Performance Improvement Through Metrics

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BACKGROUND

When I joined Merisel (a $5 billion distributor of computer hardware and software) as VP of Purchasing and Inventory Management, I was in for a real shock. The position I was taking had been open for over a year because my predecessor had had a heart attack and was planning on returning as soon as he was well enough. He never returned. During his absence, the buying staff of approximately 50 reported "temporarily" to someone with no purchasing experience. Little departmental or functional direction was provided. Customer service (in terms of fill-rates) was poor and the Sales staff was frequently outraged that important SKU's (Stock Keeping Units) were not available for customers. The Purchasing department employee turnover (at 45% per year) was the highest in the company and department morale was very poor.

Because of the high personnel turnover, and the absence of department leadership, the quality and experience levels of the buying staff were low. In addition, for most of the Buyers, this was their first job out of college. The average Buyer had less than two years experience as a Buyer - and almost all of that was at Merisel - which had few buying role models.

I felt that a "get-well-quick-plan" was in order. This plan needed to focus on two main things: (1) Buyer education about the basic activities of purchasing and inventory management and an understanding about what consisted a "JWD" (job-well-done), and (2) education for each Buyer on measuring their own job effectiveness and the appropriate steps necessary to make improvements.

The first of these, basic Buyer education, was achieved by conducting in-house training classes. We brought in a certified APICS instructor and worked with him to tailor a training program to meet our needs. This was supplemented by sessions given by me and other members of the management team. We spent a great deal of time on teaching fundamentals -- instilling the kind of knowledge to be expected from people with more than two years experience and/or experience gained by working at several firms.

The results from this education process were very positive. The Buyers felt more confident. They had a much better understanding of what was expected of them, i.e., what constituted a job-well-done. Their confidence increased -- and with it, their morale.

For the second major part of the get-well-quick-plan (i.e., measuring their own job effectiveness and identifying the appropriate steps necessary to make improvements), I wanted to develop some specific performance metrics.

PHILOSOPHY AND USE OF METRICS

Before instituting a metrics system, I considered the qualities needed in an effective performance measurement system for a distributor. The remainder of this case shares these principles and how we applied them at Merisel.

The use of metrics has been a hot management topic for several years. This popularity has been fueled by two primary factors. First, the phenomenal success of a series of HBO articles and a subsequent book, <u>The Balanced Scorecard</u>, by Kaplan and Norton, which make a case for metrics as a key ingredient for excellence in both operations and strategy. Second, the fact that metrics are easy to implement and produce very clear and measurable results causes metric success to be largely self-propitiating.

Just what is a metric? Simply stated, a metric is a number for measuring and reporting a key performance indicator of the business, the department, the workgroup, the product line, and/or the individual. For example, measuring and reporting EPS (Earnings-Per-Share), employee turnover, percent of units rejected by Quality Assurance, customer order fill-rates, and purchase orders processed per day -- would all qualify as metrics.

However, to be truly useful, a metric needs to be used to drive improvement. For example, just measuring and reporting a high employee turnover rate accomplishes little -- in fact, it may have a negative impact because it is a signals that management is aware of the problem and has taken no steps to correct it. Metrics must be used to guide and drive the enterprise's actions. They are not just a handful of pretty graphs posted on the bulletin board each week.

Why do we need metrics? And, how do we use them? The primary answers are their usefulness in:

- Providing needed direction and help in setting priorities
- Gauging progress
- Keeping focused on key issues
- Identifying areas needing attention for groups and individuals
- Helping to communication key issues and results
- Measuring and rewarding people and teams

Here are some guidelines to get a metric program off to the right start:

- **Limit the number of metrics (for any one audience) to no more than 10.** Picking 3 to 5 is even preferable. It is much better to measure and do 3 things well -- than two dozen poorly.

- **The calculations/measurements must be believable and consistent.** Nothing will harm a metric program more than the possibility that the numbers are inaccurate – either intentionally or unintentionally.
- **The metric being measured must be "controllable" (or at least "influence-able") by the department, group or individual being measured.** For example, measuring picking errors for a picker in a warehouse is quite reasonable; while giving him a metric for percentage sales increase is not reasonable.
- **The measurement process should focus on improvement -- not just "raw scores."** Raw scores often result from things beyond the control of the people being measured. For example, two Buyers may have very different scores because their suppliers behalf in very different ways. The raw scores will take care of themselves if people consistently improve.
- **The overall metric process should be fun and if possible facilitate a spirit of competition among groups and/or individuals.** Especially when dealing with your direct reports, make metrics a game that rewards great performance. By doing so, you will rewarded by the overall improvement you see.

BACK TO MERISEL

In developing and implementing a metric process at Merisel, I had two main issues to deal with: (1) performance goals, and (2) data availability.

