers to recognize when a paradigm shift has occurred and to adjust their assumptions accordingly. [Goldratt](#) drove this point home in his novel "The Goal," which is now about to mark its 20th anniversary with a new edition that includes a 100-page appendix of real-world success stories.

Recently [Dr. Goldratt](#) shared with MA executive editor Jeff Moad his thoughts on the changes and challenges now facing manufacturing companies and what they should do to cope with them.

MA: Do manufacturing companies today face a paradigm shift that will require new competencies?

[Goldratt](#): More prudent ways of working, yes. If you look at the way most managers in the U.S. and Europe have been thinking, their focus has been on cutting costs. So when China emerged over the last three years basically giving infinite capacity and [low] costs, no matter how much you cut, you cannot compete. That's the squeeze that manufacturing companies both in the U.S. and Europe are facing now.

At the same time, they know what to do and they don't do it. [What do U.S. manufacturers have to do to survive against lower-priced products from China?](#) Achieve faster delivery. It is the only thing that they have inherently that is an advantage over the Chinese because they are closer to their market.

Let me give you some examples. Let's start in the area where we have lost almost the entire manufacturing base -- and we are already taking it for granted that it should have been lost -- and that's the textile industry. How long is the season? Three months? At the beginning of the season, can anyone predict with some level of accuracy how many items will be needed for each size, each color, each model? There is no way to know it. Nevertheless, they are producing in the winter for the summer and vice versa. And nobody thinks about it. Now it's still done this way, but all the manufacturing is done in the Far East.

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Meanwhile, how much in sales is lost in the [supply] chain? You know what's a joke? [Apparel manufacturers] will be very happy if a garment is sold out. The fact that it was sold out in the middle of the season, they don't consider it as lost sales due to lack of availability. They're happy that it's sold out.

How much time does it take to make a garment? It's about three hours. What if there was a manufacturer that was willing to replenish what was sold in the shop in three or four days? They would more than double their sales and reduce the amount of excess inventory that was left at the end of the season to almost nothing. But nobody's doing it.

MA: Why haven't manufacturing companies made more progress getting to a demand-driven model?

[Goldratt](#): Because they are still using the old conventions. The only industry that is doing it half of the way is the car industry. For example, an OEM on the assembly line will give the real order 24 hours in advance, and the suppliers are supplying it -- even on complicated items. But even there, you go to the dealer and you say, "I don't want to take the car that you have on your lot. I want the color of one car with the trim that I see on another." How much time do you have to wait for the car? Months. And then most dealers refuse to accept your order because, even though the manufacturers are promising something like [delivery in] 70 days, in 40% of the cases after you wait, what you get is not the car that you ordered. Which means that all the [supply chain efficiencies] in the car industry are up to and including the assembly line, not from the assembly line to the dealers. Everybody's talking about it and nobody's doing it.

Look at electronics. The pipeline has three-to-five months where the lifetime of the product is six months. It would be a fantastic joke if it weren't reality.

Then look at what happens when just one company does it differently. Do you think that Dell has exceptional computers? Not really. Do they have exceptional quality? No. So why has Dell emerged to be such a giant? They are really delivering on demand. They're assembling and delivering on the spot. Finally somebody's doing what everyone else is talking about.

MA: Where have all the other companies failed? Management? Technology?

[Goldratt](#): It's a failure of concept. Let me give you an example. Take any company that is making something that is not very big and not very specialized. They are actually producing to forecast. But go and talk to their vendors, and their vendors are producing to order. Where are these orders coming from? From the OEM which is taking its lousy forecast, which is based basically on guesses, then translating it to artificial orders. And suddenly these orders become real for the supplier. You have a total mismatch in the supply chain. And that's everywhere, and nobody screams like hell that the king is naked. It's about time that under the dual pressures [from competitors like Dell and competition from China] hopefully, not in the very far future, most industries will open their eyes.

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MA: What will have to happen for this to occur? Who will have to take responsibility?

[Goldratt](#): Frankly, I'm not sure. But let me quote from a person who tried to do something about it. Dr. W. Edwards Demming [the quality guru] had a fantastic phrase: He said, "Survival is not mandatory."

MA: Managers at many manufacturing companies are certainly more keenly aware of that today.

[Goldratt](#): But they still don't do a thing about it. They are just telling all their suppliers, "We have to reduce the lead time. We have to reduce the variability in the lead time." But they still measure people with cost accounting measures. It's a problem with the concepts that drive us, and the concepts translate into measurements that foster it. Then we add computer systems that have the wrong rules in them, that make it even more rigid. Look at almost every type of software that is available [for distribution.] All of them operate according to minimum/maximum or trigger points. If the minimum is one month and maximum is three months, we just put two months into the lead time. And the software companies tell you, "Now you are producing for three months down the road." But nobody has the foggiest idea what will be the real requirements three months down the road. "So will you please buy my fantastic forecasting module?" We all know that it's impossible to forecast accurately next week.

Look at Wal-Mart. They don't use minimum/maximum. They say to suppliers, "You want to be a preferred supplier? You replenish everything. No orders, no minimum/maximum. Replenish according to what we sold." Now look at Wal-Mart and what happened since they switched to it. Now why aren't the others switching to it? Go and ask them. I don't know. Here you have a startling example that it really works. And nobody's paying attention except for giving lip service.

MA: Many manufacturers are focusing now on lean manufacturing. Will that help?

[Goldratt](#): Lean manufacturing is attacking these problems at the micro level, the machine level. Why do we attack all these things at the micro level? Why not take the same approach at the macro level where most of the damage is done? Lean is good. Lean is very good. But as long as we don't do it at the macro level it will take forever.

MA: Are you optimistic that companies in the U.S. will adopt these ideas soon enough?

[Goldratt](#): I don't know. This year is the 20th anniversary of my book, "The Goal." It's still selling like crazy. Everybody loves it. Everybody calls it common sense. But maybe 5% of plants have really implemented it. Always, those who have say that the results are what I have described in the book. In three months they cut the inventory, they increased throughput dramatically without adding any people. They cut the lead time by more than half every time. So why isn't everybody doing it? I don't know.

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In 40 or 50 years, everybody will be doing this. Am I optimistic that many companies will move now? No.

MA: Do you see any common characteristics shared by the companies that have implemented these ideas?

[Goldratt](#): Yes. A charismatic leader.

MA: What are you doing now?

[Goldratt](#): I'm taking a different approach. My assumption until about a year ago was that, at a company implementing my ideas, if [an enterprise manager specifically told the plant manager] what he expects his performance to be six months down the road -- cut lead time to one-third, etc. -- the plant manager would be frozen and not do anything at all because he would think that it's an impossibility. A year ago I decided to check out this assumption. In other words, I used to be very careful not to tell them what I expected them to achieve a year or two years down the road because if I had told them, they wouldn't believe me. [I decided to find out] what happens if, up front, you explain what your expectations are, exactly why and the whole logic of the way that you are going to leave them. Will they be frozen or will they really move?

I found out to my amazement that they are inspired, and everything moves much more smoothly. I call it the "viable vision." That means bringing the company in less than four years to have yearly net profits equal to its current yearly total sales. So I am explaining now exactly how that is possible generically and, company by company, exactly what blocks them from achieving it and how to remove the blocks in order to capitalize on these breakthroughs. We have done some tests on a few companies and a small group in Northern Ireland, and, to my amazement, seven companies are now moving on it full scale. And a month ago I did some seminars in India. There was top management from 60 companies. Forty-one want to move. Now I have a capacity problem. If more companies will move on this maybe they will give the right message to the market.

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