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Putting the Balanced Scorecard to Work

by Robert S. Kaplan and David P. Norton

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Today's managers recognize the impact that measures have on performance. But they rarely think of measurement as an essential part of their strategy. For example, executives may introduce new strategies and innovative operating processes intended to achieve breakthrough performance, then continue to use the same short-term financial indicators they have used for decades, measures like return-on-investment, sales growth, and operating income. These managers fail not only to introduce new measures to monitor new goals and processes but also to question whether or not their old measures are relevant to the new initiatives.

Effective measurement, however, must be an integral part of the management process. The balanced scorecard, first proposed in the January-February 1992 issue of HBR ("The Balanced Scorecard—Measures that Drive Performance"), provides executives with a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures. Much more than a measurement exercise, the balanced scorecard is a management system that can motivate breakthrough improvements in such critical areas as product, process, customer, and market development.

The scorecard presents managers with four different perspectives from which to choose measures. It complements traditional financial indicators with measures of performance for customers, internal processes, and innovation and improvement activities. These measures differ from those traditionally used by companies in a few important ways:

Clearly, many companies already have myriad operational and physical measures for local activities. But these local measures are bottom-up and derived from ad hoc processes. The scorecard's measures, on the other hand, are grounded in an organization's strategic objectives and competitive demands. And, by requiring managers to select a limited number of critical indicators within each of the four perspectives, the scorecard helps focus this strategic vision.

In addition, while traditional financial measures report on what happened last period without indicating how managers can improve performance in the next, the scorecard functions as the cornerstone of a company's current *and* future success.

Moreover, unlike conventional metrics, the information from the four perspectives provides balance between external measures like operating income and internal measures like new product development. This balanced set of measures both reveals the trade-offs that managers have already made among performance measures and encourages them to achieve their goals in the future without making trade-offs among key success factors.

Finally, many companies that are now attempting to implement local improvement programs such as process reengineering, total quality, and employee empowerment lack a sense of integration. The balanced scorecard can serve as the focal point for the organization's efforts, defining and communicating priorities to managers, employees, investors, even customers. As a senior executive at one major company said, "Previously, the one-year budget was our primary management planning device. The balanced scorecard is now used as the language, the benchmark against which all new projects and businesses are evaluated."

The balanced scorecard is not a template that can be applied to businesses in general or even industrywide. Different market situations, product strategies, and competitive environments require different scorecards. Business units devise customized scorecards to fit their mission, strategy, technology, and culture. In fact, a critical test of a scorecard's success is its transparency: from the 15 to 20 scorecard measures, an observer should be able to see through to the business unit's competitive strategy. A few examples will illustrate how the scorecard uniquely combines management and measurement in different companies.

Rockwater: Responding to a Changing Industry

Rockwater, a wholly owned subsidiary of Brown & Root/Halliburton, a global engineering and construction company, is a worldwide leader in underwater engineering and construction. Norman Chambers, hired as CEO in late 1989, knew that the industry's competitive world had changed dramatically. "In the 1970s, we were a bunch of guys in wet suits diving off barges into the North Sea with burning torches," Chambers said. But competition in the subsea contracting business had become keener in the 1980s, and many smaller companies left the industry. In addition, the focus of competition had shifted. Several leading oil companies wanted to develop long-term partnerships with their suppliers rather than choose suppliers based on low-price competition.

With his senior management team, Chambers developed a vision: "As our customers' preferred provider, we shall be the industry leader in providing the highest standards of safety and quality to our clients." He also developed a strategy to implement the vision. The five elements of that strategy were: services that surpass customers' expectations and needs; high levels of customer satisfaction; continuous improvement of safety, equipment reliability, responsiveness, and cost effectiveness; high-quality employees; and realization of shareholder expectations. Those elements were in turn developed into strategic objectives (see the chart "Rockwater's Strategic Objectives"). If, however, the strategic objectives were to create value for the company, they had to be translated into tangible goals and actions.

Rockwater's senior management team transformed its vision and strategy into the balanced scorecard's four sets of performance measures (see the chart "Rockwater's Balanced Scorecard"):

Financial Measures: The financial perspective included three measures of importance to the shareholder. Return-on-capital-employed and cash flow reflected preferences for short-term results, while forecast reliability signaled the corporate parent's desire to reduce the historical uncertainty caused by unexpected variations in performance. Rockwater management added two financial measures. Project profitability provided focus on the project as the basic unit for planning and control, and sales backlog helped reduce uncertainty of performance.

Customer Satisfaction: Rockwater wanted to recognize the distinction between its two types of customers: Tier I customers, oil companies that wanted a high value-added relationship, and Tier II customers, those that chose suppliers solely on the basis of price. A

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price index, incorporating the best available intelligence on competitive position, was included to ensure that Rockwater could still retain Tier II customers' business when required by competitive conditions.

