For good MEASURE

Setting and attaining a few key performance measures will help ensure that all levels of the organization stay on track and pull together behind the corporate engine—before the competition beats them to it.

By Kelvin F. Cross and Richard L. Lynch

Will Rogers once said, "Even if you're on the right track, if you sit still, you'll get run over." In business, sitting still is a sure way to fall behind the competition. Organizations are scrambling to improve all aspects of day-to-day performance in every department and work centre, and "continuous improvement" is all the rage. But these efforts have to yield tangible results. Managers need a model to help identify, measure, and manage a few critical performance indicators. They need assurance that their improvement efforts are organized, that their priorities are on the right track, and that their measures are implemented—before it's too late.

"Being on the right track" received plenty of attention under strategic planning during the 1970s. The idea was to improve key performance attributes that gave a company its competitive edge. But many companies concentrated on getting executives and managers on board and neglected to motivate employees throughout the organization. The moral: even if the train's engine is headed in the right direction, just one or two derailed cars will halt its progress.

The 1980s spawned numerous ideas to put entire organizations on track, including continuous improvement programs like Total Quality Management (TQM) and Just-in-Time (JIT). Companies aimed to establish a consistent, organization-wide philosophy that would "eliminate the unessential and streamline the essential." But without clear links between the programs and strategic priorities, "non-essentials" were subject to interpretation, focus was lost, and progress was painfully slow. Progress was so slow, in fact, that many companies were driven out of markets. The moral: even if all the train's cars are lined up, without a solid link to the engine, the train won't reach its destination on time.

Measures with meaning

The first step toward putting the organization on track is defining and managing a few critical performance indicators. Each function, department and work centre must understand, manage, and improve those performance attributes that will best help the company achieve its vision. A new paradigm, the Performance Pyramid, contains the objectives and measures that link a company's day-to-day operations to its vision (Figure 1).

At the top of the pyramid is the company's vision. Embodying the company's "heart and soul," the vision defines its markets and how it will compete—on price, breadth of product line, and quality of sales force.

The second level, business units, comprises the company's key results, objectives and measures. Most business units define success in two ways: reaching short-term targets of cash flow and profitability; and achieving long-term goals of growth and market position. Market measures, defined by customers, might include absolute or relative market share, or market share compared to that of the largest competitor.

Traditional financial measures dominate the right-hand side of the performance pyramid. They are valid measures of the business and each of its units, but they represent at best only half of the picture.

Businesses have to change their short-term emphasis on these measures. They must also change the ways in which they translate these objectives into day-to-day operations and balance them against market-based measures.

When the generals of East and West clash on the competitive battlefield, the outcome depends on one key strategic measure: market share. Japanese managers place more weight on market measures—current market share, ratio of new products (future market share)—and less weight on return-on-investment. American executives favor a singular focus on financial measures like return-on-investment and share price increases. For Americans, market share places a distant third, and new products ratio is barely in the running.

Coupling vision and performance

The business operating system (BOS) in the middle of the pyramid bridges the gap between top-level, traditional indicators and new day-to-day operational measures. It includes all internal functions, activities, policies and procedures, and supporting systems (planning and control, information, rewards, communication) needed to develop, produce, and provide specific goods or services for specific customer needs. For example, business operating systems exist for "new product introduction" (product definition and development), for the "order fulfillment" cycle that processes orders and ships product, for "customer service," and for "revenue management." The operating system links department performance with company strategy and performance by measuring not just the efficiency of single departments, but the effectiveness of the entire operating system.

One department may serve several business operating systems. A fabrication shop making printed circuit boards, for instance, can serve business operating systems for developing and testing prototypes for new circuits, and for completing production orders. Each operating system's objectives—and indicators of successful performance—may radically differ. However, understanding how the major operating systems work allows the company to install effective department measures, and encourages each department to link its performance with that of the organization. The main performance indicators of operating systems are customer satisfaction, flexibility, and