For performance goals, I wanted to keep it very simple. I wanted to improve the service levels we provided to Merisel customers and I wanted to increase the effectiveness of investment we had in inventory. Here are just some of the measurements that are appropriate for a distributor like Merisel in each of these areas:

Customer Service	Inventory Investment
• Line fill-rate	• Dollars
• % of orders shipped complete	• Turns
• Availability or Coverage (% of SKU's with inventory-on-hand)	• "Excess" -- inventory above targeted maximums
• Customer back-order % or $'s	• Obsolete -- inventory in SKUs that had been discontinued
• ETA (Estimated-Time-of-Arrival) maintenance	• Returns from customers (that we had not returned to customers)
• "Splits" (% of SKU's filled from other than nearest warehouse)	• "Opportunity" -- inventory purchased at special prices
• SKU's with no on-hand and no on-order	• "Inactive" -- inventory which has not moved in a stated period of time

Unfortunately, Merisel was data poor when it came to inventory measures -- especially at the Buyer level. We had to make due with what our inventory analyst could generate

through "ad hoc" reports. We finally settled on tracking the following specific Buyer metrics on a weekly basis:

Customer Service	Inventory Investment
• % of SKU's not on customer back-order	• Inventory turnover (as % of department target of 12)
• Availability (% of SKU's with inventory-on-hand) for all normal SKU's (i.e., A, B, and C SKU's)	• % of inventory dollars that was not "Excess," i.e., above targeted maximums
• Availability of A SKU's	• % of inventory dollars that was not "Inactive," i.e., inventory which has not moved in a stated period of time
• Availability of B SKU's	
• % of Help Desk questions answered in 24 hours	
• % of orders with non-past-due ETA (Estimated-Time-of-Arrivals)	

A few words of explanation.

Merisel had a standard "ABC" inventory classification scheme with the top 10% of its SKU's when ranked top-to-bottom by sales constituting the "A" SKU's. The next decile made up the "B" SKU's and the remaining active SKU's being classified as "C's." In dollars, the A's accounted for approximately 80% of all sales, the B's 15% of all sales, and the C's only 5%.

Several of the above metrics were designed to address the support role the Purchasing Department played to both the Sales Department and to the ultimate customer. When a customer called in with a specific detailed product question that Sales could not answer or a question about when the next shipment of XYZ's was due from the manufacturer, we were suppose to provide timely and accurate answers. If we did not, we disappointed both Sales and the customer. Our performance here was a key driver of overall customer satisfaction.

The fact that there were three separate metrics for Availability was due to my personal decision to emphasize this area and to compensate (perhaps over-compensate) for the prior unofficial decision-rule of "only order product when there is a crisis, but then order a ton of it!"

All of the metrics were designed so that larger numbers were better than smaller numbers and they all had a maximum of 100%. Further, an average was calculated for all of the Customer Service metrics and Inventory Investment metrics to give composite performance scores for these two areas.

I wanted some way to graphically represent these performance scores which would illustrative both current standing as well as areas needing improvement. I came up with a variation on the Boston Consulting Groups' old "Growth-Share" matrix. Only instead

of plotting market growth-rate vs. market share, it plotted the Service Level metrics vs. the Inventory Investment metrics.

