

**An Executive Briefing
from
R. Michael Donovan & Co., Inc.**

Developing A High Performance Order To Cash Process

by R. Michael Donovan

Executives already know it's a competitive environment that is getting tougher and they also realize that continuing performance improvement is a necessity. However, the CEO and immediate staff members are faced with many perplexing performance improvement questions and decisions, including:

- How should we grow the business?
- What is the right competitive strategy?
- What are the best investment opportunities?
- Are our business and manufacturers processes good enough for us to excel for our customers?
- Should we invest in improved information technology?
- What course of direction should we follow?

Asking the right questions, formulating the right plans, making good decisions, and then successfully executing your plans are, in part, the art and science of management. The impact on the company can be immediate and long lasting in either a positive or negative sense.

What management really wants to know is how best to prepare the enterprise for sustained success, month after month, quarter after quarter, year after year. Management wants pragmatic strategies for increasing revenue, profitability and marketshare. Customers are demanding more and more from their suppliers and, as a result, companies need to transform themselves into a highly dependable and responsive business or their customers may go to a competitor who supplies what they want and need. This reality puts an enormous premium on cost, dependability and responsiveness.

The Problem Goes Beyond Manufacturing

Many manufacturing companies find themselves trapped in a crisis-to-crisis mode of operating, so that they end up running the business in constant firefighting mode. Everyone in the organization becomes highly reactive, patching problems as they pop up, on an ad hoc basis, rather than working proactively to permanently eliminate the problem and achieve sustained performance gains. Yet, the root causes for this operating style is often outside the control of the manufacturing function.

Although manufacturing is often perceived to be the biggest problem in the supply chain, the reality is frequently different. Certainly, many problems manifest themselves on the production floor although the root cause could be in another area all together. The people in charge of manufacturing are often besieged with constantly changing priorities. Demand for product doesn't match the forecasts on which plant scheduling and material planning have been based. Upstream suppliers of raw materials and sub-assemblies aren't meeting promised delivery schedules. Bottlenecks are creating imbalances in material flow. Product specification problems have surfaced, creating delays and requiring expensive rework. These are problems that lengthen cycle times, impose heavy costs, and also risk the loss of customers. They are often beyond the control by those in manufacturing, no matter how competently they work to resolve them. Although a company's manufacturing operations may have numerous deficiencies, manufacturing is typically just one of many weak links in the total enterprise, including the "extended" enterprise of vendors and other supply chain partners.

Escaping the Crisis-to-Crisis Trap

"Crisis-to-crisis" operations don't have to define the way your company does business. Significant and rather quick improvement is possible, as a growing number of manufacturers who have instituted tried and proven techniques are finding. What these progressive manufacturing companies are learning, no matter what product they produce, is that breaking the cycle requires a program of intense self-examination, one that begins with a thorough and professional analysis of the company's business and manufacturing processes and systems.

There is another important lesson that manufacturers who are moving forward with performance improvement initiatives have also learned. New information systems and software alone are almost never the solution. To the contrary, many companies that have tried to solve performance deficiencies by using just information technology to solve their problems rarely get the “quick fix” they were hoping for. More often than not, they find that themselves saddled with expensive new information technology that not only does not achieve the results intended but can actually create new problems that reduce company performance *below* levels that prevailed before new information system applications were introduced into business.

Assessing Your Company’s Performance

How does the management team best gauge whether or not the company is moving toward performance improvement gains that will put you in a leadership position in your industry? A good way to begin a self-assessment process is to benchmark where your company stands in terms of its recent performance gains. This assessment should involve all members of the senior management team.

Ask your team to honestly and candidly answer the following 10 questions and then discuss the results as a group. One result of this process that may grow out of this process is the need to understand the divergence of values and beliefs in your organization.