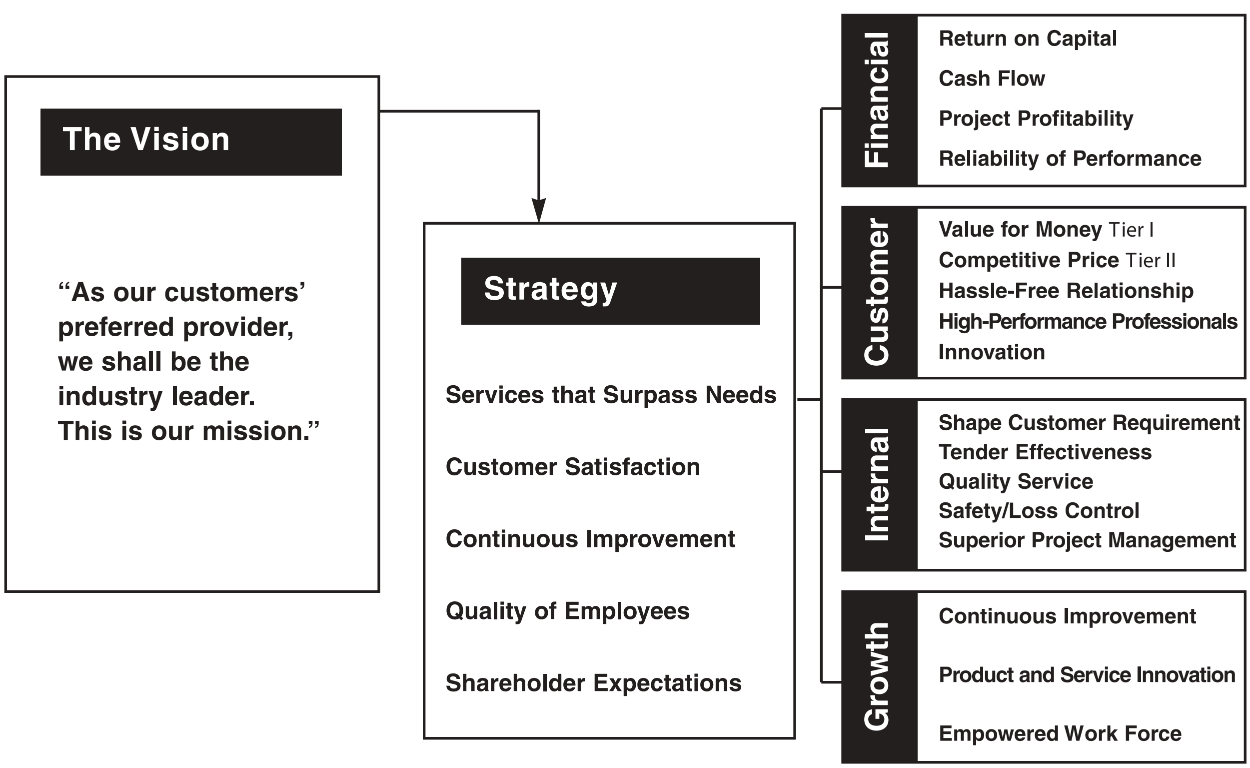
The company's strategy, however, was to emphasize value-based business. An independent organization conducted an annual survey to rank customers' perceptions of Rockwater's services compared to those of its competitors. In addition, Tier I customers were asked to supply monthly satisfaction and performance ratings. Rockwater executives felt that implementing these ratings gave them a direct tie to their customers and a level of market feedback unsurpassed in most industries. Finally, market share by key accounts provided objective evidence that improvements in customer satisfaction were being translated into tangible benefits.

Internal Processes: To develop measures of internal processes, Rockwater executives defined the life cycle of a project from launch (when a customer need was recognized) to completion (when the customer need had been satisfied). Measures were formulated for each of the five business-process phases in this project cycle (see the chart "How Rockwater Fulfills Customer Needs"):

- *Identify:* number of hours spent with prospects discussing new work;
- *Win:* tender success rate;
- *Prepare and Deliver:* project performance effectiveness index, safety/loss control, rework;
- *Closeout*: length of project closeout cycle.

The internal business measures emphasized a major shift in Rockwater's thinking. Formerly, the company stressed performance for each functional department. The new focus emphasized measures that integrated key business processes. The development of a comprehensive and timely index of project performance effectiveness was viewed as a key core competency for the company. Rockwater felt that safety was also a major competitive factor. Internal studies had revealed that the indirect costs from an accident could be 5 to 50 times the direct costs. The scorecard included a safety index, derived from a comprehensive safety measurement system, that could identify and

Rockwater's Strategic Objectives



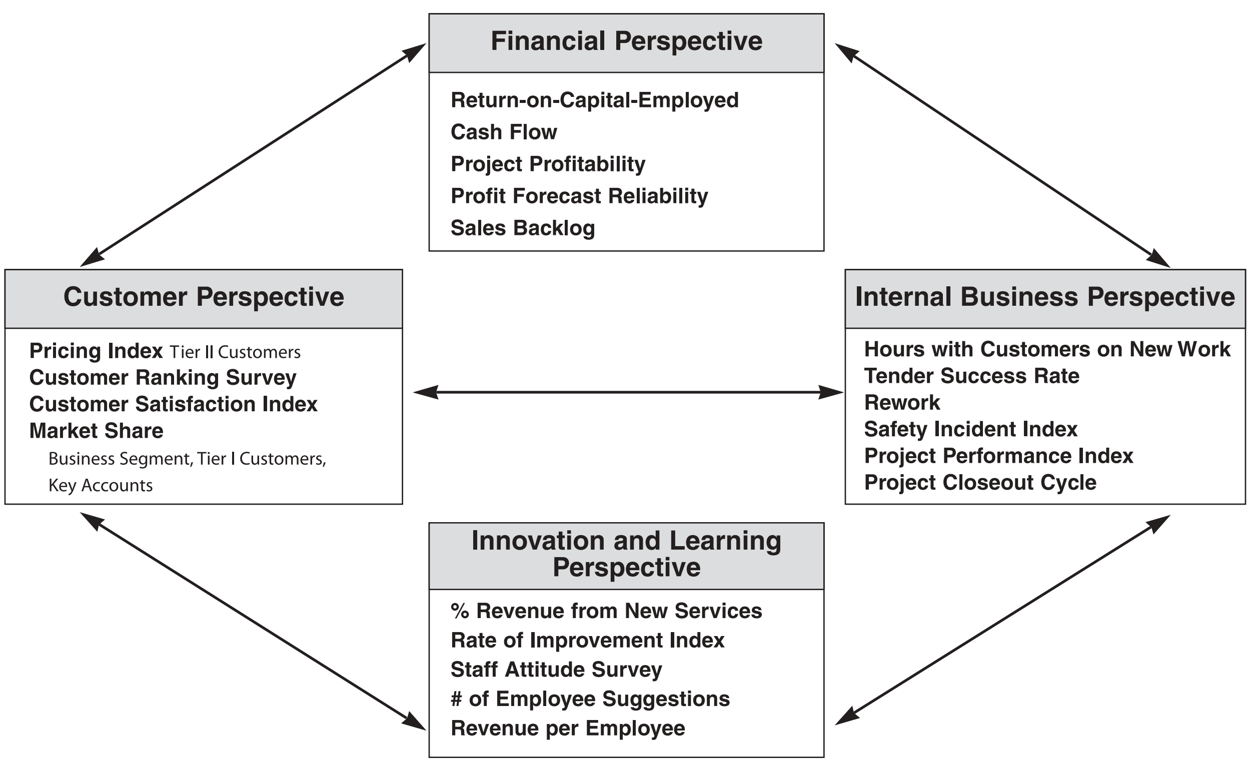
classify all undesired events with the potential for harm to people, property, or process.