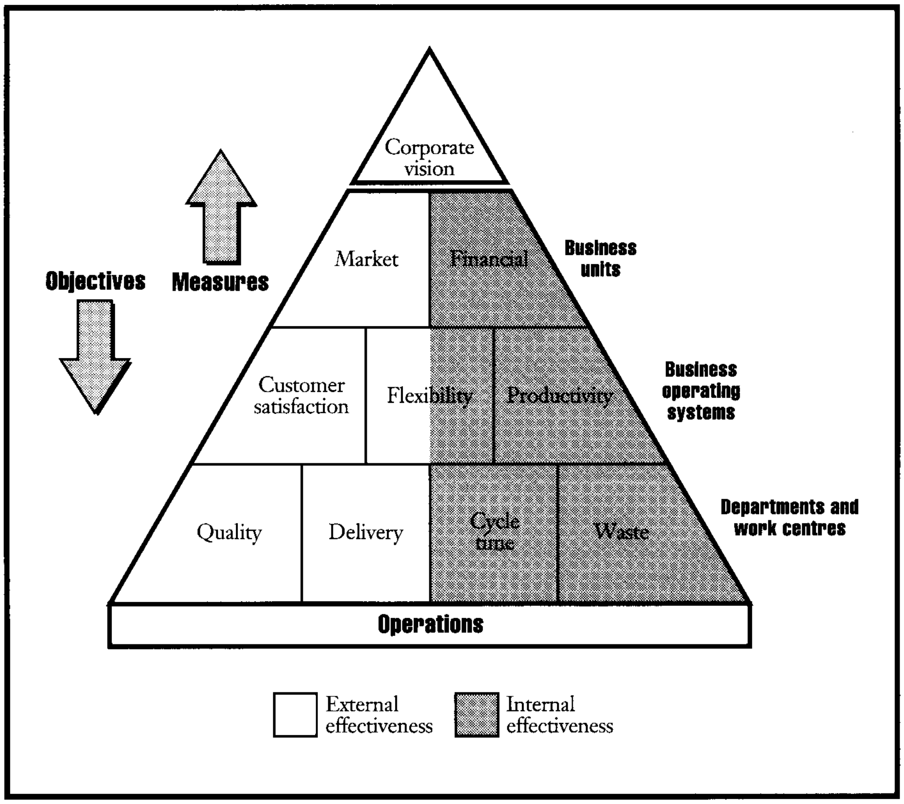

Figure 1: *The performance pyramid*

productivity, as follows:

- ❑ Customer satisfaction, the difference between performance and expectation, indicates how customer expectations are managed.
- ❑ Flexibility lies at the heart of the performance pyramid, as it defines how responsive the operating system is. Ample evidence suggests many Japanese manufacturers have set flexibility as their number-one priority.
- ❑ Productivity denotes how effectively resources (including time) are managed in order to achieve the customer satisfaction and flexibility objectives.

Four key performance measures

At the bottom of the performance pyramid are specific measures that managers and workers can control daily. High-quality products or services and regular on-time delivery lead to customer satisfaction. The combination of externally driven delivery (when the customer wants to take delivery) and internally driven cycle time (reducing production time) defines flexibility. Productivity can be increased by reducing both cycle time and waste. At the local department level, waste includes activities and resources that add no value but are incurred while meeting the other performance objectives.

A company's efforts to improve performance often emphasize one dimension at the expense of another—quality at any cost, for example, or improving on-time delivery rates by letting inventory rise. Or the effort may be inconsistent: managers might review financial performance one day, quality metrics the next week, and shipment reports daily. Managers now recognize the need to develop and manage an integrated profile of performance simultaneously.

