



8-2005

Introducing the Balanced Scorecard: Creating Metrics to Measure Performance

Andra Gumbus

Sacred Heart University, gumbusa@sacredheart.edu

Follow this and additional works at: http://digitalcommons.sacredheart.edu/wcob_fac

 Part of the [Business Administration, Management, and Operations Commons](#), and the [Strategic Management Policy Commons](#)

Recommended Citation

Gumbus, A. (2005). Introducing the balanced scorecard: Creating metrics to measure performance. *Journal of Management Education* 29(4), 617-630. doi: 10.1177/1052562905276278

This Article is brought to you for free and open access by the Jack Welch College of Business at DigitalCommons@SHU. It has been accepted for inclusion in WCOB Faculty Publications by an authorized administrator of DigitalCommons@SHU. For more information, please contact ferribyp@sacredheart.edu.

This experiential exercise presents the concept of the Balanced Scorecard (BSC) and applies it in a university setting. The Balanced Scorecard was developed 12 years ago and has grown in popularity and is used by more than 50% of the Fortune 500 companies as a performance measurement and strategic management tool. The BSC expands the traditional financial measures into three other dimensions to capture a balanced approach to measure performance in an organization. These additional dimensions are as follows: Customer Focus, Competence/Employee Learning and Growth, and Operational Efficiency. The exercise uses an analogy of a race car driver who relies on one aspect of measurement to gauge the race versus relying on multiple dimensions of performance.

Keywords: balanced scorecard; organizational measurement; organizational metrics

Introduction and Objectives

The exercise has four activities that engage students in the creation of metrics for a university. The activities can be done in a single class or sequentially in multiple class periods. The exercise has been used in both undergraduate and graduate business classes in conjunction with the topic of performance measurement systems and organizational control. In the first activity, students analyze their university and brainstorm possible metrics for the university in these four key areas. Another activity involves responding to five discussion questions about the BSC. Students are assigned to visit the Web site of their university to locate measures reported on the site. Actual university measures and results can be introduced to complete the exercise. Introducing measures used in a setting familiar to students enables students to compare the metrics brainstormed against those in practice at their university.

This exercise has been used in both Organization Management and Organization Behavior undergraduate and graduate classes. The Balanced Scorecard (BSC) can be introduced as part of a lesson on strategic planning, performance measurement, or control of organizations (Kaplan & Norton, 2001). Preparation for the exercise includes reading about the BSC or visiting various Web sites such as the Balanced Scorecard Collaborative at www.bscol.com or The Balanced Scorecard Institute at www.balancedscorecard.org or Balanced Scorecard Info and Resources at www.bettermanagement.com or QPR Software at www.qpronline.com/balancedscorecard. The instructor should provide a brief introduction to the BSC framework as provided in this article. Many graduate students are familiar with the BSC based on their work experience and can be asked to share their company's metrics with classmates.

Instructor preparation includes reviewing the concepts of the BSC and how it is used as a performance measurement tool. The next section of this article, "Balanced Scorecard" provides a brief lecture that can be used to make the following teaching points:

history and use of the BSC,

quadrants and typical measures,

advantages and challenges, and

creating BSC metrics.

Instructor preparation time can be as little as 30 minutes to review and familiarize yourself with the BSC. Additional time may be spent visiting the various Web sites indicated. Students can be assigned to generate actual university metrics as part of their assigned work. Other instructor preparation includes gathering materials such as a flip chart or overheads for the student groups to use to record their brainstormed metrics to be presented to the class. Instructors may also gather university annual reports, brochures, survey results, or financial statements to provide to the class.

Learning Objectives

- * To gain an understanding of the use of the BSC as a performance management tool.
- * To understand why a balanced approach to measurement is preferable to a focus on purely financial metrics.
- * To apply the balanced scorecard to a familiar university setting by creating metrics in the four dimensions of performance.
- * To compare student-generated measures with actual university metrics.

Balanced Scorecard

The BSC is used by most Fortune 500 companies as a tool to measure performance. It is unique because it balances performance measures across four dimensions as opposed to the traditional financial emphasis of metrics used in the past. The BSC is also used in the not-for-profit sector in hospitals and universities. For example, Bridgeport Hospital in Bridgeport, Connecticut has used a BSC for 3 years to provide a framework to measure performance in a complex and changing medical environment (Gumbus, Lyons, & Bellhouse, 2002).

The BSC was first introduced by David Kaplan and Robert Norton after a 1-year study of 12 companies (Kaplan & Norton, 1992). The authors proposed that financial measures alone were not sufficient to measure performance. Other factors in the new economy such as competence and knowledge, customer focus, and operational efficiency and innovation were missing from traditional financial reporting. In the not-for-profit sector, Bridgeport Hospital incorporated measures such as organizational health, financial health, process and quality improvement, and volume and market share growth (Lyons, Gumbus, & Bellhouse, 2003).