The Rockwater team deliberated about the choice of metric for the identification stage. It recognized that hours spent with key prospects discussing new work was an input or process measure rather than an output measure. The management team wanted a metric that would clearly communicate to all members of the organization the importance of building relationships with and satisfying customers. The team believed that spending quality time with key customers was a prerequisite for influencing results. This input measure was deliberately chosen to educate employees about the importance of working closely to identify and satisfy customer needs.

Innovation and Improvement: The innovation and learning objectives are intended to drive improvement in financial, customer, and internal process performance. At Rockwater, such improvements came from product and service innovation that would create new sources of revenue and market expansion, as well as from continuous improvement in internal work processes. The first objective was measured by percent revenue from new services and the second objective by a continuous improvement index that represented the rate of improvement of several key operational measures, such as safety and rework. But in order to drive both product/service innovation and operational improvements, a supportive climate of empowered, motivated employees was believed necessary. A staff attitude survey and a metric for the number of employee suggestions measured whether or not such a climate was being created. Finally, revenue per employee measured the outcomes of employee commitment and training programs.

The balanced scorecard has helped Rockwater's management emphasize a process view of operations, motivate its employees, and incorporate client feedback into its operations. It developed a consensus on the necessity of creating partnerships with key customers, the importance of order-of-magnitude reductions in safety-related incidents, and the need for improved management at every phase of multiyear projects. Chambers sees the scorecard as

Rockwater's Balanced Scorecard



an invaluable tool to help his company ultimately achieve its mission: to be number one in the industry.

Apple Computer: Adjusting Long-Term Performance

Apple Computer developed a balanced scorecard to focus senior management on a strategy that would expand discussions beyond gross margin, return on equity, and market share. A small steering committee, intimately familiar with the deliberations and strategic thinking of Apple's Executive Management Team, chose to concentrate on measurement categories within each of the four perspectives and to select multiple measurements within each category. For the financial perspective, Apple emphasized shareholder value; for the customer perspective, market share and customer satisfaction; for the internal process perspective, core competencies; and, finally, for the innovation and improvement perspective, employee attitudes. Apple's management stressed these categories in the following order:

Customer Satisfaction: Historically, Apple had been a technology- and product-focused company that competed by designing better computers. Customer satisfaction metrics are just being introduced to orient employees toward becoming a customer-driven company. J.D. Power & Associates, a customer-survey company, now works for the computer industry. However, because it recognized that its customer base was not homogeneous, Apple felt that it had to go beyond J.D. Power & Associates and develop its own independent surveys in order to track its key market segments around the world.

Core Competencies: Company executives wanted employees to be highly focused on a few key competencies: for example, user-friendly interfaces, powerful software architectures, and effective distribution systems. However, senior executives recognized that measuring performance along these competency dimensions could be difficult. As a result, the company is currently experimenting with obtaining quantitative measures of these hard-to-measure competencies.

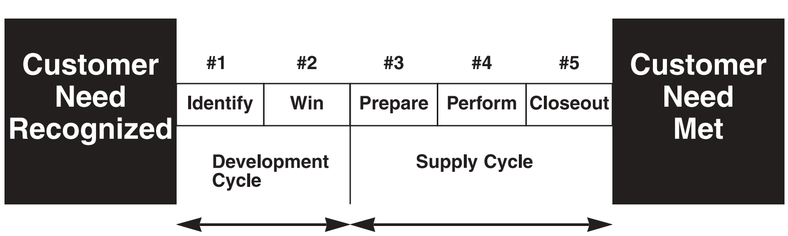
Employee Commitment and Alignment: Apple conducts a comprehensive employee survey in each of its organizations every two years; surveys of randomly selected employees are performed more frequently. The survey questions are concerned with how well employees understand the company's strategy as well as whether or not they are asked to deliver results that are consistent with that strategy. The results of the survey are displayed in terms of both the actual level of employee responses and the overall trend of responses.

Market Share: Achieving a critical threshold of market share was important to senior management not only for the obvious sales growth benefits but also to attract and retain software developers to Apple platforms.

