

SPEED TO MARKET

Job Shops–Niche Manufacturing–Focused Distribution Systems

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Feature Article

The Tyranny of the Dominant Paradigm



We have written in the [Speed to Market](#) book, in this *Newsletter*, in articles published in [trade magazines](#), and elsewhere about fundamental [differences](#) between mass production manufacturing vs. job shops. These are two essentially different business and production models that must be managed according to their dissimilar natures in order to operate efficiently and effectively. (Mass production is often referred to as high volume low variety compared to custom manufacturing, which is typically low volume high variety, or engineered to order.)

But the dominant mass production manufacturing paradigm is so insidious that this theme bears reiterating.

Most of what we have learned about manufacturing management is derived from mass production operations, and virtually all management education assumes mass production to be the norm and standard manufacturing model. Little or no attention is given to job shops and custom manufacturing which are mostly ignored in the management literature. The presumption is that management concepts that apply in a mass production manufacturing environment should also apply in all manufacturing environments. This is just not true and the source of many job shop problems and frustrations. We thought it might be interesting to focus on how a mass production manufacturing system works as a way to throw some light on these differences, as well as to provide a model for those mixed-mode shops that also make standard products to inventory.

How a Mass Production Business Operates: Imagine a mass production, build to inventory business that resembles a post office lobby where each of the boxes contains an individual SKU (stock keeping unit). Ideally, customers enter the lobby, open the box with the item they want, remove the amount they need, leave a check, close the box, and go on their way.

However, it doesn't always work in this ideal way. Sometimes customers open a box and find it empty. They leave no check, and likely buy what they need from a competitor who has that item in stock. This is called a *lost sale*. Sometimes they leave a note, called a *back order*, to let you know they were there. Often they do not, and you never know the sale was lost.

In a third case, a box is full, but nobody ever opens it. These are items that were manufactured in anticipation of demand that never materialized. The inventory contained in these boxes incurs a "cost to carry" which can run as high as 25% per year of its value, plus the original cost of manufacture. It's very expensive (and easy) to misjudge market demand. Inventory that is built in anticipation of demand that does not materialize is waste.

And finally there is a fourth box, a shadow box if you will, that does not actually exist, but could exist if we knew that customers had a specific demand we could satisfy. But for whatever reasons, poor communication, inadequate research, complacency, or whatever, we never realize this need exists or make a product to fill it. This is a source of revenue and potential growth that is not tapped, and may never be recognized. This is also a form of waste, although not tangible.

How do we manage such a business? The rules are simple. Make what can be sold. Don't make what cannot be sold, and don't fail to make what could have been sold.

Now, imagine being on the other side of the wall of boxes trying to figure out what to make, how much to make, and when to make it in order to ensure that the boxes have sufficient inventory to meet demand, are not empty when customers come calling, and are not full of items nobody wants.

This is where lean manufacturing comes in. It enables us to make fewer SKU's more frequently with the same efficiency (cost per unit) as we previously did for long runs. In the old days, economies of scale drove manufacturing, which meant long runs and low per-unit costs. This inevitably tied up production capacity (making items nobody wanted for a few months) while boxes remained empty and sales were lost. A false economy to say the least.

When you can make fewer SKU's per run and can replenish more frequently, this means your forecasting horizon is shortened (making forecasts more accurate) which also reduces the number of items in each box and your overall inventory. Not only does this reduce the cost to carry, it also enables a higher level of customer service and satisfaction as there will be fewer empty boxes and lost sales. This, in turn, keeps customers from turning to competitors and makes your business stronger. The ideal situation is for a mass production or niche manufacturing business to produce based on real demand (not forecasts or anticipated demand) which is called "pull" in lean terminology. Note this is exactly how a job shop already works—nothing is produced until an order is received.

This is the system Dell Computer has innovated, called *mass customization*. Computers are assembled based on real orders, not built to inventory. Of course this puts additional demands on components suppliers who must anticipate demand and manufacture ahead accordingly. Inventory always exists somewhere in the value chain. Now if Dell can just figure out how to do it faster, they will have successfully combined the zero lead time of mass production manufacturing with the no inventory, make-to-order characteristic of the job shop.