The four key dimensions of performance are relatively straightforward. The

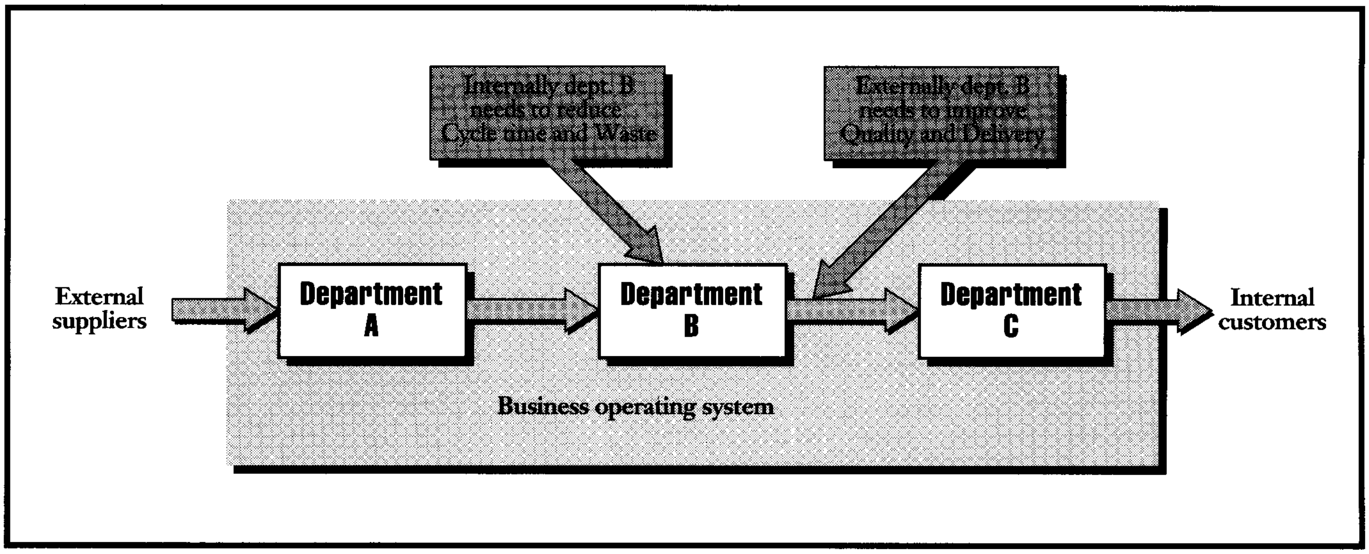

Figure 2: ***Department scorecard.*** *Increase quality and delivery to the next department, and reduce waste and cycle time within the department*

objectives of any function or department are to increase its quality and delivery, while reducing cycle time and waste. The company must understand how these four performance criteria behave and interact.

Performance measures are either internal (cycle time and waste) and invisible to the department's customer (the next department), or external (quality and delivery) and important to the operation's customer. For internal measures, the company seeks to meet customer needs using efficient methods that reduce product cost. Measuring internal performance is like scoring golf: the lower the score, the better. For external measures, the opposite is true. The company aims to increase delivery performance and product or service quality: the higher the score, the better.

Figure 2 shows the flow of work through a business operating system to the final customer, illustrating performance measurement for Department B. The quality and delivery of Department B's work are specified and measured by Department C. Department B defines and measures its own performance in reducing cycle time and waste. Activities and their outputs are connected throughout the chain to the end customer.

Managing improvement

While quality, delivery, cycle time, and waste are managed simultaneously, one might receive attention for immediate improvement while the others are simply monitored and maintained. How to decide which aspect of performance to emphasize? The answer depends upon several factors: your strategies, the difference between your company's performance and that of your competitors, and the relative rate of improvement in each dimension for your company and for the competition.

Companies often set arbitrary, static goals lacking benchmarks (for example, 95-per-cent on-time delivery) or accept any improvement as sufficient progress. A five-per-cent annual rate of improvement in cost or quality may be good—but it's not good enough if a competitor's performance is improving by 10 per cent a year. In a competitive market, meaningful improvement comes from managing key performance attributes. The company must compare its rate of continuous improvement with that of its best competitor in the performance dimensions that define its competitive position.

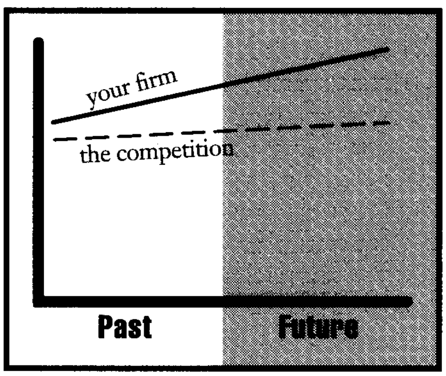

Figure 3: Continuous improvement

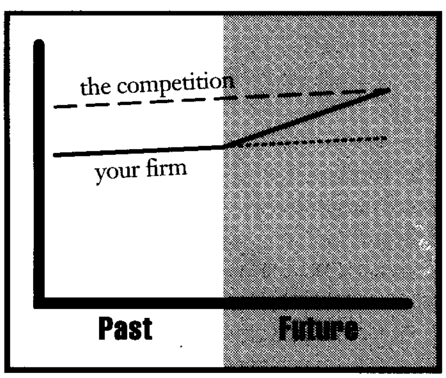

Figure 4: Accelerated improvement

The distance between the current performance improvement rate and the required rate determines how to emphasize and reward improvement. Any improvement may be sufficient when your performance equals or exceeds that of your competitors. But when a competitor's performance is significantly higher, you might have to emphasize performance to a goal effectively established by the competitor.

Often, it isn't enough to simply measure up to competitors' performance. Any company that demonstrates the "best practice" operation of any kind is a company to emulate. In a process it calls "benchmarking," Xerox goes far beyond comparing specific competitors' products. Each department must "benchmark" its performance against that of the profession leader, regardless of industry. This philosophy transcends such directly competitive departments as research and development or manufacturing to include all departments, even finance and personnel.

Above and beyond the call

If the company is improving an aspect of performance at a rate surpassing that of its competitors (Figure 3), it might shift its attention to another performance dimension. But it cannot ignore the first aspect.