Organizational health focuses on employee learning, innovation, and growth. Metrics include vacancy and turnover rates, employee development plans, and employee satisfaction. Quality improvement focuses on patient satisfaction and outcomes.

Metrics include patient-satisfaction survey scores, patient safety, and Joint Commission for Accreditation of Health Care Organizations (JCAHO) accreditation. Process improvement considers cycle and turnaround times, and enhancing efficiency. Metrics include time to admit, length of stay, and the number of physicians connected to hospital clinical information systems. Volume and Market share is the customer perspective. The goal is increased ambulatory presence and the promotion of health and wellness. Expanded clinical services, coordinated clinical care centers, and increased ambulatory volume are some of the metrics. Financial health focuses on maximizing revenues and managing costs. Performance is reflected in clinical, operational, and financial indicators.

The BSC has evolved from a management reporting to a strategic tool used by executive teams to set strategy, align operations, and communicate with internal and external stakeholders. The framework of the four perspectives of the BSC (financial, customer, operations, and competence) help to translate strategy into objectives and measures. Critical success factors measured in the four perspectives are balanced between long-term and shortterm, as well as internal and external factors that contribute to the business strategy. The BSC not only translates the strategy to operational terms but it also aligns the organization to the strategy by focusing employees on their role in accomplishing the company mission. This is done through the use of cause and effect linkages between strategic goals and performance measures in the four perspectives (Kaplan & Norton, 1996). The BSC drives measures from the organization's mission, thereby aligning goals to strategy. The cascading process of creating employee metrics from those created at the managerial level marshals the synergy and commitment of diverse employees, and focuses decision making to attain company strategy.

Organizations that focus solely on financial measures can be compared to a race car driver that only monitors their speed during a race. Suppose you are a race car driver at the Indy 500 and are monitoring your car by looking at the RPM (revolutions of the engine per minute) gauge on your

dashboard. You are not noticing the MPG (miles per gallon of gas), nor the MPH (miles per hour or speed your car is traveling), nor the temperature gauge. You might win the race, but you are also putting yourself and your car at risk by not monitoring these other gauges and focusing exclusively on the RPM dial. You might run out of gas, overheat the engine, crash another car in your lane and make other errors in navigating the course.

When BSCs are properly done, the cards at each level align employee's efforts because the cards are "relevant, understandable, and controllable at the local level" (Atkinson & Epstein, 2000, p. 25). The BSC also serves as a vehicle for communicating strategy and performance to organizational stakeholders.

As managers learn to manage with a dashboard of new dials, they will align themselves, and their organizations, behind their organization-wide strategies with a precision they have never before experienced. They will position themselves to generate the profitability and demonstrate the accountability demanded by customers, shareholders, employees, and the communities around them (Atkinson & Epstein, 2000, p. 25).

Those using the BSC report that nonfinancial metrics enable problems to be identified earlier and solved while they remain manageable. However, the use of too many measures can lead to resistance from employees. Performance measures must be complete, measurable, and controllable. If any of these criteria are absent, the measures will not link to employee's daily operations (Inamdar, Kaplan, Helfrich Jones, & Menitoff, 2000).

Although 64% of companies in the United States use a balanced approach, not all believe that the BSC has lasting value. These companies view the BSC as a management fad that will be replaced by bottom-line financial measures, especially in times of economic downturn. Implementation can be stalled if managers fear the accountability that the BSC promotes. It can increase risk in the organization as accountability is assigned and tracked using the BSC. The use of too many measures can also lead to resistance from employees. Atkinson and Epstein (2000) note that performance measures must be complete, measurable, and controllable. If any of these criteria are absent, the measures will not link to employees' daily operations (Atkinson & Epstein, 2000). In the implementation of a surgical BSC at Duke University Hospital, the team experienced conflict, dysfunctional team behavior, fear, and resistance (McLean & Mahaffey, 2000). The BSC is a long-term change strategy and common negative reactions to change may surface.

According to Balanced Scorecard Collaborative Vice President Geoffrey Fenwick, less than 10% of companies have been able to state their strategy in concrete, measurable indicators. Schatz reports

that companies do not cope well with change, that people do not like to be judged, and the BSC requires managers to part with proprietary information and distribute it to the lowest levels in the organization (Schatz, 2000).

To be successful, the BSC must be driven from the top of the organization. Initial mobilization and momentum is required to launch the effort and sustain it over time. Continual focus is required to track best practices, flex to changing strategies, and continually monitor against targeted outcomes. The success of the card is dependent upon a well-developed organizational structure, an understanding of the role of the customer, and ownership by top and middle management (Kaplan & Norton, 1996).