	YES	NO
1. Have we reduced our total cycle time (order to cash) by at least 50% over the past 3 years?	<input type="checkbox"/>	<input type="checkbox"/>
2. Do 99% or more of our customers’ orders arrive by the time requested?	<input type="checkbox"/>	<input type="checkbox"/>
3. Have total inventories decreased by at least 50% over the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has our supplier base been reduced by at least 65% during the past five years?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have our supplier lead times been reduced by at least 50% over the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
6. Have scrap, rework, and warranty costs been reduced by at least 50% over the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have our labor and manufacturing overhead costs declined by 20% or more over the past five years?	<input type="checkbox"/>	<input type="checkbox"/>

	YES	NO
8. Have we reduced our cost of quality by at least 33% over the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
9. Have we reduced direct material costs by at least 10% over the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
10. Have we cut our product development and introduction cycle by at least 50% in the last five years?	<input type="checkbox"/>	<input type="checkbox"/>

Grading Your Organization

Add up the total number of “Yes” answers to grade your company on its performance improvement gains.

Scoring

9 or 10—You are already among the elite class of top-performing manufacturing companies. At the same time, you cannot afford to rest on your laurels. You need to keep performance improvement momentum in high gear, to stave off competitors who may otherwise catch up with you.

7 or 8—You are in the high-performance group and are probably outperforming most, if not all, of your competitors. Still there is a risk that you can fall back behind by failing to move quickly to address the two or three performance areas where your company is still deficient.

5 or 6 —Although you are making progress towards high-performance manufacturing, you are at risk of losing market share—and also profitability—by failing to address those areas where performance falls short of the benchmark standard for a “yes” answer.

4 or less—Your company falls in the high-risk group. Performance improvement initiatives should be an urgent priority for your management team as further delay could severely affect your financial performance and also lead to rapid loss of market share.

Meeting Customer Needs

It’s important to know how customers evaluate the products and services you provide. Customers focus on six key criteria when rating a company: product, quality, price, responsiveness to requests, dependability in meeting commitments, and value-added services (see Figure 1).

Meeting Customer Needs

CUSTOMER WANTS	MANUFACTURER NEEDS
Product	To make what they want
Quality	Excellent process capability
Price	Low cost
Responsiveness	Short cycle time
Dependability	Short cycle time
Value Added Service	To supply needed services

Figure 1 - *Companies need to think about what their customers want and how to meet those needs.*

Understanding your company's strengths and weaknesses in comparison to the competition is essential, but it is the rare executive staff who actually agree with other staff members on the particulars. A good exercise to get a discussion on this topic going and keeping your self-assessment process stimulated and productive while drilling into key competitive issues can be aided by asking your team to think carefully about the following questions and then to write their answers down:

- What can our competitors supply to our customers that we do not?
- What are the key issues that could lead our customers to do business with our competitors rather than us?
- How do we rank in comparison to our competition in providing quality, delivery, and price?
- What do our customers value most? What will they value most two or three years from now?

Getting your team to give objective, straightforward answers to these questions will not always be easy. For best results, General Managers must insist that team members think about these questions very thoroughly and provide candid, straightforward answers.

Reducing Order-to-Delivery Cycle Time

There is probably nothing more important than short order-to-delivery cycle times. More and more customers are demanding that manufacturers quickly respond to their wants and needs, deliver perfect quality products on time. This requirement has led companies to focus more attention on their order-to-delivery and total cycle time. Experience has shown that long cycles times almost invariably occur in conjunction with excess inventories and poor customer service, in part because they are all symptomatic of one problem: poor order-to-delivery processes. Reducing cycle times is often a good place to start in the overall effort to improve operations because it can often be done without acquiring and implementing entirely new business systems. Consequently, many manufacturers are streamlining internal and external supply operations in order to reduce overall order-to-cash cycle time.

Until the nineties, customers generally evaluated a supplier's performance on four factors: product performance (features), price, quality, and delivery within a reasonable timeframe. Now customers are increasingly emphasizing two additional performance criteria: flawless delivery, that is, very short-cycle on-time delivery, and responsiveness to the customers' changing needs. In fact, flawless delivery and responsiveness can very often be the difference in getting new customers and keeping old ones.