The quadrants show current standing plus general areas needing improvement.
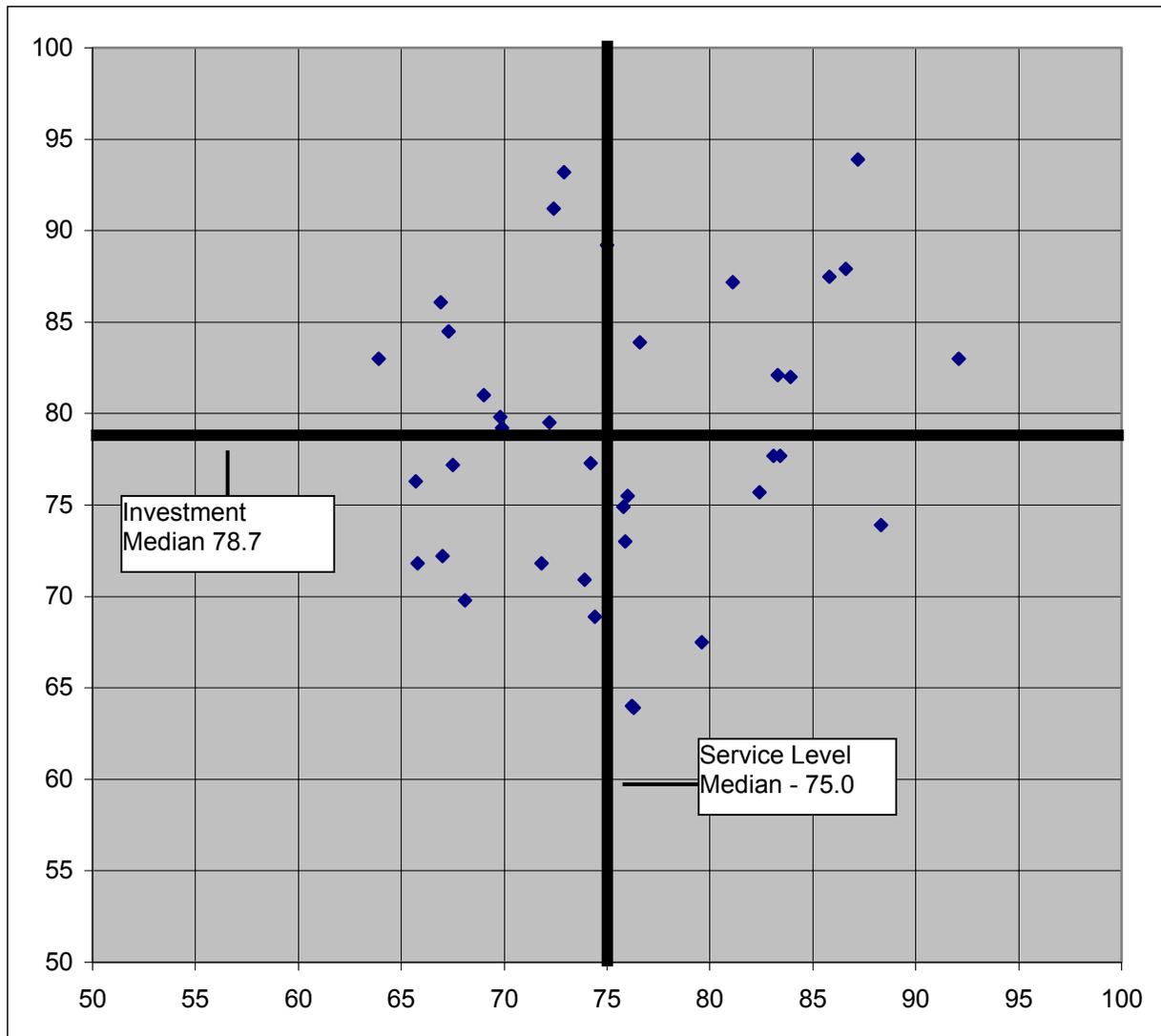
- **"Star Quadrant"** -- indicates a star performer with both high Service Level and high Investment performance. Priorities are to continue excellent performance and to help other Buyers improve.
- **"$ Quadrant"** -- indicates you are keeping the bankers happy with excellent Investment Management, but you need to work on Customer Service metrics
- **"Happy-face Quadrant"** -- indicates you are keeping your customers happy with excellent customer service, but you need to work on improving your Inventory Investment metrics
- **"? Quadrant"** indicates both poor Customer Service and poor Inventory Investment metrics. The Buyer needs to work with his/her manager to develop a specific improvement plan.

Buyer Performance Matrix
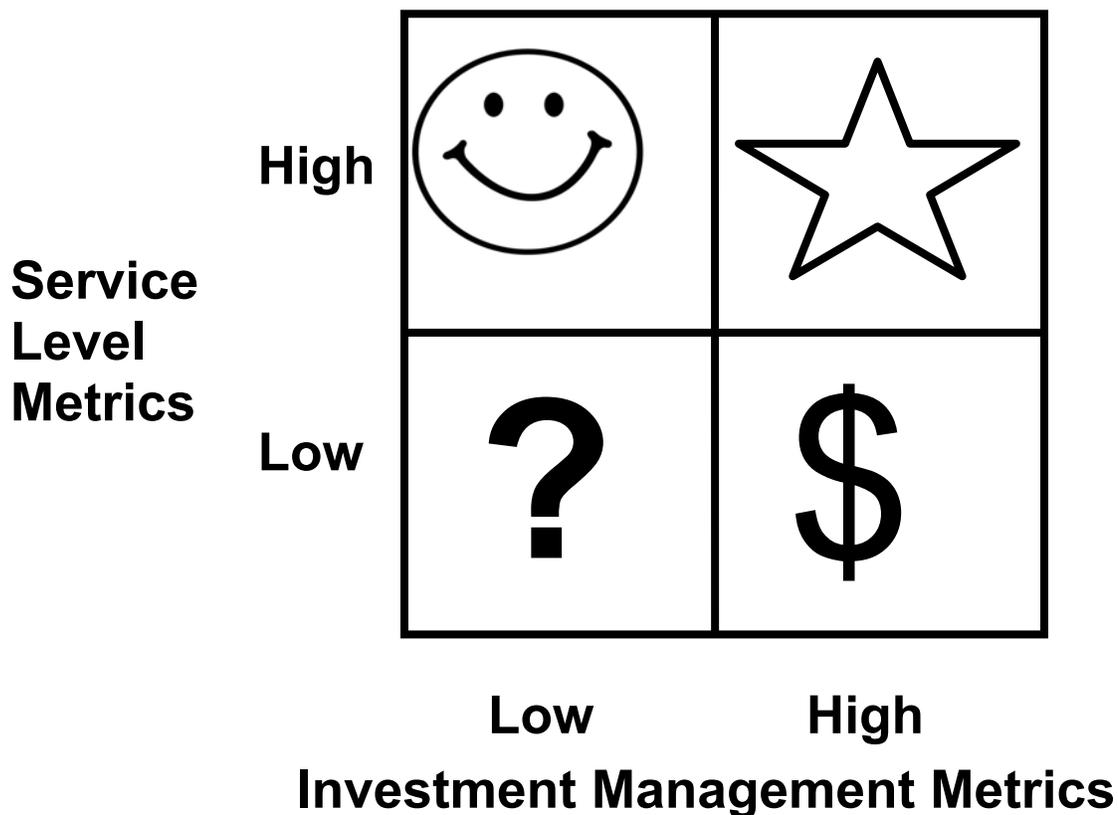
Here is an example of an actual typical matrix.