How does managing a mass production, build-to-stock business compare to a make-to-order business or job shop? What role does inventory play? Where does forecasting fit? How is performance measured? How are lost sales recognized and counted? These questions have been addressed in previous issues of *Speed to Market*, and will be addressed in future issues as we continue this discussion of the influence of dominant paradigm.

Of the estimated 30,000 or more small manufacturers that disappeared over the past 5 years, many of them were job shops that simply failed to execute the as-soon-as-possible tactics of their planning. Mike Riley, Editor, *Fabricating & Metalworking Magazine*, September 2003.

A gold mine of profit opportunities. Must reading for any owner who wants to increase the marketability and selling price of his or her business. Frank Covich, President, *National Association of Independent Business Brokers*

Speed to Market is Not a Program



At a recent workshop we conducted, one of the participants asked how *Speed to Market* is sustained in an organization. Lack of sustainability is a common problem with most performance improvement programs, as evidenced by the many flavor-the-month fads that come down the pike, so this question was certainly understandable...but missed the mark.

What is it about performance improvement programs that causes them to fail? Do people lose interest? Do programs not produce results? Is there too much red tape? Are they over-hyped so that achieving modest results is disappointing? Is it a case of the grass looking greener as the “next big thing” looms on the horizon? Is it the bandwagon effect where executive sheep do what everybody else is doing, rather than risk thinking critically for themselves?

It’s probably a little bit of all these things, but the main issue as we see it, lies in the very concept of *program*. Generally, all performance improvement programs originate outside the organization to which they will be applied. They are introduced with a great deal of fanfare, and calls for “involvement” on the part of organization members. Most of this involvement is no more than humbug because the program is predetermined before it’s introduced, so the program already starts off on the wrong foot somewhat disingenuously.

A second problem involves the idea of a program as “a sequence of coded instructions that can be inserted into a mechanism such as a computer” (dictionary definition). This raises the issue of perceiving and treating organizations as machines, a very archaic and inaccurate view of these complex, human, socio-tech, economic systems. Organizations are not machines, do not function according to facts and rules as machines typically do, and are not amenable to machine-like, imposed regimens. Although ISO may be perceived as an exception, it is not. It is sustained because ill-advised customers require it of their vendors. ISO does not stand on its own merits. Who would buy it if they did not have to? In fact, there is much evidence to suggest it is counter-competitive because it increases costs, makes adapting to change more difficult, and has not been proven to actually improve quality.

Programs overlay a set of rules and procedures on an organization that are generally disconnected from the specifics of the business. Also, programs seem to take on a life of their own, and tend to take priority over the more important needs of the business that must be managed. For example, one of our clients who supplies the railroad industry spent thousands of dollars on a mandated quality program that promised to pay for itself. When I asked the CEO how effective the program had been in terms of payback, his response was “pennies.” When we investigated why this was so, we found that a “quality bureaucracy” had been created that was disconnected from the rest of the business. Although the program identified many problems and recommended solutions, that’s as far as it went. There was no implementation because the quality program was not an integral part of managing the company.

Speed to Market is not a program. It is a systematic method for understanding and managing an order-driven business. *Speed to Market* encompasses the concepts, tools, infrastructure development, and training required to run a job shop, order-driven business at a high level of per-

formance. Specifics are determined by the needs of the particular business within which it is being implemented, and the approach is grounded in the discipline of organization design. Each implementation is different (hence Delta Dynamics' motto, *Client Driven Solutions*), although the same principles of managing an order-driven business apply.

For example, in the feature article, [Horizontal Management: A Powerful New Paradigm for Job Shops](#), in the April 2003 Issue of this *Newsletter*, we described the difference between the traditional "organization as hierarchy" and the "organization as process" paradigms. The horizontal process paradigm lies at the heart of *Speed to Market* because it accurately portrays how wealth is created in these types of businesses. *Horizontal management of the business process* is not a program element; it's a fundamental paradigm shift that is necessary to manage job shops and order driven businesses at a higher level of performance. Choose to ignore it; choose to be beaten by your competition at every turn. (If you have not read this article, we would strongly suggest you do...and if you've already read it, re-read it.)

