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# SPEED TO MARKET

A Newsletter for  
Job Shops–Niche Manufacturers–Focused Distribution Systems

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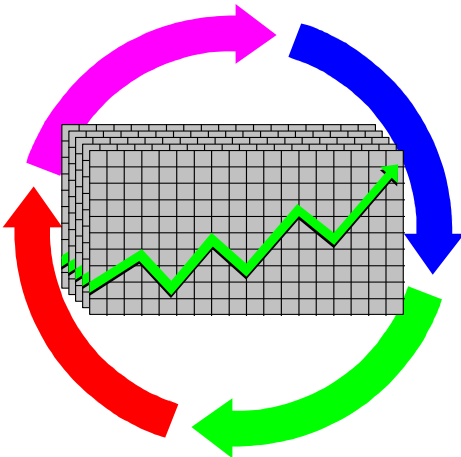
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## Using Feedback Loops To Drive Continuous Improvement in Job Shops

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Although we take it for granted, feedback is a relatively new concept in the business world. It's a key concept in the science of cybernetics, pioneered by Norbert Wiener around the time of WWII. Cybernetics is derived from the Greek word for "steersman", and Wiener is generally considered the father of the information age. His idea that information as feedback could be used to improve the performance of a machine (the accuracy of anti-aircraft guns initially) was a revolutionary concept that has since spread to virtually every science and field of endeavor.

Feedback is a very valuable concept when applied to the management of job shops (or any business for that matter), especially when used to drive continuous improvement. Here are five application areas where feedback can be harnessed to improve performance and profitability.

**Weekly Performance Report (WPR)** As most of our readers know, the WPR provides high-level, organization-wide feedback that encompasses the entire quotes to cash business process. It captures key metrics that underlie the financial and competitive performance of a business; the *WPR Review Meeting* and *Assignment Log* are integral to the monitoring and adjustment process. Members of the management team are responsible for various indices (individually and collectively), as well as achieving annual goals built into the WPR format. The weekly discipline of producing the report, meeting to review it, and taking action to bring errant indices back into alignment ensures that slippages will be detected and corrected sooner when they are smaller and more manageable, rather than later when they can become a bear. For more on Delta Dynamics' [Weekly Performance Report](#).

**Closing the Loop** refers to the practice of comparing estimated to actual costs on an order-by-order basis. One approach is to analyze those jobs that exceed the estimate by 10% or more to determine reasons for overages; then institute corrective actions to

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prevent a recurrence of similar conditions in the future. Reasons for overages can be found in estimating, problems on the floor, and sometimes in both areas. Estimators and floor supervisors need to work together to convert opportunities for improvement into concrete actions. For more on how to construct a process for closing the loop, see the April 2005 Issue of the [Speed to Market Newsletter](#).

**Following up on Lost Bids.** Many shops can receive 5,000-10,000 or more RFQ's annually. If they win 15%, it means they will lose 85%. There is valuable information in these losses that can be mined by following up with key customers every week on a rotating basis. For example, let's say that 80% of your business comes from 8 major customers. Calling each customer once every two months to query them about specific bids lost and why will yield valuable information that can be used to improve performance, make decisions about new equipment and training, and take other actions that will make your company more competitive in the future.

**Individual Performance Reporting.** Most commercially supplied software systems for job shops have the capability of providing individual performance reports (IPR's), sometimes called employee efficiency reports. IPR's show how individual employees perform against estimates on a job-by-job basis. This will tell you who consistently meets estimated times, who beats them, and who takes more time than estimated.

Published weekly, an IPR is an excellent tool supervisors can use to provide individual feedback to operators. It enables them to hone in on work practices, or other reasons for taking longer than estimated, so that training, methods improvement, or other corrective actions can be initiated. Imagine the impact on productivity this practice can have given that people tend to become a lot more conscientious when they know their performance is being measured.

This information can also be used to improve estimating. When operators significantly beat estimates, this means the estimator is being too generous. This artificially inflates prices, and increases the probability of not winning orders. Information from an IPR can be a great learning tool for the estimator, as well as for operators and supervisors.

**Here's an interesting side note.** We are working with a client to incorporate an IPR into their management process, and could not get their software to produce a useable report. After some weeks of trying to get an answer from their software vendor, we finally learned the problem was a programming glitch in their software. This glitch prevented some estimated times and efficiency calculations from showing up on the report, rendering it virtually useless. In fact, this glitch apparently existed in all seven previous versions of their software. After we brought this problem to their attention, they sent us an upgrade, and now we can produce a useable report.