Many manufacturers still produce in a "push" make-to-stock mode. In this "push" production model, large runs of standardized goods often produced based on an inaccurate sales forecasts. In contrast, today, it is the customer who often dictates what products are manufactured and when. The customer says: "I'll let you know what and how many I want, when I'm ready to buy, and then you ship it exactly as I want the product configured, and in a very short lead time." This trend has contributed to the adoption of pull-oriented production models, where products are built to order (sometimes called lean manufacturing, demand-based flow manufacturing or mass customization).

A major consequence of this trend is that CEOs and others in top management necessitate the revisiting of their existing strategies and operational tactics. That in turn has led many to pursue new initiatives and directions, including:

Demand Management—Using improved sales forecasting processes and sales and operations planning processes to give top management a real handle on demand and supply.

Cross-functional integration—Redesigning order-to-delivery and other key processes to connect processes across the enterprise.

Lean Manufacturing—Radically redesigning information flow and material flow processes with dramatically shorter cycle times, lower costs, minimum inventory and near perfect delivery performance.

Supply Chain Management—Implementing supply chain planning, execution, and event-level alert systems, sometimes in conjunction with other modern information technology.

As more and more customers insist their orders be promptly delivered and at a precise time, reducing cycle time becomes the pivotal point in a supplier order-to-delivery performance rating. A shorter order-to-delivery cycle time also has other implications, including reduced inventories, lower costs, and more effective use of resources (see Figure 2). In addition, experience has shown that production throughput can improve dramatically once the order-to-delivery cycle time is substantially reduced. An added set of benefits affects the bottom line in lower operating expenses, dramatically decreased requirements for working capital, and increased profit margins.

Figure 2

Effects of Lean Supply Chain Processes

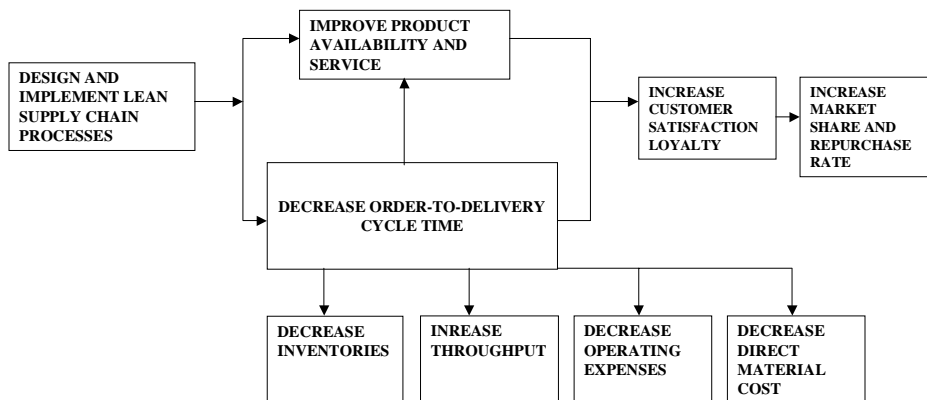


Figure 2 – Lean supply chain processes improve product availability and service and decrease cycle times, resulting in less inventory, greater throughput, and lower costs in several areas.

Techniques for Reducing Cycle Time

Cycle times can often be reduced without investing in a lot of expensive new software applications or other high-tech products. First, one must analyze each of the many sub-processes involved in the entire process. It is important to determine how much of the cycle time involves tasks that add real value as distinct from activities that do not add value and waiting time or queues. A value-added activity is work that is both essential for moving the product to the next stage and work that also clearly benefits the customer. Dividing the value-added time by the total cycle time used (including queue time) generates an efficiency measure. Typically, value-added time is less than 10%, and often much less, of the total process cycle time.

Here's an example from our personal experience of how things can go from bad to worse: A mid-sized manufacturer of electro-mechanical equipment had a serious inventory imbalance and investment level problems. Although the company had a 75% on-time delivery performance, and good sales, it was doing just two inventory turns a year! As the company's customers shifted their demand, the company's traditional high-volume, low-mix manufacturing model became ineffective, causing inventories to move sharply higher by many millions of dollars. Although this manufacturer's inventory had ballooned, the company nonetheless found itself plagued with frequent parts shortages and serious customer service problems.

