

# Metrics Drive Success

## Designing and Implementing a World Class Measurement System

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Performance metrics must be carefully designed and managed to focus attention on a critical few, strategically relevant parameters. This article will address five common causes of failure and present guidelines for designing and implementing a measurement system to drive your organization to success.

A 2001 survey by Bain & Company reveals that 50% of companies in North America and Europe claim to be using a Balanced Scorecard for managing company performance.<sup>1</sup> Following a 2000 Benchmarking Survey, Hackett Benchmarking, said, “Balanced Scorecards are clearly a fad that companies feel compelled to adopt in order to stay current”. David P. Norton, co-author of *The Balanced Scorecard* and numerous articles on the subject says this is due to the fact that over half the companies in Hackett’s survey had an unbalanced scorecard with over 75% of the metrics in the financial performance category.<sup>2</sup> While this may be true, we believe the problem goes deeper than just the number of metrics in each of a balanced set of categories (typically financial, customer, internal processes, and learning & growth).

This article is not intended to be either a critique or a “how to” of the Balanced Scorecard. It is intended to look more broadly at world class measurement systems. Several references and examples of organizations using the Balance Scorecard are used because it is so popular.

### Common Sources of Performance Measurement Failure

#### 1. Long-term versus short-term outlook

Improvements in learning & growth and internal process metrics should be expected to lead to future improvements in customer and financial results. Of course, the lag time can be significant. Wall Street demands that companies deliver the financial numbers every quarter. Many organizations start out with balanced scorecards and good intentions, but lose their way when the next quarter's projections do not add up. Budgets are slashed for research and development, employee training and process improvements in order to make the financial numbers. Metrics that are not expected to make a short-term contribution to the bottom line are often deemphasized or abandoned. Employees see this as a change in priorities and give up on the long-term plans.

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<sup>1</sup> Balanced Scorecard Report, March-April 2002

<sup>2</sup> Balanced Scorecard Report, 2000 Reprint #B0003E



## 2. **Unbalanced focus on financial results internally and externally**

As stated by David Norton, having most of your metrics in a single category (usually financial) is one way to cause unbalance in your measurement system. How results are tracked and how performance is linked to compensation are other ways an unbalance can occur. One organization, which on the surface had a balanced scorecard with almost an equal number of metrics in all categories, was concerned that customer results were not improving rapidly enough. Assessment revealed that while all metrics were tracked and discussed in business reviews, the management bonus program was weighted at 75 percent for net income. The remaining 15 metrics were spread over 25 percent, and most ended up having less than 1 percent impact on bonuses.

You can also get out of balance in how you track results. We found one company who had weekly video conferences where managers had to provide detailed explanations of financial variances to their Vice President of Operations. The only time the managers looked at other metrics was to post monthly trend charts.

## 3. **Focusing on labor efficiency and impact on standard cost; ignoring more meaningful metrics**

A paper converting company in Wisconsin developed a balanced scorecard and began measuring customer back orders. One work cell had a very high number of back orders and was working overtime every weekend to keep up. The work cell's labor efficiencies were always around 100 percent, and they began making plans to buy a new machine. Analysis revealed that the current machines were in reality running less than 50 percent of designed capacity. Their operations were routinely stopped for breaks, lunch, shift change, changeovers and other problems during the day. They also ran slower than design speed because operators could not keep pace with the packaging requirements. The direct labor efficiency mindset created by their standard cost and overhead allocation system had them locked in a one-person one-machine paradigm. When additional operators were added to allow continuous operations and higher run speeds, the efficiency and standard cost metrics showed a decline because overhead allocations were based on direct labor hours. However, when productivity was measured on an actual cost per case basis, *it increased by over 50 percent!* The capital investment was delayed by several years, customer back orders improved immediately and overtime went to zero despite a drop in efficiency and standard cost metrics.

## 4. **Developing ownership at all levels of the organization**

A healthcare manufacturing company in Chicago went through a challenging strategic planning process to focus the organization on future growth. One of the barriers was capital availability due to excessive inventories of work-in-process and finished goods. Planned improvements in metrics for internal processes and learning a growth (employee skills and flexibility) were going to enable them to free-up millions of dollars for investment in new products and an acquisition over the next 2 years. After one year almost no progress had been achieved. When we started looking into what it was going to



take to speed processes and reduce inventory, we found that the new metrics had been posted everywhere. However, there was little understanding of the strategy, metrics or improvement goals below the level of department managers. Resistance to improvement ideas was very high on the shop floor, in large part due to the failure to adequately communicate and develop ownership with the people who could most affect the desired changes.

#### 5. **Failure to design metrics to disclose all of the opportunity**

People want to feel good about their performance, as a result metrics are often defined in a way that shows current performance to be reported at 80 percent or above. This is similar to grading on a curve.

A label manufacturing company in Georgia established a standard scrap allowance that ranged from 8 –12 percent depending on the product and its scrap history. Recent process improvements had reduced the average scrap to 7 percent, and the production manager reported that he had made money on scrap each month. As a result, process improvement became a very low priority. After a review of their measurement practices, the company reduced the scrap allowance on all products to zero. The organization suddenly discovered that they were *losing \$ 9 million per year due to scrap*, an amount that exceeded their total annual profit. Scrap reduction immediately became a major priority!

A consumer products company in Pennsylvania measured equipment downtime with allowances for breaks, lunch, changeovers, preventive maintenance and team meetings. Percentage run time was consistently in the high nineties. Teams believed that they were out of capacity and needed to add an additional shift or new equipment. When they adopted a zero-allowance philosophy they discovered that their true percentage runtime was below 60 percent. This immediately led to the identification of many ways to increase runtime without adding additional equipment or adding a third shift.