But the interesting part of all this is that not one company among the thousands of users of this very popular job shop management software seems to have recognized the value of individual performance feedback. If they had, we would not have had a problem because it would have been detected and corrected years ago. (Recall this report tells you, by operator, what jobs they worked on, the operations they performed on that job, the estimated time for that operation, the operator's actual time, and their percentage efficiency.)

Not only should this so-called “glitch” be an embarrassment for the software provider, it should be equally embarrassing for all their customers who were clueless about the value of this information. What does it say about how well they understand the management of their businesses? What does it say about the training they received when they bought the software? What does it say about the quality system in this ISO certified software vendor?

**Financial Statements** are another source of information that can be used to improve performance and profitability. One approach is to compare your performance to industry averages provided by the NTMA or a similar trade association. A comparison of your income statement to the norm will show which expenses are good candidates for investigation and possible reductions. This can be done even without industry norms by reviewing costs and deciding on those appear to offer the greatest potential for reduction.

The key to getting the most out these sources of information is a well-designed feedback process, consistent, disciplined application, and the willingness and ability to implement solutions that will drive continuous improvement.

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## ***Managers, Not MBA's***

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The July issue of the Speed to Market Newsletter was devoted to a single theme, [What Do Consultants Really Do?](#) We were severely critical of the one-size fits all school of “tool consultants” who seek to apply tools, techniques, or a standard methodology not connected to your organization or situation. Further, we challenged you, as prospective clients, to understand the difference between consultants peddling simplified tools and pre-packaged training programs that promise easy solutions, and those consultants who possess the experience and skill required to help you bring about sustainable changes in organization performance and profitability.

In his latest book, *Managers Not MBA's*, Henry Mintzberg (Chaired Professor of Management Studies at McGill University in Montreal) provides a devastating critique of MBA programs. He examines what is wrong with our current system, and concludes that MBA programs do not teach management at all; rather, they teach tools and techniques to a bunch of inexperienced people who are clueless about the practice of management. This leaves MBA graduates with the false impression they have been trained as managers, which according to Professor Mintzberg, has a corrupting effect on management itself, our organizations, and society as a whole.

What follows is essentially the criticism we offered with respect to tool consultants. Professor Mintzberg says it so much better; we could not resist adding this page from his book.

## Reducing Analysis to Technique<sup>1</sup>

There is a fine line between teaching analysis and promoting technique. That line is crossed when the illustration becomes the application so that thinking gets reduced to the use of a formula. (A technique might be defined as something that can be used in place of a brain.) There is a great deal of mindless application of technique these days, especially in North American management practice, and the blame has to be laid on MBA education alongside aggressive consulting, insecure managers, and a superficial business press hungry for easy answers.

MBA programs tend to attract pragmatic people in a hurry: they want the means to leap past others with experience. Techniques—so called tools—seem to offer that, so this is what many such students demand, and what many of the courses offer: whether portfolio models for financial resources, competitive analysis for strategic resources, or empowerment techniques for human resources. Offer enough of this, and you end up with schools of business technology.

The trouble, here once again, is that technique has to be tied to context—it must be modified for use in a specific situation. Fredrick Taylor had it right back in 1908 when he refused a request by the dean of the new Harvard Business School to teach his famous “Scientific Management.” He claimed it could only be learned on the shop floor.

Technique applied with nuance by people immersed in a situation can be very powerful. But technique taught generically, out of context, encourages that “rule of the tool”: Give a little boy a hammer and everything looks like a nail. MBA programs have given their graduates so many hammers that many organizations now look like smashed-up beds of nails.

Think of this as a problem of push. MBA programs push theories, concepts, models, tools, techniques in a disconnected classroom. Management practice, however, is about pull—what is needed in a particular situation. Managers can certainly use a toolbox full of useful techniques—but only if they appreciate when to use each. As the chief executive of a pharmaceutical company told a group of MBA students, “My problem is that when I face a problem, I don’t know what class I’m in”

**We tried to capture all this in our motto, “Client Driven Solutions.”**

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<sup>1</sup> Mintzberg, Henry, [\*Managers Not MBAs: A Hard Look at the Soft Practice of Managing and Management Development\*](#), p. 36, Berrett-Koehler Publications, San Francisco: 2004.

## It's Not too Early to Set Goals for Next Year

Goal setting is an annual rite for many companies. It provides a good opportunity to take stock, look ahead, and determine how to make your business grow and prosper. However, it is sometimes difficult to convert goals into action plans, or to know the financial impact of achieving goals once established.

