Holistic Supply Chain Diagnostic

Many of our clients have significantly increased productive capacity and profits by applying the **Holistic Manufacturing™** methodology for variability reduction. Once manufacturing capacity is no longer the bottleneck, the **Holistic Manufacturing Supply Chain Diagnostic** can help identify where the next point of leverage is. This document describes the **Holistic Manufacturing Supply Chain Diagnostic** and how **HMC** can help clients achieve an additional outstanding increase in profits.

Increasing Profits through Manufacturing Improvement

Manufacturing companies typically seek outside support because of two fundamental concerns, both of which have a major impact on the bottom line. One concern is waste in the manufacturing process. High process variability correlates directly with waste - waste in raw materials, waste in materials consumed during the production process, waste of resources and a huge waste of production capacity.

The second major concern is productivity improvement. The company could sell more product, if only it could produce more. In other words, the company's bottom line results are constrained by its ability to leverage its immense capital investment to produce. Reduce the variation in manufacturing processes and capacity increases - not by 1 or 2%, but by 10% or more, directly influencing bottom line results.

HMC has successfully applied its **Holistic Manufacturing™** philosophy in a variety of manufacturing environments, yielding millions of dollars of bottom line benefits. By reducing variability and bringing the manufacturing processes under control, many of our clients experience a huge impact on production capacity, allowing them to meet market demands, sometimes with capacity to spare. Our clients often find themselves in unfamiliar territory, where efforts to expand capacity or increase manufacturing efficiency are no longer the biggest leverage points for improvement.

When Manufacturing Improvement is no Longer your Biggest Problem

Once the manufacturing processes are under control, a company needs to identify where it needs to invest its effort to improve. The answer is not identical for every company, nor is the answer obvious to the various functional heads. In fact, we often see each functional area taking actions to improve within their functional boundaries. These actions are often driven by key measurements (KRAs - Key Result Areas) with all of the best intentions. Yet this approach often fails to account for the myriad of interactions between functional areas and the impact that achieving positive results in one department will have on the others. While implemented with the best intentions, this non-holistic approach can be the biggest detriment to significant improvement. One way to illustrate this is with a simple example.

Example: How the Non-Holistic Approach ('Silo optimization') Limits Improvement

In Figure 1, we illustrate a fictional company that has enough production capacity to meet its current goals. It wants to improve results, and the minimum requirement is to increase profits by $25 million over the next major reporting period, shown at the top of the chart:

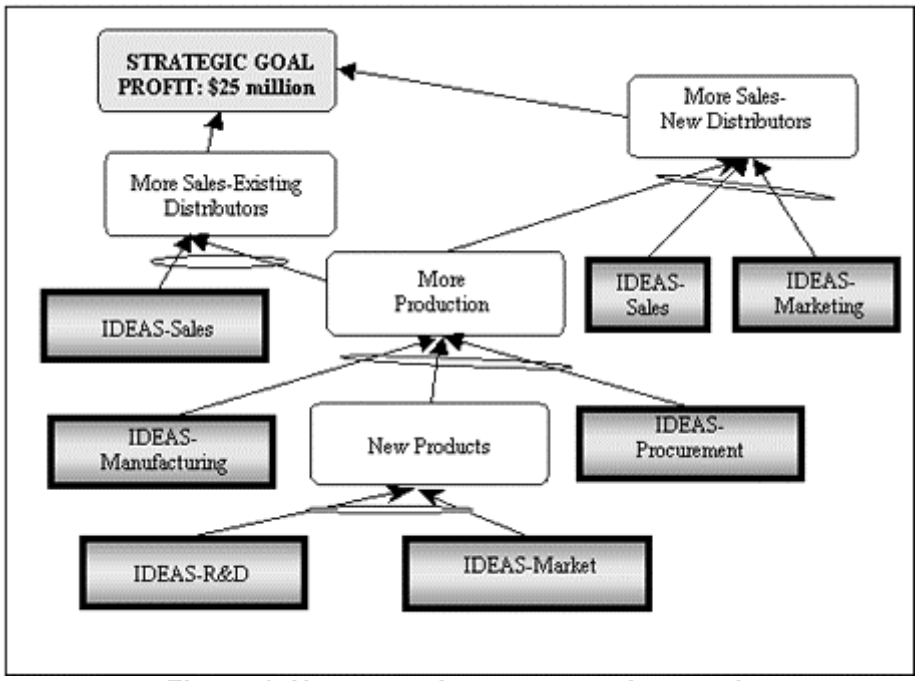

Figure 1. Necessary Improvement Approach

This company has undergone serious cost-savings and cost-cutting initiatives in the past few years. Its primary constraint is no longer within the company. Its biggest leverage point for improvement is now in the market. It must sell more in order to increase profits by a substantial amount.

This company decides that in order to get the desired impact on sales, it must not only invent some new products and bring them to market; it must also increase sales of existing products. To do so requires more manufacturing capacity. However, capital investment is limited, so it really needs to become creative to find ways to increase production capacity without major capital investment.

To achieve the desired result, this company must implement not one or two ideas, but a collection of ideas, perfectly synchronized as shown in Figure 1. However, achieving perfect synchronization is not a passive process, here is what we typically find on closer examination.

The procurement area is being measured on reducing cost of materials. As a result, they have very aggressively expanded their base of suppliers, and are on track to achieve a 10% reduction in materials costs. However, manufacturing operations are complaining that some materials are inferior and, as a result, they are losing production capacity and increasing waste, which hits their key measurements in a negative way.