Poor planning, flawed execution, and inadequate control processes in this company created an environment where inventory deployment developed unevenly—a typical result where ineffective processes exist. The company's available inventory was not synchronized with customer demand and production scheduling. While this situation pushed up inventory investment, the order-to-delivery cycle time increased and on-time delivery performance plummeted. Overall, the situation was not getting better. In fact, it continued to deteriorate further.

In this particular case, business performance improved significantly over a six to nine-month period as we corrected the sub-processes responsible for the problems.

How to Assess Your Order-to-Delivery Process

Here are twenty-five questions designed to help you begin to improve your order-to-delivery process. Keep in mind that this is by no means an exhaustive list of the issues that you will need to address. However, it is often a very good start. One way to use these questions is to have your entire management team answer each question. Then meet and discuss the questions that received one or more "No" answers and make a plan for correcting the problem. Ask them to make notes about particular areas of concern. These notes always prove very helpful during the subsequent discussion and planning for corrective action.

1. Each of our products has a well defined manufacturing and inventory deployment strategy.
Yes No

2. Organizational accountability for inventory performance is clearly defined.
Yes No

3. Our inventory record information is "real time" and is more than 99% accurate.
Yes No

4. Our bills-of-material are 100% accurate.
Yes No
5. We have very little inventory obsolescence as a result of engineering changes.
Yes No
6. Our forecasting process is able to integrate demand variability with a customer service-oriented inventory deployment strategy.
Yes No
7. We have a comprehensive and effective sales and operations planning process that is management's handle on sales, production, lead-time and inventory plans.
Yes No
8. We are able to start the assembly process without any material shortages.
Yes No
9. We have a comprehensive dynamic inventory performance monitoring system that pinpoints inventory investment problems before they occur.
Yes No
10. We have organized and trained cross-functional teams to improve information and material flows in order to reduce order-to-delivery cycle time and a high-velocity supply chain.
Yes No

Advanced Strategies

11. We have mapped all of our supply chain processes and have clearly identified value-added and non-value-added activities, including process bottlenecks, queues and cycle times.
Yes No
12. The impact of cycle time reductions on inventory has been properly analyzed and quantified.
Yes No

13. We have identified the barriers that prevent us from improving order-to-delivery service performance levels and are actively removing those barriers.
Yes No
14. We have decreased manufacturing and vendor lead times by at least 50% during the past three years
Yes No
15. Our lot sizes and also set-up times have been reduced by at least 50% over the past three years.
Yes No
16. We have reduced queues and work-in-process inventories by 50% or more over the past three years.
Yes No
17. Our processes perform at a level that allows us to meet our customer's quality requirements without inventory buffers.
Yes No
18. We use actual customer demand to initiate production
Yes No
19. We have agreements with key vendors for short cycle deliveries and mutually agreed-upon goals for continuous improvement.
Yes No
20. Our approach to supply base management has each critical vendor's processes certified to a no-inspection-required status.
Yes No
21. We use an e-procurement approach for communications and transactions with our suppliers.
Yes No
22. We know the precise lead-time to replenish inventories.
Yes No

23. We have an active, on-going program for vendor-delivered, point-of-use inventories.
Yes No
24. Our production supervisors spend little to no time expediting materials or firefighting due to parts or material shortages.
Yes No
25. Our primary performance measurements and reward system are heavily weighted towards short cycle times and quick response with minimal inventories.
Yes No

How did you score?

If you answered “No” to many of the first ten questions, answering with a meaningful “Yes” to any of the remaining fifteen would be hard. Worse, answering “No” to any of the first ten questions, means you have basic process problems that could put your business at even higher risk.

If you were able to answer “Yes” to all (or nearly all) of these questions, your company is more advanced than most. On the other hand, a number of “No” answers indicate that your entire supply chain is costing you money and very likely is now (or will very soon be) putting you at a competitive disadvantage.