We developed an *Earnings Estimator* spreadsheet program for job shops that will help you zero in on an areas for improvement, set goals, and determine the potential value of improvement. The following matrix shows base performance in a small tool shop. Percentages in the *Improved Performance* column are set at the base in this illustration, and can be varied to show the impact of improvement in each area.

Critical Earnings Factor	Base Performance	Base Percent	Improved Performance	Improved Result
RFQ's Quoted	\$5,270,000	100.0%	100.0%	\$ 5,270,000
Dollars Won (Hit Rate)	\$790,500	15.0%	15.0%	\$ 790,500
T & M/Repair Work	\$158,100	20.0%	20.0%	\$ 158,100
Sales	\$948,600			\$ 948,600
Materials Costs	\$113,832	12.0%	12.0%	\$ 113,832
Outsourced Services	\$142,290	15.0%	15.0%	\$ 142,290
Labor Costs	\$291,220	30.7%	30.7%	\$ 291,220
Overhead Costs	\$360,468	38.0%	38.0%	\$ 360,468
Gross Profit	\$40,790	4.3%	4.3%	\$ 40,790
% Improvement		0.0%	\$ Improvement	\$ -

For example, look what happens when you increase the dollar value of RFQ's quoted by 5%, with everything else remaining the same—Gross Profit Improves by \$2,039.

Critical Earnings Factor	Base Performance	Base Percent	Improved Performance	Improved Result
RFQ's Quoted	\$5,270,000	100.0%	105.0%	\$ 5,533,500
Dollars Won (Hit Rate)	\$790,500	15.0%	15.0%	\$ 830,025
T & M/Repair Work	\$158,100	20.0%	20.0%	\$ 166,005
Sales	\$948,600			\$ 996,030
Materials Costs	\$113,832	12.0%	12.0%	\$ 119,524
Outsourced Services	\$142,290	15.0%	15.0%	\$ 149,405
Labor Costs	\$291,220	30.7%	30.7%	\$ 305,781
Overhead Costs	\$360,468	38.0%	38.0%	\$ 378,491
Gross Profit	\$40,790	4.3%	4.3%	\$ 42,829
% Improvement		0.0%	\$ Improvement	\$ 2,039

In the next example, RFQ's quoted increased by 5%; the hit rate goes up to 16%, and the labor cost is reduced by 1.7%. The net result is a Gross Profit increase of \$22,956, a 56% improvement over the base.

Critical Earnings Factor	Base Performance	Base Percent	Improved Performance	Improved Result
RFQ's Quoted	\$5,270,000	100.0%	105.0%	\$ 5,533,500
Dollars Won (Hit Rate)	\$790,500	15.0%	16.0%	\$ 885,360
T & M/Repair Work	\$158,100	20.0%	20.0%	\$ 177,072
Sales	\$948,600			\$ 1,062,432
Materials Costs	\$113,832	12.0%	12.0%	\$ 127,492
Outsourced Services	\$142,290	15.0%	15.0%	\$ 159,365
Labor Costs	\$291,220	30.7%	29.0%	\$ 308,105
Overhead Costs	\$360,468	38.0%	38.0%	\$ 403,724
Gross Profit	\$40,790	4.3%	6.0%	\$ 63,746
	% Improvement	1.7%	\$ Improvement	\$ 22,956

The *Earnings Estimator* is a handy means for showing the potential bottom line impact of changes in performance during the goal setting process. The working model comes with directions for use, and strategies for moving the numbers in the right direction.

As part of our product development process, we are making an evaluation version available to the first ten readers who request it, and are willing to test it. Give us a call at 248-333-0482 for details.

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## News and Notes

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### UPCOMING EVENTS

#### ***Tooling Industry Forum of Australia International Speakers Program November 14 --28, 2005 in Melbourne, Australia.***

Vincent Bozzone has been invited to deliver a series of workshops and joint presentations with Dr. Jay Baron. CEO of the [Center for Automotive Research](#) on the state of the tooling industry, and how lean manufacturing concepts and tools can be applied to job shops and custom manufacturing businesses. [TIFA](#)

#### **AND A BIT CLOSER TO HOME...**

#### ***Mazak Corporation's Touch the Future 2006 Conference November 8 --10, 2005 in Florence, Kentucky.***

Vincent Bozzone will deliver the kick off presentation, *Learning to Adapt and Prosper in a World of Change*, on each of the three days at the Center for Multi-Tasking and Manufacturing. Mazak is the world's leading supplier of CNC machine tools.

[Register for this free conference here.](#)