Shareholder Value: Shareholder value is included as a performance indicator, even though this measure is a result—not a driver—of performance. The measure is included to offset the previous emphasis on gross margin and sales growth, measures that ignored the investments required today to generate growth for tomorrow. In contrast, the shareholder value metric quantifies the impact of proposed investments for business creation and development. The majority of Apple's business is organized on a functional basis—sales, product design, and worldwide manufacturing and operations—so shareholder value can be calculated only for the entire company instead of at a decentralized level. The measure, however, helps senior managers in each major organizational unit assess the impact of their activities on the entire company's valuation and evaluate new business ventures.

While these five performance indicators have only recently been developed, they have helped Apple's senior managers focus their strategy in a number of ways. First of all, the balanced scorecard at Apple serves primarily as a planning device, instead of as a control device. To put it another way, Apple uses the

How Rockwater Fulfills Customer Needs



Building a Balanced Scorecard

Each organization is unique and so follows its own path for building a balanced scorecard. At Apple and AMD, for instance, a senior finance or business development executive, intimately familiar with the strategic thinking of the top management group, constructed the initial scorecard without extensive deliberations. At Rockwater, however, senior management had yet to define sharply the organization's strategy, much less the key performance levers that drive and measure the strategy's success.

Companies like Rockwater can follow a systematic development plan to create the balanced scorecard and encourage commitment to the scorecard among senior and mid-level managers. What follows is a typical project profile:

1. Preparation

The organization must first define the business unit for which a top-level scorecard is appropriate. In general, a scorecard is appropriate for a business unit that has its own customers, distribution channels, production facilities, and financial performance measures.

2. Interviews: First Round

Each senior manager in the business unit—typically between 6 and 12 executives—receives background material on the balanced scorecard as well as internal documents that describe the company's vision, mission, and strategy.

The balanced scorecard facilitator (either an outside consultant or the company executive who organizes the effort) conducts interviews of approximately 90 minutes each with the senior managers to obtain their input on the company's strategic objectives and tentative proposals for balanced scorecard measures. The facilitator may also interview some principal shareholders to learn about their expectations for the business unit's financial performance, as well as some key customers to learn about their performance expectations for top-ranked suppliers.

3. Executive Workshop: First Round

The top management team is brought together with the facilitator to undergo the process of developing the scorecard (see the chart "Begin by Linking Measurements to Strategy"). During the workshop, the group debates the proposed mission and strategy statements until a consensus is reached. The group then moves from the mission and strategy statement to answer the question, "If I succeed with my vision and strategy, how will my performance differ for shareholders; for customers; for internal business processes; for my ability to innovate, grow, and improve?"

Videotapes of interviews with shareholder and customer representatives can be shown to provide an external perspective to the deliberations. After defining the key success factors, the group formulates a preliminary balanced scorecard containing operational measures for the strategic objectives. Frequently, the group proposes far more than four or five measures for each perspective. At this time, narrowing the choices is not critical, though straw votes can be taken to see whether or not some of the proposed measures are viewed as low priority by the group.

4. Interviews: Second Round

The facilitator reviews, consolidates, and documents the output from the executive workshop and interviews each senior executive about the tentative balanced scorecard. The facilitator also seeks opinions about issues involved in implementing the scorecard.

5. Executive Workshop: Second Round

A second workshop, involving the senior management team, their direct subordinates, and a larger number of middle managers, debates the organization's vision, strategy statements, and the tentative scorecard. The participants, working in groups, comment on the proposed measures, link the various change programs under way to the measures, and start to develop an implementation plan. At the end of the workshop, participants are asked to formulate stretch objectives for each of the proposed measures, including targeted rates of improvement.

