Solving the Two Biggest Mistakes Made by Manufacturers

Manufacturing today is really tough business. There is endless price competition from both on-shore and off-shore competitors. Product specifications and requirements are getting tighter and product lifecycles are getting shorter. To top it all off, demand has now been significantly eroded. These external pressures come along with a number of internal issues requiring constant managing like: poor product quality, late deliveries to customers, unreliable suppliers, long manufacturing lead times, too many rush orders from customers, and too much inventory. It is unfortunate, but perhaps the message of both Lean Manufacturing and Six Sigma, is not getting through to manufacturers because they still seem to be plagued by too many internal issues.

In our experiences working with well over 200 manufacturers, we see them making the same two big mistakes over and over again. The good news is that once manufacturers know what their big mistakes are, it will be much easier and faster for them to fix. In short, manufacturers (1) make too much of what they don't need and not enough of what they do need, and (2) focus their improvement efforts in the wrong areas. The following is a brief description of each big mistake.

Make too much of what they don't need and not enough of what they do need

The way manufacturers know if they commit the first big mistake is that they either have too much finished goods inventory or they ship some orders early while shipping other orders late. The first instance (of too much finished goods inventory) is easy for manufacturers to see and realize. The second instance (of shipping early and late) is rarely known by manufacturers – simply because very few of them measure it. In our estimation, 50% of manufacturers are guilty of the first instance and 50% are guilty of the second. Whether you are in the first category or the second is not really the question. The real question is why does this mistake occur?

Manufacturers "make too much of what they don't need and not enough of what they do need" for two reasons: (1) they follow a bad signal of what quantity of which product to make, and (2) they have difficulty synchronizing the arrival of raw materials, purchased components and/or manufactured components at the right time and place in the manufacturing process. The "bad signal" reason occurs because too many manufacturers still either rely too much on the forecast, when it comes to determining what to make, or they are still replenishing inventory using some kind of traditional min / max inventory approach. The "difficulty in synchronizing material" reason occurs because too many manufacturers rely on MRP (Material Requirements Planning) or MRPII (Manufacturing Resource Planning) to drive their purchasing and production decisions. In case the link between the "difficulty in synchronizing material" and creating too much finished goods inventory and / or shipping product early is not clear, just consider one simple reality in manufacturing: in the absence of making the right thing, most manufacturers will make something else!

Focus their improvement efforts in the wrong areas

The way that manufacturers know they commit the second big mistake is that they have either too many improvement projects underway or most of the benefits from their current improvement activities do not hit the 'bottom line'. Many manufacturers have embraced Lean manufacturing and / or Six Sigma. Both of these methodologies have excellent tools and approaches to create significant value for manufacturers. The problem lies in knowing where to apply the tools to get the fastest and largest financial impact. In our experience, many manufacturers are prioritizing improvement projects on the basis of either (1) which projects have the greatest likelihood of success or (2) which projects lead to the greatest reduction in a product's standard cost. The first criterion makes sense only if the goal of the improvement initiative is to implement Lean or Six Sigma vs what the goal should be - to achieve significant bottom line results. The second criterion is quite simply wrong. Many manufacturers are getting fooled into believing they are saving costs by reducing a product's standard cost. (We will discuss more about the topic of standard costing in another article.) In manufacturers that we have worked with, where these two criteria were driving their improvement, we determined that only 2 in 10 improvement projects lead to actual bottom line impact.

What Should Manufacturers Do About These Two Big Mistakes?

Now that we have identified the two biggest mistakes that manufacturers are guilty of, we need to provide workable alternatives. Fortunately, there are proven solutions, based on the Theory of Constraints, to the two biggest mistakes. First, in order to ensure making the right quantity of the right product, manufacturers need to embrace *Demand Driven Replenishment*. Second, in order to ensure that their improvement efforts are focused in the right areas, manufacturers need to implement order *Flow Issue Reporting* driven Continuous Improvement.

Demand Driven Replenishment (DDR) links material availability (raw material, purchased parts, manufactured components and finished goods) directly to actual consumption by establishing strategically located inventory buffers that dynamically adjust (up or down) based on actual consumption. DDR requires Manufacturers to:

- 'turn off' their MRP system or Min / Max Inventory System for the purchase of raw material and purchased parts, establish inventory buffers and purchase to consumption;
- 'turn off' their forecast for the signal of what to make and (depending on which strategy is appropriate) either make-to-order or make-to-consumption; and
- de-couple their manufacturing flow by creating strategically placed purchased and / or manufactured component inventory buffers at (1) critical divergent or convergent points and / or (2) at points in the manufacturing flow that are most susceptible to supplier or manufacturing variability.

The most significant positive effect of following DDR is that in well over 90% of the manufacturers that we have worked with (whether they make-to-order or make-to-consumption), DDR results in approximately 30% to 50% less total inventory than any other existing approach AND dramatically reduces manufacturing lead time while significantly improving on-time delivery.

Order *Flow Issue Reporting (FIR)* driven Continuous Improvement is a simple yet powerful approach to continuous

improvement that is virtually unknown within the circles of manufacturing. FIR is not a replacement to Lean or Six Sigma as it does not show manufacturers how to improve nor provide a set of improvement tools. FIR simply tells manufacturers WHERE to improve – to ensure the fastest achievement of significant bottom line results.

FIR tracks the biggest issues impacting the flow of orders through the entire manufacturing flow vs tracking issues that affect individual or departmental flow. Work centre downtime reporting is replaced with order Flow Issue Reporting. The biggest issues impacting flow ARE the biggest issues preventing manufacturers from achieving significant bottom line improvement. Quite simply, shop floor supervisors or operators record the reasons why a work order is not where it is supposed to be; these reasons are then collected and put into a Pareto Diagram; management reviews these Pareto Diagrams weekly and prioritizes continuous improvement efforts.

Our experience suggests that when manufacturers use order Flow Issue Reporting to drive their Continuous Improvement, the number of projects leading to bottom line impact increases to 9 in 10 (vs 2 in 10).

Manufacturing is under attack. The good news is that many of the issues that are attacking us can be much better managed. Demand Driven Replenishment and order Flow Issue Reporting are two essential tools that manufacturers can embrace to dramatically improve their competitive position.

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