Buyer Performance Matrix - Example

The chart is a scatter plot titled "Buyer Performance Matrix - Example" with both axes ranging from 50 to 100. A vertical line marks the "Service Level Median - 75.0" and a horizontal line marks the "Investment Median 78.7."

"SLUDGE" METRICS

In addition to the metrics listed above, I wanted to focus on eliminating "sludge." By this I mean getting rid of all of the SKU's on the shelves that should not be there. So I established three separate metrics for sludge:

- % decline in the number of "Excess SKU's" -- SKU's with inventory levels (unintentionally) greater than a twelve week supply
- % decline in the number of "Discounted SKU's" with positive inventory levels (i.e., that had not been returned to the manufacturer for credit or other SKU's)

- % decline in the number of "Inactive SKU's" -- SKU's with positive inventory levels that had had no sales in the last eight weeks or longer

An overall "sludge" performance measure was created for each Buyer by adding the three individual metrics for the Buyer together.

There is some overlap with several of the Investment metrics, but I felt that they were important enough that the duplication was more than justified.

HOW THE METRICS WERE USED

Each week the metrics were posted on the bulletin board. Each Buyer's current standing and their improvement from the beginning of the month were visible to all the other Buyers.

It soon became a contest with the Buyers striving to out-perform one another. Buyers joked about how well they did or how well they were going to do next week. We made it a game and we all had fun with it! (Note: Most of the buyers were in their 20's and blessed with a playful competitive nature.)

In addition, Buyers whose performance was not strong worked with their managers and used the metrics as diagnostics to develop specific plans for improvement.

At our monthly Department meeting, we announced the winners for the month in terms of (1) best overall metric performance, and (2) "Sludge-Buster-Of-The-Month" (the Buyer with the best sludge reduction performance). The winners each received a gift certificate for a dinner-for-two at a good restaurant.

At these meetings, we really celebrated the winners' success! We also pointed out and celebrated the performance of other Buyers whose metrics were exceptional good -- either in absolute terms or due to percentage improvement.

Other forms of recognition included having Buyers who were doing something particularly well (e.g., forecasting, getting returns back to suppliers, answering Sales Help Desk calls, etc.) give a short talk about how they did it.

In addition to the dinner-for-two, for the "Sludge-Buster-Of-The-Month," we gave out a special tee-shirt with the symbol below on the front. This tee-shirt could be worn any time by the winner. Normally, Merisel did not allow tee-shirts -- so wearing this tee-shirt became a special badge of honor.

THE RESULTS

During my two year tenure at Merisel, the Purchasing Department made some great strides:

- Order line fill-rates increased from the mid-70%'s to the low 90%'s
- Inventory turnover increased from about 7 to about 10
- Department employee turnover declined from 45% (the highest in the company) to 5% (the lowest in the company)

While it would it would be inappropriate to attribute all of these improvements solely to using metrics, I am convinced that our metrics program was very instrumental in enabling these results. The primary reasons were that our metric process:

- Focused the Buyers on key priorities
- Acted as a performance feedback mechanism
- Improved communications -- both within Purchasing and with other Departments, e.g., Sales, Finance, etc.
- Recognized and rewarded people for a job-well-done
- Helped to make it a fun place to work

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