How Good Can You Be?

If a company had to pick a single operational issue to focus on, cycle time reduction across the entire company would be an excellent place to start. Order-to-delivery cycle time reduction can mean lower costs, reduced inventory levels, improved production predictability, and, most importantly, increased customer satisfaction.

How Do We Pay For It?

The benefits of adopting the principles and techniques discussed in this paper are very significant. Nonetheless management routinely wants to know—and certainly has a right to know—how an investment in a new operations strategy will impact business performance. If ready cash is allocated to other initiatives or is in short supply for other reasons, the issue of how to pay for it could be an insurmountable barrier were it not for the short time in which manufacturers can free up working capital, real cash that previously was tied-up because of inefficient processes.

In my experience, most companies who have initiated the right kinds of improvement efforts should see a positive cash flow within 120 days or less from the start of the project. (For these cases, a positive cash flow comes from within the project through immediate improvements that save more money than the amount required to invest in the project itself). It may take more than 120 days to realize a positive cash flow but not very often. If the time to positive cash flow is longer than 180 days, then there is invariably something wrong with how the improvement program is structured.

What to Expect and When

Figure 3 shows approximately what companies should expect to realize in benefits for the first 6, 12, and 24 months of a performance improvement initiative.

Figure 3

What Should I Expect? Or How Do I Pay For It?

<u>Metric</u>	<u>Minimum Expectations</u>		
	<u>6 Months</u>	<u>12 Months</u>	<u>24 Months</u>
Order-to-delivery cycle time reduction	33%+	50%+	70%+
Inventory reduction	25%+	40%+	60%+
Material cost reduction	3%+	5%+	10%+
Throughput increased	5%+	10%+	20%+
On-time to promise	90%+	95%+	98%+

Fast-track improvements in some critical business processes, policies, and practices during the first six months are often sufficient to generate the cash for pursuing more broad-based lean supply chain initiatives. Efforts in the first six months might include, for example, improvements in legacy system use and improved tools and techniques to control inventory input and output. This step almost invariably will quickly and effectively generate cash from inventory and other improvements.

One advantage in having a tight linkage between benefits and investment is that everyone involved will be motivated and focused on the right targets. Management should monitor results by closely linking metrics to process performance and attainment toward objectives. Those who championed the improvement initiative can point to sharply defined key metrics that from the original baseline to the current state demonstrates the benefits.

Management might also want to enlist the aid of an outside consultant to make sure the right system is in place to monitor the benefits accruing at each stage. After an initial assessment of the company's business situation (including its processes, its current information technology and practices, and other variables), an experienced consultant can generate a reasonable profile of what benefits to expect and when. As a result, the company's management has clear performance targets as well as a means for measuring progress at each step along the way.

So How Much Is It Worth?

Although traditional approaches for justifying investments in operation improvement initiatives do work, they fail to take into account the magnitude of improvement these projects can and should deliver such as 60+% decrease in cycle time, 99% in on-time delivery, 25+% reduction in WIP, and 10+% increase in throughput. Numbers such as these investments apart from the other investment proposals that are competing for corporate funding, and those numbers do tend to get a CEO's attention.