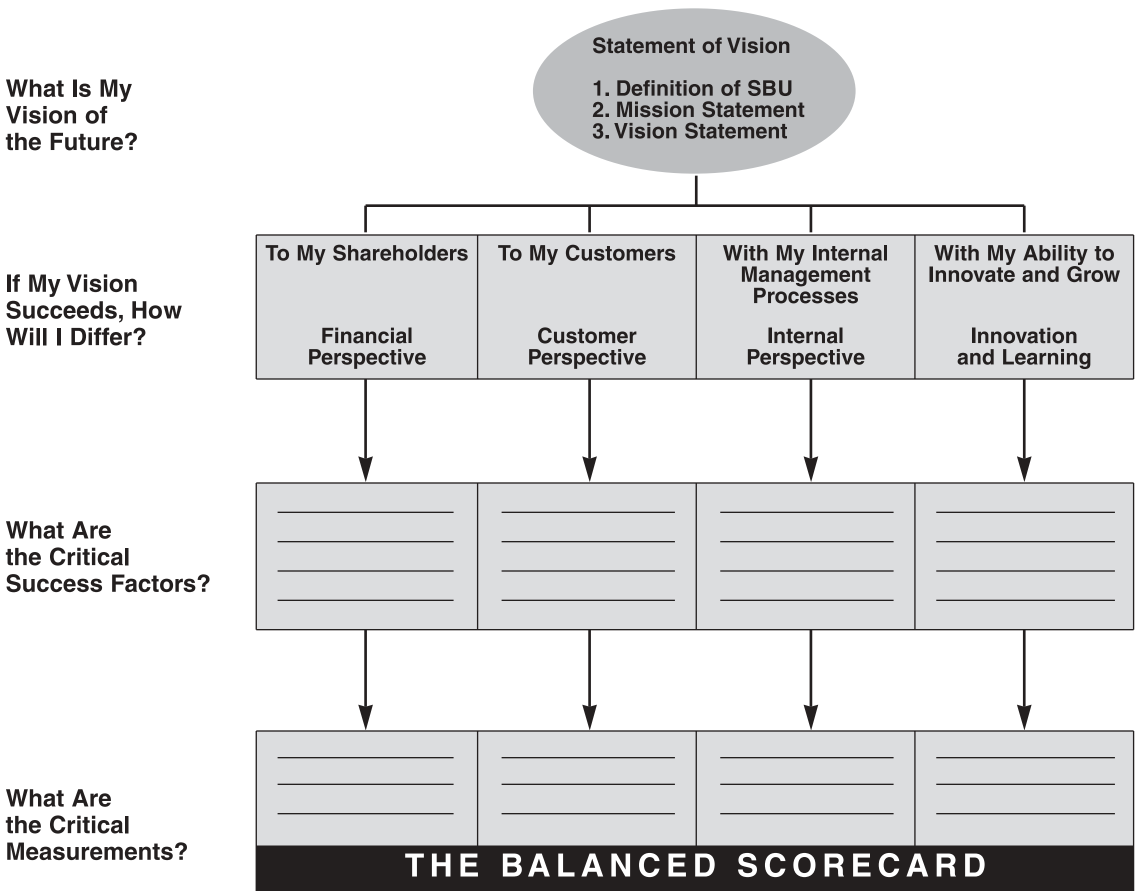
6. Executive Workshop: Third Round

The senior executive team meets to come to a final consensus on the vision, objectives, and measurements developed in the first two workshops; to develop stretch targets for each measure on the scorecard; and to identify preliminary action programs to achieve the targets. The team must agree on an implementation program, including communicating the scorecard to employees, integrating the scorecard into a management philosophy, and developing an information system to support the scorecard.

7. Implementation
A newly formed team develops an implementation plan for the scorecard, including linking the measures to databases and information systems, communicating the balanced scorecard throughout the organization, and encouraging and facilitating the development of second-level metrics for decentralized units. As a result of this process, for instance, an entirely new executive information system that links top-level business unit metrics down through shop floor and site-specific operational measures could be developed.

8. Periodic Reviews
Each quarter or month, a blue book of information on the balanced scorecard measures is prepared for both top management review and discussion with managers of decentralized divisions and departments. The balanced scorecard metrics are revisited annually as part of the strategic planning, goal setting, and resource allocation processes.

Begin by Linking Measurements to Strategy



The scorecard enables managers to see the breadth and totality of company operations.

measures to adjust the "long wave" of corporate performance, not to drive operating changes. Moreover, the metrics at Apple, with the exception of shareholder value, can be driven both horizontally and vertically into each functional organization. Considered vertically, each individual measure can be broken down into its component parts in order to evaluate how each part contributes to the functioning of the whole. Thought of horizontally, the measures can identify how, for example, design and manufacturing contribute to an area such as customer satisfaction. In addition, Apple has found that its balanced scorecard has helped develop a language of measurable outputs for how to launch and leverage programs.

The five performance indicators at Apple are benchmarked against best-in-class organizations. Today they are used to build business plans and are incorporated into senior executives' compensation plans.

Advanced Micro Devices: Consolidating Strategic Information

Advanced Micro Devices (AMD), a semiconductor company, executed a quick and easy transition to a balanced scorecard. It already had a clearly defined mission, strategy statement, and shared understanding among senior executives about its competitive niche. It also had many performance measures from many different sources and information systems. The balanced scorecard consolidated and focused these diverse measures into a quarterly briefing book that contained seven sections: financial measures; customer-based measures, such as on-time delivery, lead time, and performance-to-schedule; measures of critical business processes in wafer fabrication, assembly and test, new product development, process technology development (e.g., submicron etching precision), and, finally, measures for corporate quality. In addition, organizational learning was measured by imposing targeted rates of improvements for key operating parameters, such as cycle time and yields by process.

At present, AMD sees its scorecard as a systematic repository for strategic information that facilitates long-term trend analysis for planning and performance evaluation.

Driving the Process of Change

The experiences of these companies and others reveal that the balanced scorecard is most successful when it is used to drive the process of change. Rockwater, for instance, came into existence after the merger of two different organizations. Employees came from different cultures, spoke different languages, and had different operating experiences and backgrounds. The balanced scorecard helped the company focus on what it had to do well in order to become the industry leader.

Similarly, Joseph De Feo, chief executive of Service Businesses, one of the three operating divisions of Barclays Bank, had to transform what had been a captive, internal supplier of services into a global competitor. The scorecard highlighted areas where, despite apparent consensus on strategy, there still was considerable disagreement about how to make the strategy operational. With the help of the scorecard, the division eventually achieved consensus concerning the highest priority areas for achievement and improvement and identified additional areas that needed attention, such as quality and productivity. De Feo assessed the impact of the scorecard, saying, "It helped us to drive major change, to become more market oriented, throughout our organization. It provided a shared understanding of our goals and what it took to achieve them."

Analog Devices, a semiconductor company, served as the prototype for the balanced scorecard and now uses it each year to update the targets and goals for division managers. Jerry Fishman, president of Analog, said, "At the beginning, the scorecard drove significant and considerable change. It still does when we focus attention on particular areas, such as the gross margins on new products. But its main impact today is to help sustain programs that our people have been working on for years." Recently, the company has been attempting to integrate the scorecard metrics with *hoshin* planning, a procedure that concentrates an entire company on achieving one or two key objectives each year. Analog's hoshin objectives have included customer service and new product development, for which measures already exist on the company's scorecard.