So how is *Speed to Market* sustained in an organization? It is not "sustained." It is conceived and implemented in such a way that it becomes an integral part of how you view and manage your business. Continuously focusing on cutting lead time, central to the Speed to Market approach, drives performance improvement, and is the single, most powerful strategy you can follow to strengthen your company's competitive position, increase profits, and secure the future of your business...bar none!

Mind Your Own Business

A Book Review



Mind Your Own Business: A Maverick's Guide to Business, Leadership and Life is a distillation of lessons learned over a lifetime of (business) experience by Sidney Harman, founder of Harman/Kardon Corporation (1953). Those of you who are old enough to remember thirty-three and one-third long-playing high fidelity phonograph records will likely recall Harman\Kardon audio equipment as the premier sound system of that time. Today, Harman International, with annual revenues of some \$2 billion, is a leader in the design and manufacture of all-digital "infotainment" systems.

As we prepare for the new year, it seemed fitting to offer some of Mr. Harman's wisdom and insights with the hope these will stimulate some reflection and critical thinking on the part of our *Speed to Market* readers.

"The maverick's way of conducting business," Mr. Harman writes, "forswears the leader as commanding general; it rejects the practice of top-down, authoritative command. Rather, it proposes the leader as catalyst, conscience and inspirer." This is from a man who is 85 years old and "got it" a long time ago.

On business school thinking: "Business and the business schools have for too long lionized the specialist, the person who has learned how to do one thing and do it well, but who, as a consequence, has almost no idea how the whole enterprise works. Time and again, in small companies and large, I have encountered senior executives who live lives of silent terror...That

kind of departmentalized thinking—the specialist in the silo—produces paralysis and an absence of innovation and creativity.” Not to mention the stifling effects of fear we might add.

On leading a business: “I sensed then and I know now that running a business demands a different perspective. Sadly, however, many executives of complex, good-sized companies think they are running bigger versions of a candy store. That simply does not work. A company requires an articulated mission, a philosophical base, a moral compass, critical judgment, and the realization that it is a dynamic, living instrument populated by complex human beings. A company must forever reinvent itself as it confronts new problems and new opportunities. You cannot simply unlock the door in the morning, survive the day, turn the sign, and leave. It is no candy store.”

In Chapter 5, *High Finance: Separating the Wheat from the Chaff*, Mr. Harman offers a view of financial fundamentals that is a real eye-opener for anyone with an interest in business and investing. Chapter sections include *Balance Sheet Fundamentals; Profit and Loss Fundamentals; Capital Expenditures; Buying Back Stock; P/E Multiples;* and *Two Sets of Books*. His view that a company’s P/E multiple is derived from the stock price, rather than driving the stock price, bears careful consideration in terms of its influence on stock purchase decisions.

In the final chapter he touches on a number of disparate subjects from the need for business people to write in order to think clearly, to golf, to the need for poets in management, to the importance of dialogue among members of the management team. All in all, this is a intriguing book that offers a great deal of wisdom to anyone who cares to mine it.

[Mind Your Own Business: A Maverick's Guide to Business, Leadership and Life,](#)

Sidney Harman, Doubleday, New York: 2003

News and Notes

Speed to Market Anniversary: This is the 8th issue of *Speed to Market The Newsletter for Job Shops and Order-Driven Companies*. Since the first issue was published in November 2002, we’ve produced 24 short articles on a variety of topics, all of which were intended to offer a perspective or insights or critical thinking on typical job shop topics. Our publication policy is to produce a *Newsletter* when we feel we have something worthwhile to say, rather than publishing on a fixed monthly schedule. Currently, there are over 2000 recipients on our distribution list, and we get e-mails every day from people asking to be added to the list. If you know anyone who you think would benefit from *Speed to Market*, please pass this link along to them.

Texas Workshops: We recently had a very pleasant experience delivering two introductory Speed to Market workshops to companies in the Dallas/Ft. Worth area. These workshops were sponsored by COSS Systems, a company that offers a full range of manufacturing software for small to mid-sized companies, primarily designed for make-to-order, job shops, and custom manufacturers. With various configurations, the software has powerful features to support mixed mode and production manufacturing. It was gratifying to see how well this software reflected *Speed to Market* concepts and best manufacturing practices for order-driven businesses. If you are in the market to upgrade your computer system, make sure you put [COSS Systems](#) on your list of software to consider.