Balanced Scorecard Metrics

When companies used just the financial metrics to measure their performance they were doing what the race car driver was doing-to the exclusion of other important measures of success. Organizations need to monitor financials, but must also consider customer feedback, employee satisfaction, and the efficiency of their processes in order to be successful. This logic led Kaplan and Norton (1996) to propose the BSC approach to performance measurement. The customer-focused metrics, employee/learning and growth metrics, and operational efficiency of internal business processes do not replace the financial metrics. They compliment the traditional financial indicators with a long-term approach to managing the business. Each measure is assigned an owner (individual or team) who is responsible for performance, data accuracy, and communication. In some instances, measures are counterbalanced and weighted to reflect the relative importance and priority of the measure. Those using the BSC report that nonfinancial metrics enable problems to be identified earlier and solved while they remain manageable (Inamdar et al., 2000).

A total of 50% of Fortune 1000 companies in North America use the BSC. Companies successfully using the card include Pitney Bowes, Philips Electronics, and Bridgeport Hospital. At Pitney Bowes successes attributable to the BSC include gaining consensus on goals and metrics, creating a company culture that is performance driven, and linking the capital budgeting process to company strategy (Green, Garrity, Gumbus, & Lyons, 2002). At Philips Electronics, the BSC enabled the company to link short-term actions with long-term strategy and focused the medical division on future goals. It also promoted the sharing of best practices by making results visible and readily available to employees. Employees can better understand how what they do on a daily basis contributes to the bigger picture (Gumbus & Lyons, 2002).

At Bridgeport Hospital, the BSC created a common language among the administrative and medical staff leadership. It also helped the hospital to focus on patient satisfaction, streamline formal planning sessions, and link goals to employee performance appraisal (Gumbus et al., 2002).

BSC measures are created by defining a comprehensive list of measures used in the business and narrowing the list to the key performance measures that truly measure business success. The larger list of measures can be derived from current management measures used at executive meetings, budgets, plans, board reports; by looking at key processes; by assessing what individual departments are using to measure their own performance; or by external benchmarks derived from seminars, articles, and books.

In asking what should be measured, it is important to question current measures and why they are important. What should the company measure, and is not currently measuring? What are the gaps? Criteria for rejecting measures include the following: measures may not have an owner, may be duplicated, impossible to get data on the measures, and measures are trivial and do not contribute to the business. The final list should include measures from key performance areas and departments, measures for each strategic objective, a balance of financial and nonfinancial measures, process and outcome measures, and finally measures specific to high risk, high volume, problem prone, high cost, and other quality issues.

The following activities provide a tangible experience for students to engage in creating appropriate metrics used in a BSC framework. These activities promote engaged learning in one aspect of the creation of a BSC. The activities do not attempt to complete all of the steps to create a BSC such as selecting a measurement framework, determining key performance areas, selecting measures, and aligning measures to the BSC quadrants. The activities do promote understanding of what metrics can be used to measure achievement of university objectives.

ACTIVITY 1

Divide the class into four groups and assign the groups to brainstorm metrics for their university using the four quadrants of performance. Each group is assigned one quadrant and is given 30 minutes to list possible university metrics for the assigned quadrant. Various alternative approaches can be used to divide the class (based on size and time limitations) such as assigning more than one quadrant to a group and having two or more groups compare their analyses. The four groups reconvene in a large group to share results. Each group selects a spokesperson who explains the measures brainstormed by their group. Appendix A includes measures determined by an undergraduate business class.

The Balanced Scorecard quadrants are defined as the following:

Financial-metrics that reflect fiscal responsibility and sound financial management such as budget, expenses, and revenue.

Customer Focus-metrics that measure student satisfaction and student evaluation of academic and other services.

Competence/Employee Learning and Growth-metrics that measure performance of the faculty and other administrative employees of the university.

Operational Efficiency-measures of university processes such as accreditation, program enhancements, registration, applications, and other procedures.

ACTIVITY 2

The instructor introduces current measures used by the university. This information can be gained by reviewing annual reports, minutes of board meetings, or by interviewing members of the administrative staff of the university. The author interviewed the dean of the College of Business at Sacred Heart University to get information on metrics in current use at the university. Other information may be found on the Web site or in university literature. Permissions were not required, and the exercise of locating metrics is a valuable learning activity for students to complete as a homework assignment. A disadvantage in assigning homework is the time required and possible lack of access or availability to students. Advantages in having students collect the information are active engagement of students in the process and increased quantity and quality of response. Administrators had no problem sharing this information, and were interested in feedback on the metrics students thought were important to measure university performance. Actual university measures and results are discussed and compared to those brainstormed by the class. The measures from Sacred Heart University in Fairfield, Connecticut are provided in Appendix B of this article titled, "Typical Responses from University Administrators."