Instead, measures are required to prevent backsliding. One company, for example, improved its on-time delivery rate over three years to 97 per cent from 70 per cent. Declaring its improvement program a success, the company ceased monitoring delivery. A review after three business quarters of neglect showed that on-time delivery had slipped to 89 per cent.

And don't forget that a competitor's performance might surge ahead in the meantime. In fact, instead of simply sustaining a steady pace of continuous improvement, could your firm make its own surge to devastate the competition? Determine your rate of improvement relative to that of the competition, then choose performance aspects that need emphasis.

Continuous improvement is insufficient if a competitor is improving at the same rate (Figure 4). The first task is to determine whether the performance attribute has strategic significance—or whether the companies are competing for the same market on different performance aspects. If the performance attribute is important, the company might have to launch a program of "accelerated improvement"—a rate of improvement greater than the competitor's. By setting an accelerated pace with numerous incremental improvements, a company might approach or even exceed the performance gains of a one-shot breakthrough improvement.

If continuous or even accelerated improvement isn't enough, the company may need to make a "breakthrough improvement" just to pull abreast of the competition (Figure 5). The alternative: to fall behind and eventually drop out of the market or product line.

The organization to catch

A breakthrough improvement might make your company the one to catch (Figure 6). This breakthrough is especially important when a firm's strategy is to distinguish itself on a particular dimension of performance (for example, Federal Express's "positively overnight" delivery policy). The only way to attain a breakthrough improvement is to establish aggressive and ambitious goals. Setting a goal of halving the introduction time for new products, for example, might pull the company's functions together in a common purpose and force a fresh look at the business. When General Electric set a goal to reduce production time for its circuit breaker boxes to three days from three weeks, it began by questioning every aspect of production. The company achieved breakthrough performance by consolidating six plants into one, reducing the number of parts by 95 per cent, automating the factory, and eliminating levels of management.

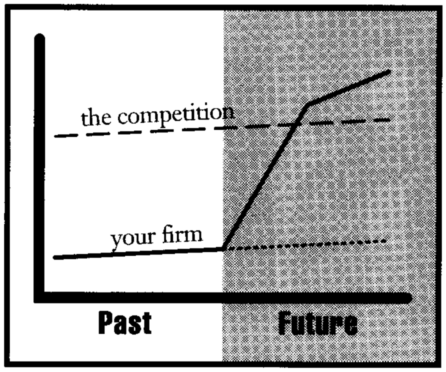

Figure 5: Required breakthrough improvement

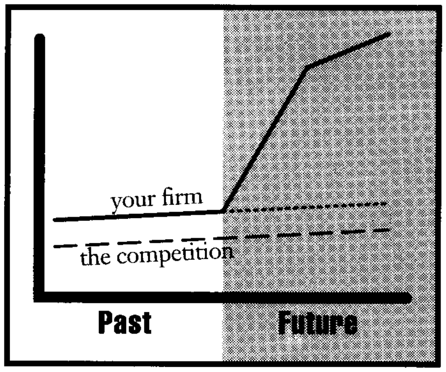

Figure 6: Desired breakthrough improvement

Breakthrough improvements might come from organizing self-managed work teams and work cells, such as the following:

- ❑ At one circuit board assembly plant, new work cells reduced in-process cycle time to less than three days from more than 30 days. First-pass yield jumped within weeks to 85 per cent from 65 per cent.
- ❑ The billing and collections department of a Fortune 500 firm had almost $30 million worth of invoices stalled in-process because of paperwork errors, incomplete information and other snags. Reducing errors and turnaround time by only five to 10 per cent a year would have been unacceptable. The company set an immediate goal of cutting the value of invoices in-process by more than half, and set up focused, semi-autonomous work teams responsible for the entire billing process. The result: through-put time fell by more than 80 per cent, yielding a one-time influx of more than $20 million.

The circuit board work cell described above was not quite the success story it appears. An audit of the operation a year later revealed that through-put time had returned to several weeks. Leaving its original measurement system in place, the company had failed to sustain and further reduce cycle time. An overhaul of the measurement system and renewed attention to performance reduced cycle time back to the original goal. A breakthrough improvement, or any improvement, does not end with installation; it requires day-to-day operation. Without appropriate measures to encourage meaningful continuous improvement in operations, the initial successes will not last.

Performance measurement is the single most powerful tool to ensure success of business strategies. Driven by customers, aligned strategically, and integrated and instituted at the levels of business unit, division and department, measures signal daily priorities for keeping managers and employees on track. CMA