But the scorecard isn't always the impetus for such dramatic change. For example, AMD's scorecard has yet to have a significant impact because company management didn't use it to drive the change process. Before turning to the scorecard, senior managers had already formulated and gained consensus for the company's mission, strategy, and key performance measures. AMD competes in a single industry segment. The top 12 managers are intimately familiar with the markets, engineering, technology, and other key levers in this segment. The summary and aggregate information in the scorecard were neither new nor surprising to them. And managers of decentralized production units also already had a significant amount of information about their own operations. The scorecard did enable them to see the breadth and totality of company operations, enhancing their ability to become better managers for the entire company. But, on balance, the scorecard could only encapsulate knowledge that managers in general had already learned.

AMD's limited success with the balanced scorecard demonstrates that the scorecard has its greatest impact when used to drive a change process. Some companies link compensation of senior executives to achieving stretch targets for the scorecard measures. Most are attempting to translate the scorecard into operational measures that become the focus for improvement activities in local units. The scorecard is not just a measurement system; it is a management system to motivate breakthrough competitive performance.

Implementing the Balanced Scorecard at FMC Corporation: An Interview with Larry D. Brady

FMC Corporation is one of the most diversified companies in the United States, producing more than 300 product lines in 21 divisions organized into 5 business segments: industrial chemicals, performance chemicals, precious metals, defense systems, and machinery and equipment. Based in Chicago, FMC has worldwide revenues in excess of $4 billion.

Since 1984, the company has realized annual returns-on-investment of greater than 15%. Coupled with a major recapitalization in 1986, these returns resulted in an increasing shareholder value that significantly exceeded industrial averages. In 1992, the company completed a strategic review to determine the best future course to maximize shareholder value. As a result of that review, FMC adopted a growth strategy to complement its strong operating performance. This strategy required a greater external focus and appreciation of operating trade-offs.

To help make the shift, the company decided to use the balanced scorecard. In this interview conducted by Robert S. Kaplan, Larry D. Brady, executive vice president of FMC, talks about the company's experience implementing the scorecard.

Robert S. Kaplan: *What's the status of the balanced scorecard at FMC?*

Larry D. Brady: Although we are just completing the pilot phase of implementation, I think that the balanced scorecard is likely to be-

The Scorecard's Impact on External Reporting

Several managers have asked whether or not the balanced scorecard is applicable to external reporting. If the scorecard is indeed a driver of long-term performance, shouldn't this information be relevant to the investment community?

In fact, the scorecard does not translate easily to the investment community. A scorecard makes sense primarily for business units and divisions with a well-defined strategy. Most companies have several divisions, each with its own mission and strategy, whose scorecards cannot be aggregated into an overall corporate scorecard. And if the scorecard does indeed provide a transparent vision into a unit's strategy, then the information, even the measures being used, might be highly sensitive data that could reveal much of value to competitors. But most important, as a relatively recent innovation, the scorecard would benefit from several years of experimentation within companies before it becomes a systematic part of reporting to external constituencies.

Even if the scorecard itself were better suited to external reporting, at present the financial community itself shows little interest in making the change from financial to strategic reporting. One company president has found the outside financial community leery of the principles that ground the scorecard: "We use the scorecard more with our customers than with our investors. The financial community is skeptical about long-term indicators and occasionally tells us about some empirical evidence of a negative correlation between stock prices and attention to total quality and internal processes."

However, the investment community has begun to focus on some key metrics of new product performance. Could this be an early sign of a shift to strategic thinking?

"The diversity of initiatives, each with its own slogan, created confusion and mixed signals."

come the cornerstone of the management system at FMC. It enables us to translate business unit strategies into a measurement system that meshes with our entire system of management.

For instance, one manager reported that while his division had measured many operating variables in the past, now, because of the scorecard, it had chosen 12 parameters as the key to its strategy implementation. Seven of these strategic variables were entirely new measurements for the division. The manager interpreted this finding as verifying what many other managers were reporting: the scorecard improved the understanding and consistency of strategy implementation. Another manager reported that, unlike monthly financial statements or even his strategic plan, if a rival were to see his scorecard, he would lose his competitive edge.

It's rare to get that much enthusiasm among divisional managers for a corporate initiative. What led you and them to the balanced scorecard?

FMC had a clearly defined mission: to become our customers' most valued supplier. We had initiated many of the popular improvement programs: total quality, managing by objectives, organizational effectiveness, building a high-performance organization. But these efforts had not been effective. Every time we promoted a new program, people in each division would sit back and ask, "How is that supposed to fit in with the six other things we're supposed to be doing?"

Corporate staff groups were perceived by operating managers as pushing their pet programs on divisions. The diversity of initiatives, each with its own slogan, created confusion and mixed signals about where to concentrate and how the various programs interrelated. At the end of the day, with all these new initiatives, we were still asking division managers to deliver consistent short-term financial performance.

What kinds of measures were you using?

The FMC corporate executive team, like most corporate offices, reviews the financial performance of each operating division monthly. As a highly diversified company that redeploys assets from mature cash generators to divisions with significant growth opportunities, the return-on-capital-employed (ROCE) measure was especially important for us. We were one of the few companies to inflation-adjust our internal financial measures so that we could get a more accurate picture of a division's economic profitability.

At year-end, we rewarded division managers who delivered predictable financial performance. We had run the company tightly for the past 20 years and had been successful. But it was becoming less clear where future growth would come from and where the company should look for breakthroughs into new areas. We had become a high return-on-investment company but had less potential for further growth. It was also not at all clear from our financial reports what progress we were making in implementing long-term initiatives. Questions from the corporate office about spending versus budget also reinforced a focus on the short-term and on internal operations.