### **Designing and Implementing a World Class Measurement System**

Achieving World Class performance requires hard work and intense desire—ask any professional athlete or coach. Successful teams and organizations tend to loose their intensity and ease up on the work while the competition keeps moving.

Dr. Deming found that many organizations take the easy way to making their numbers look better by “Distorting the Data.” One company's employees widely refer to this as “pencil whipping”—for example, modifying time sheets to make closely-watched efficiencies look good. A second easy way to make the numbers is to “Work the System”—blame someone else, change the metric, or issue a "pro forma" financial statement. If you don't like these or they don't achieve the desired results your only choice is to improve the process, starting with the measurement system.

There are perhaps an infinite number of options on what and how to measure organizational performance. The final set of metrics and the plan for implementation



must be developed with knowledge of the organization's marketplace, culture and current measurement system. However, when world class organizations are surveyed, several common elements can be identified:

1. Leadership is involved and demonstrates commitment to develop, implement and continuously improve the measurement system. Creating a measurement system is one of the hardest tasks that leaders face. Many give-up or delegate the task to others.
2. A balanced set of metrics that reflect the needs of all stakeholders and focuses on both short and long term results. As stated earlier the popular “Balanced Scorecard” approach suggests four categories to achieve balance: Customer, Business, Internal Processes and Learning & Growth. These categories are frequently modified, but all World Class systems have metrics that reflect the needs of all stakeholders.
3. There are a limited number (4 to 7) of high level strategic categories that guide the development of metrics in all areas and levels of the organization. Large complex organizations utilize many metrics to monitor organizational performance. We believe a limited number of high-level strategic objectives should be used to communicate strategy, set priorities and guide development of functional and individual metrics. By starting with a limited number of strategic objectives at the top, organizations achieve alignment by having all functions develop supporting metrics. This dramatically reduces conflict between functions.
4. Performance is linked to compensation. Most executive and management compensation systems are linked to performance, while few include all employees in the pay for performance system. World Class organizations are using gain sharing or other performance bonuses to link all employees pay to results.
5. Metrics are implemented in a top-down, cascading process. After senior leadership develops the strategy, each succeeding level of the organization develops supporting metrics based on their area of work and impact they have on the strategic objectives.
6. A bottom-up approach is used for development of improvement opportunities. This allows senior leadership to establish “what is to be done” without dictating “how to do it”. This keeps ownership for results with the teams and individuals. Combining this bottom-up approach for improvement opportunities with the cascading top-down development of supporting metrics enables world class organizations to create high levels of understanding, ownership and commitment to goals and objectives.
7. Visual controls are used to track results and drive continuous improvement. Measurement and data collection is driven and owned by the individuals, teams and functions. World-Class systems do not rely on centralized accounting and information systems departments to track short-term results. Often simple, timely, non-computerized data is developed and used to measure performance. This keeps local ownership, increases confidence, and allows more timely corrective action.



8. Performance metrics are seen as one element of a performance management system that is linked to a strategic planning process. The strategic planning process defines the priorities for marketplace success. The performance management system links performance metrics, goal setting, communication and information sharing, compensation, rewards and recognition, employee selection and promotion and training. Performance metrics determine the actions and behaviors of individuals in conjunction with these other elements of the performance management system. In the words of Eli Goldratt, “tell me how you measure me and I will tell you how I will behave”.
  
9. The final list of metrics must be tailored to the marketplace and current situation of the organization. Some common metrics for organizations striving to continuously improve business results and marketplace competitiveness are:
  - Market Share or Customer Share
  - Top line sales growth
  - Percent of sales from new products or services
  - Customer lead time (order to delivery)
  - Throughput time (sometimes called cycle time, “dock-to-dock” time or “time-to-serve”)
  - Inventory (days-on-hand, units, turns for Raw Materials, WIP, and Finished Goods)
  - Promises Kept (Orders/ Services delivered on the promised date or time)
  - Quality (internal scrap rate or defects per million)
  - Throughput (Sales Dollars minus Total Variable Cost)
  - Operating Expense (All Dollars spent to convert input into output)
  - Profitability (Throughput – Operating Expense)
  - Productivity (Throughput divided by operating expense)
  - Safety ( Incident Rate, number of days between lost-time accidents)
  - Employee Satisfaction (number of employee complaints)
  - Absenteeism (percent of workforce absent)
  - Labor Efficiency and Work Order Variance are absent from this list because they drive local optimization verses global optimization, large lot sizes, high inventory, and significant non-value-adding expenses to maintain and manage.

In conclusion, designing and implementing a world class measurement system is hard work, takes time and patience. Leaders must not give-up or delegate the task to support functions because employees will see this as a lack of importance, not only for metrics, but also the strategic priorities that the metrics are supposed to emphasize. Learning from the five common failures and the common elements of organizations with world class measurement systems can speed improvement in your organization.



Over the past several years Six Sigma has become one of the prominent business improvement methods. The methodology places a great deal of emphasis on developing the right metrics. Mikel Harry and Richard Schroder write in *Six Sigma*:

We don't know what we don't know.  
We can't act on what we don't know.  
We won't know until we search.  
We won't search for what we don't question.  
We don't question what we don't measure.

To ensure organization success you must design and implement metrics that drive employees to question processes and procedures and search for ideas to improve products or services and reduce cost. Without the right metrics companies fail and never know why.