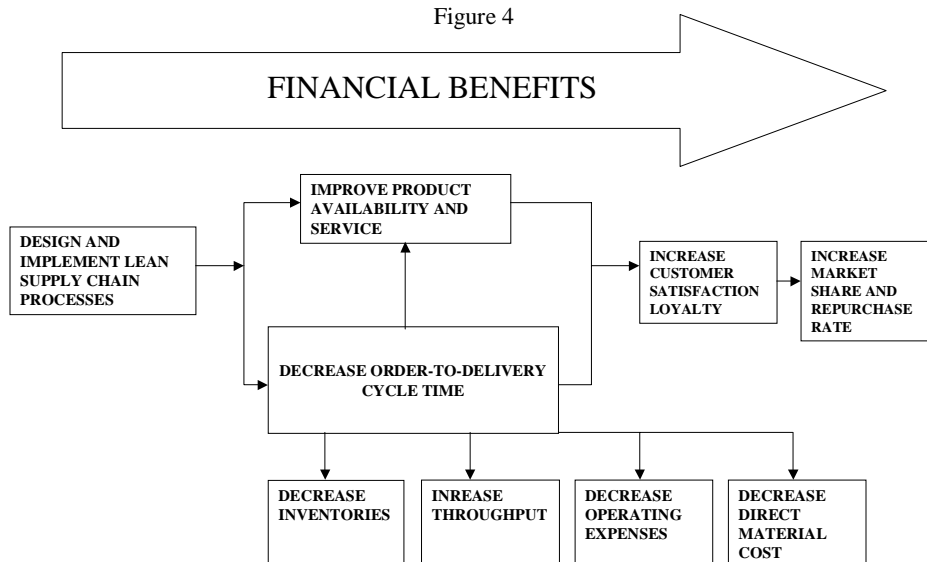
Any manufacturing executive understands that a 60% decrease in cycle time, for example, means a big reduction in WIP inventories. Add to this an on-time delivery rate of 99%, and the company is almost sure to be ahead of competitors in the never ending race for increased sales and market share. In addition, if the increased throughput of 10% is truly saleable and overhead expenses are already fully absorbed, then 30 to 50% of every new sales dollar is increased profit because the only additional expense is direct materials. This factor alone could be worth as much as \$500,000 in profits for every \$10 million in sales.

Or take into account the behavior of overhead activity costs behavior, which are usually buried in traditional accounting systems, as a result of schedule misses and changes. Overhead costs can increase rapidly to the point where the number of schedule misses and changes exceeds the company's ability to respond to those changes. Add to this the real costs of expediting orders, costs that cascade down financial statements but are often unnoticed because they are buried in operating expenses. The combination of schedule misses, expedited orders and schedule changes produce major inefficiencies in resource consumption that often shows up in missed shipments, lost throughput, lost sales, higher production costs, and quality problems.

I have found that success is not always found in the cookie cutter approaches advocated by some consulting firms, where the "one methodology fits all companies" approach prevails. Implementing improvement techniques and processes will vary widely from company to company, depending on the company's overall business strategy, their position in the marketplace, their current operations processes, and the nature of their supply chain.

How Good Can Your Organization Become?

Effects of Lean Supply Chain Processes



Many senior executives believe that their organizations can and must do better. Many sense the opportunity for significant improvements, but then they set goals that are much too conservative. Playing it safe, however, rather than stretching the organization to achieve truly breakthrough performance gains, produces mediocre results. In many cases, despite heavy investment in new information technology and other initiatives, companies have failed to achieve the benefits they should have based on the investments made. Furthermore, organizations that fail to stretch themselves can effectively scuttle opportunities for breakthrough improvements. Without tangible and measurable progress toward the performance gains they seek, managers and employees become discouraged. In fact, many will subtly to outright resist subsequent calls to action by senior management and organizations often fall into a state of lethargy that is difficult to dispel.

Everyone in the organization needs to understand the business case for new change initiatives if a company is going to realize breakthrough results. Once the business case is understood, resistance to change is less of a factor to deal with. Managers and employees can't just be told: "You will change or else!" Instead, they need to be shown how each and every performance improvement initiative will pay off— why it will be worth it, not just for the organization as a whole but for individuals and teams within that organization as well.

About The Author

R. Michael Donovan has consulted with executives and key decision makers in over 1,000 manufacturing companies during his 30 years as a management consultant. His firm, R. Michael Donovan & Co., works with manufacturers to achieve breakthrough performance improvements. Mike can be contacted via e-mail at rmd@rmdonovan.com or by telephone at 508-788-1100.

Additional Publications

To obtain additional complimentary publications, visit the website www.rmdonovan.com.

Reproduction Policy

The author encourages sharing this publication with others. Permission is granted to photocopy this white paper in its entirety so it will be a facsimile of the original. Copyright ownership remains with R. Michael Donovan.