But the problem went even deeper than that. Think about it. What is the value added of a corporate office that concentrates on making division managers accountable for financial results that can be added up across divisions? We combine a business that's doing well with a business that's doing poorly and have a total business that performs at an average level. Why not split the company up into independent companies and let the market reallocate capital? If we were going to create value by managing a group of diversified companies, we had to understand and provide strategic focus to their operations. We had to be sure that each division had a strategy that would give it sustainable competitive advantage. In addition, we had to be able to assess, through measurement of their operations, whether or not the divisions were meeting their strategic objectives.

If you're going to ask a division or the corporation to change its strategy, you had better change the system of measurement to be consistent with the new strategy.

How did the balanced scorecard emerge as the remedy to the limitations of measuring only short-term financial results?

In early 1992, we assembled a task force to integrate our various corporate initiatives. We wanted to understand what had to be done differently to achieve dramatic improvements in overall organizational effectiveness. We acknowledged that the company may have become too short-term and too internally focused in its business measures. Defining what should replace the financial focus was more difficult. We wanted managers to sustain their

"If you're going to ask a division or the corporation to change its strategy, you had better change the system of measurement."

search for continuous improvement, but we also wanted them to identify the opportunities for breakthrough performance.

When divisions missed financial targets, the reasons were generally not internal. Typically, division management had inaccurately estimated market demands or had failed to forecast competitive reactions. A new measurement system was needed to lead operating managers beyond achieving internal goals to searching for competitive breakthroughs in the global marketplace. The system would have to focus on measures of customer service, market position, and new products that could generate long-term value for the business. We used the scorecard as the focal point for the discussion. It forced division managers to answer these questions: How do we become our customers' most valued supplier? How do we become more externally focused? What is my division's competitive advantage? What is its competitive vulnerability?

How did you launch the scorecard effort at FMC?

We decided to try a pilot program. We selected six division managers to develop prototype scorecards for their operations. Each division had to perform a strategic analysis to identify its sources of competitive advantage. The 15 to 20 measures in the balanced scorecard had to be organization-specific and had to communicate clearly what short-term measures of operating performance were consistent with a long-term trajectory of strategic success.

Were the six division managers free to develop their own scorecard?

We definitely wanted the division managers to perform their own strategic analysis and to develop their own measures. That was an essential part of creating a consensus between senior and divisional management on operating objectives. Senior management did, however, place some conditions on the outcomes.

First of all, we wanted the measures to be objective and quantifiable. Division managers were to be just as accountable for improving scorecard measures as they had been for using monthly financial reviews. Second, we wanted output measures not process-oriented measures. Many of the improvement programs under way were emphasizing time, quality, and cost measurements. Focusing on T-Q-C measurements, however, encourages managers to seek narrow process improvements instead of breakthrough output targets. Focusing on achieving outputs forces division managers to understand their industry and strategy and help them to quantify strategic success through specific output targets.

Could you illustrate the distinction between process measures and output measures?

You have to understand your industry well to develop the connection between process improvements and outputs achieved. Take three divisional examples of cycle-time measurement, a common process measure.

For much of our defense business, no premium is earned for early delivery. And the contracts allow for reimbursement of inventory holding costs. Therefore, attempts to reduce inventory or cycle times in this business produce no benefit for which the customer is willing to pay. The only benefits from cycle time or inventory reduction occur when reduction in factory-floor complexity leads to real reductions in product cost. The output performance targets must be real cash savings, not reduced inventory levels or cycle times.

In contrast, significant lead-time reductions could be achieved for our packaging machinery business. This improvement led to lower inventory and an option to access an additional 35% of the market. In this case, the cycle-time improvements could be tied to specific targets for increased sales and market share. It wasn't linear, but output seemed to improve each time we improved throughput times.

And in one of our agricultural machinery businesses, orders come within a narrow time window each year. The current build cycle is longer than the ordering window, so all units must be built to the sales forecast. This process of building to forecast leads to high inventory—more than twice the levels of our other businesses—and frequent overstocking and obsolescence of equipment. Incremental reductions in lead time do little to change the economics of this operation. But if the build cycle time could be reduced to less than the six-week ordering time window for part or all of the build schedule, then a breakthrough occurs. The division can shift to a build-to-order schedule and eliminate the excess inventory caused by building to forecasts. In this case, the benefit from cycle-time reductions is a step-function that comes only when the cycle time

"I see the scorecard as a strategic measurement system, not a measure of our strategy."

drops below a critical level.

So here we have three businesses, three different processes, all of which could have elaborate systems for measuring quality, cost, and time but would feel the impact of improvements in radically different ways. With all the diversity in our business units, senior management really can't have a detailed understanding of the relative impact of time and quality improvements on each unit. All of our senior managers, however, understand output targets, particularly when they are displayed with historical trends and future targets.

Benchmarking has become popular with a lot of companies. Does it tie in to the balanced scorecard measurements?

Unfortunately, benchmarking is one of those initially good ideas that has turned into a fad. About 95% of those companies that have tried benchmarking have spent a lot of money and have gotten very little in return. And the difference between benchmarking and the scorecard helps reinforce the difference between process measures and output measures. It's a lot easier to benchmark a process than to benchmark an output. With the scorecard, we ask each division manager to go outside their organization and determine the approaches that will allow achievement of their long-term output targets. Each of our output measures has an associated long-term target. We have been deliberately vague on specifying when the target is to be accomplished. We want to stimulate a thought process about how to do things differently to achieve the target rather than how to do existing things better. The activity of searching externally for how others have accomplished these breakthrough achievements is called target verification not benchmarking.

Were the division managers able to develop such output-oriented measures?