Marketing has found that there is potential to offer new, more exclusive brands to the market and capture more sales. In addition, they can overcome the competition in certain

geographic markets, but only with specialized, lower volume brands, packaged uniquely to make them stand out to the consumer. They have begun to implement this strategy. Yet manufacturing and sales are both suffering the consequences. The more frequent brand changes, with lower volume runs, are creating havoc on the shop floor. Decreased productivity is causing manufacturing to miss its targets. In a few cases, order deadlines were missed and sales were deferred or lost.

The sales organization was given a KRA to improve sales productivity. Not wanting to rely on any other functional areas for help in achieving this result, they decided to lay off some salespeople, expecting that this would not impact current sales volume. In the short term, the sales management was correct. However, as several new brands were released and as it became obvious that current distributors and geographic strongholds would not be sufficient to grow the business, the sales management is complaining about lack of communication. They are also saying that manufacturing production problems are hindering their ability to sell more. Sales management believes that they cannot possibly achieve the sales goal without hiring additional salespeople, which may well hurt their KRA sales productivity target.

As we see in this basic example, a collection of seemingly good ideas are bringing the company farther from , not closer to, achieving its goal. The example provided just scratches the surface of how we see this working in real life organizations. Often, there are negative spirals of interaction between the various functional areas. This behavior often leads to tension, frustration and finger-pointing, but it's important to remember that no one functional area is to blame. After all, each area is just doing its best to meet its own requirements and measurements, to be successful. But in the end, it is the company results that suffer the most.

How a Supply Chain Diagnostic Can Help

In manufacturing, the biggest leverage point came from significantly reducing variation; in the supply chain, the biggest leverage point comes from significantly reducing conflict between the functional areas, enabling them to work in concert to achieve company goals. Sometimes, these functional areas are in different companies within the supply chain.

However, before any conflict can be reduced or eliminated, it must be identified. The problem is that while these conflicts surface in everyday issues that arise between functional areas, the root problems driving these issues are not identified. Even when recognized by one functional area, the root problems are typically not seen as important by all functional areas.

Our experience shows that these root problems are cross-functional in nature. Therefore, it is not within the power of one functional area to overcome them. Looking at the sample problems described above, the root problems usually exist due to some measurements - KRAs - that, on the surface, appear to be excellent. Yet the measurements drive functional areas to do things that are good for their silo, but may also cause negative impact on other silos. These issues often appear, to the head of a business unit or CEO, as personality conflicts or symptomatic issues. The underlying root causes are not obvious.

If the root causes are not correctly identified and dealt with, they do not go away. Symptoms reoccur and continue to prevent the company from achieving its goals. All functional managers feel increasingly frustrated, as similar issues resurface and consume their energy, without lasting results.

The HMC Approach

At **HMC** we believe that the essential first-step in any improvement effort is to analyze the

system and diagnose the problem. The **Supply Chain Diagnostic** begins with a 2-day intensive effort, involving 1 hour interviews with the Business Unit head and the head of each functional area. The **HMC** team develops a clear understanding of the current business goals, as seen by the top leader and each functional head. The next step is documentation and analysis of the biggest problems blocking each senior manager from achieving his or her goals.

The **HMC** team is keenly aware that senior managers have already devoted significant effort to achieving their goals and to overcoming the major obstacles. Therefore, key questions that the team strives to answer include:

- What are the root problems,
- Why have the root problems persisted (typically for years) and
- What makes it so difficult to overcome these problems permanently.

During this analysis, **HMC** documents and validates where the current constraint - or biggest leverage point - exists within the supply chain. Typically, it can be traced to one of the areas shown in Figure 2, below.

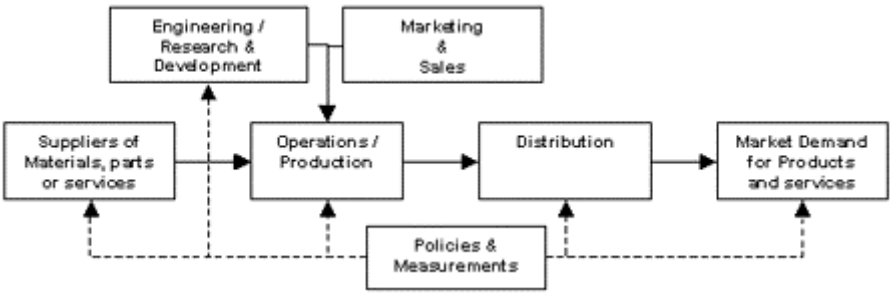

Figure 2. Supply Chain Possibilities for Leverage

After the two-day interview process, **HMC** uses a powerful methodology for root cause analysis to validate the findings and to gain consensus from management on the root problems. Once **HMC** is convinced that it has the correct diagnosis (typically within 1-2 weeks of the interviews), the team presents its analysis and recommendations to the client for verification. To verify that the team has identified a true leverage point, the team confirms that if the root problems are overcome, there will be a minimum impact of 10% on organization goals within one year or less.

Key HMC Team Members

Gerald and Jacquelyn Kendall are the key leaders providing this new **HMC** diagnostic service. Gerald is the author of two books, *Securing the Future* and *Advanced Project Portfolio Management*, describing this approach and case study results. Using the constraints management methodology, the Kendall's have worked successfully with dozens of clients around the globe. Their clients come from many industries and include Alcan Aluminum, Lockheed Martin, Intel, Tessco Technologies, General Motors, British American Tobacco, Travelocity, Babcock and Wilcox, Blue Cross Blue Shield Insurance, Scarborough Public Utilities and many more. This is the 10th year that the Kendall's are dedicated to this approach. For further information, contact us.