Well, the division managers did encounter some obstacles. Because of the emphasis on output measures and the previous focus on operations and financial measures, the customer and innovation perspectives proved the most difficult. These were also the two areas where the balanced scorecard process was most helpful in refining and understanding our existing strategies.

But the initial problem was that the management teams ran afoul of both conditions: the measures they proposed tended to be nonquantifiable and input- rather than output-oriented. Several divisions wanted to conduct customer surveys and provide an index of the results. We judged a single index to be of little value and opted instead for harder measures such as price premiums over competitors.

We did conclude, however, that the full customer survey was an excellent vehicle for promoting external focus and, therefore, decided to use survey results to kick-off discussion at our annual operating reviews.

Did you encounter any problems as you launched the six pilot projects?

At first, several divisional managers were less than enthusiastic about the additional freedom they were being given from headquarters. They knew that the heightened visibility and transparency of the scorecard took away the internal trade-offs they had gained experience in making. They initially interpreted the increase in visibility of divisional performance as just the latest attempt by corporate staff to meddle in their internal business processes.

To offset this concern, we designed targets around long-term objectives. We still closely examine the monthly and quarterly statistics, but these statistics now relate to progress in achieving long-term objectives and justify the proper balance between short-term and long-term performance.

We also wanted to transfer quickly the focus from a measurement system to achieving performance results. A measurement orientation reinforces concerns about control and a short-term focus. By emphasizing targets rather than measurements, we could demonstrate our purpose to achieve breakthrough performance.

But the process was not easy. One division manager described his own three-stage implementation process after receiving our directive to build a balanced scorecard: denial—hope it goes away; medicinal—it won't go away, so let's do it quickly and get it over with; ownership—let's do it for ourselves.

In the end, we were successful. We now have six converts who are helping us to spread the message throughout the organization.

I understand that you have started to apply the scorecard not just to operating units but to staff groups as well.

Applying the scorecard approach to staff groups has been even more eye-opening than our initial work with the six operating divisions. We have done very little to define our strategy for corporate staff utilization. I doubt that many companies can respond crisply to the question, "How does staff provide competitive advantage?" Yet we ask that question every day about our line operations. We have just started to ask our staff departments to explain to us whether they are offering low cost or differentiated services. If they are offering neither, we should probably outsource the function. This area is loaded with real potential for organizational development and improved strategic capability.

My conversations with financial people in organizations reveal some concern about the expanded responsibilities implied by developing and maintaining a balanced scorecard. How does the role of the controller change as a company shifts its primary measurement system from a purely financial one to the balanced scorecard?

Historically, we have had two corporate departments involved in overseeing business unit performance. Corporate development was in charge of strategy, and the controller's office kept the historical records and budgeted and measured short-term performance. Strategists came up with five- and ten-year plans, controllers one-year budgets and near-term forecasts. Little interplay occurred between the two groups. But the scorecard now bridges the two. The financial perspective builds on the traditional function performed by controllers. The other three perspectives make the division's long-term strategic objectives measurable.

In our old environment, division managers tried to balance short-term profits with long-term growth, while they were receiving different signals depending on whether or not they were reviewing strategic plans or budgets. This structure did not make the balancing of short-term profits and long-term growth an easy trade-off, and, frankly, it let senior management off the hook when it came to sharing responsibility for making the trade-offs.

Perhaps the corporate controller should take responsibility for all measurement and goal setting, including the systems required to implement these processes. The new corporate controller could be an outstanding system administrator, knowledgeable about the various trade-offs and balances, and skillful in reporting and presenting them. This role does not eliminate the need for strategic planning. It just makes the two systems more compatible. The scorecard can serve to motivate and evaluate performance. But I see its primary value as its ability to join together what had been strong but separated capabilities in strategy development and financial control. It's the operating performance bridge that corporations have never had.

How often do you envision reviewing a division's balanced scorecard?

I think we will ask group managers to review a monthly submission from each of their divisions, but the senior corporate team will probably review scorecards quarterly on a rotating basis so that we can review up to seven or eight division scorecards each month.

Isn't it inconsistent to assess a division's strategy on a monthly or quarterly basis? Doesn't such a review emphasize short-term performance?

I see the scorecard as a strategic measurement system, not a measure of our strategy. And I think that's an important distinction. The monthly or quarterly scorecard measures operations that have been configured to be consistent with our long-term strategy.

Here's an example of the interaction between the short and the long term. We have pushed division managers to choose measures that will require them to create change, for example, penetration of key markets in which we are not currently represented. We can measure that penetration monthly and get valuable short-term information about the ultimate success of our long-term strategy. Of course, some measures, such as annual market share and innovation metrics, don't lend themselves to monthly updates. For the most part, however, the measures are calculated monthly.

Any final thoughts on the scorecard?

I think that it's important for companies not to approach the scorecard as the latest fad. I sense that a number of companies are turning to scorecards in the same way they turned to total quality management, high-performance organization, and so on. You hear about a good idea, several people on corporate staff work on it, probably with some expensive outside consultants, and you put in a system that's a bit different from what existed before. Such systems are only incremental, and you don't gain much additional value from them.

It gets worse if you think of the scorecard as a new measurement system that eventually requires hundreds and thousands of measurements and a big, expensive executive information system. These companies lose sight of the essence of the scorecard: its focus, its simplicity, and its vision. The real benefit comes from making the scorecard the cornerstone of the way you run the business. It should be the core of the management system, not the measurement system. Senior managers alone will determine whether the scorecard becomes a mere record-keeping exercise or the lever to streamline and focus strategy that can lead to breakthrough performance.

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