Standards are used to measure the organization's performance against internal or external benchmarks, industry norms, or world-class performance. For example, Bridgeport Hospital uses the Malcolm Baldrige National Quality Award Criteria for Health Care standards as an assessment process in order to compare their results to world-class health care organizations. Other standards are derived from accrediting bodies such as International Standards Organization (ISO 9000) or industry specific standards such as JCAHO.

It is interesting to note that the fact that the university uses a variety of metrics to measure and track performance does not imply that they are using a BSC. Many organizations use a balanced approach to measurement without labeling their approach a BSC.

ACTIVITY 3

Students discuss answers to the five discussion questions below. Depending on the size of the group, students can be divided into five groups to answer one question and the instructor processes the answers with the entire group, or questions can be asked in the large-group setting.

1. How easy or difficult is it to capture data on the measures brainstormed for the four quadrants? Typical responses of students indicate that the financial and customer metrics are easily accessible and visible. Metrics on competence/ employee learning and growth are not readily available to students but are captured in the university credential and accreditation processes. Operational metrics are the most difficult to obtain.
2. How closely does the university adhere to a balanced approach? Is there one dimension used to the exclusion of others in the actual application in a university setting? Universities use a balanced approach as indicated in the typical responses of university administrators.
3. What additional dimensions of performance (quadrants) might be added to the traditional four? Organizations have added employee satisfaction and learning to the original four quadrants. Others have separated quality and process improvement.
4. How important is technology and information systems to the success of the BSC? Without adequate technology, the BSC is not timely and it can be cumbersome to capture data on the various metrics. Software and systems that feed data to a single reporting structure make the card user-friendly and timely.
5. How can the BSC help organizations assess their results in the future? In what ways might the BSC be viewed as a management fad? Most students see the BSC as a valuable performance measurement system to focus a company on various aspects of the business and provide a strategic planning framework. Students may mention similarities to other performance measurement systems in total quality management such as the Malcolm Baldrige National Quality Program criteria.

ACTIVITY 4

As an alternative homework assignment, students can be assigned to explore their university Web site to determine which metrics are public knowledge. Groups are assigned to review their designated quadrant or all four quadrants. Results of this activity are reviewed at the next class meeting. Another possible follow up task is to assign students to bring their company's BSC into class for discussion, or students can be assigned to create BSC metrics for a different organization or industry.

Observations and Conclusion

This exercise has been used in more than a dozen Organization Management and Organization Behavior classes at the undergraduate and graduate levels. Graduate and undergraduate business students can very easily determine metrics in the customer quadrant because it reflects their personal experience as the customers of a university. They are also familiar with employee metrics due to their familiarity with faculty evaluations and affiliations with the university. The undergraduates are less familiar with the financials of the university, yet are able to describe basic sources of revenue and expense. The operational metrics are the most difficult for students to determine. Testing and refining the exercise to facilitate student discussion, the instructor should review the processes students are involved in such as admission to the university, registering for classes, finding parking, and availability of housing. Students are less familiar with accreditation procedures but are very interested in learning about the process of accreditation and standards for higher education such as the New England Association of Schools and Colleges (NEASC) or American Assembly of Collegiate Schools of Business (AACSB). When the exercise was conducted with MBA graduate students, they had less difficulty with the financial and operational metrics due to their business experience and the use of the BSC in their workplace.

Typical Outcomes of the Exercise

Undergraduates have no difficulty identifying financial and customer metrics, especially when the instructor directs students to view themselves as the customer. Students can then relate directly to measures of their satisfaction and assessment of academic achievement.

To facilitate the identification of employee metrics, it is helpful for the instructor to designate faculty as the employee group and ask how stakeholders would assess competency of faculty.

Undergraduates have trouble conceptualizing the process metrics. A first step to alleviate this problem is to brainstorm processes that they experience at the university that might have quality issues, repeat steps, high volume, or impact key stakeholder groups. A discussion of the registration process,

the admission process, and access of housing usually generate much discussion of important university processes.

Students gain an understanding of the BSC—a method of measuring performance in a balanced way that includes more than financial results. Student testimony included favorable comments on the experiential nature of the activity and the ability to engage the learner is experiencing creation of BSC metrics. Students enjoyed exploring how their role as consumers of the university is an important measure of success. They particularly liked discussing metrics that measure faculty performance in addition to the course evaluations. Many undergraduate students commented that they were unaware of the various types of faculty preparation, degrees, requirements for publication and scholarly activity, titles, tenure process, field experience, and other criteria used to judge faculty effectiveness.

Both graduate and undergraduate students enjoyed using a familiar university setting to increase their knowledge of both the BSC and their university. Students found the typical responses from university administrators particularly insightful.

Students found the university Web site to be somewhat helpful in determining what metrics were used to measure performance. However, other sources such as monthly financial reports, annual reports, marketing brochures from the colleges and admissions office, and student survey results were also consulted to compare student-generated measures with actual university metrics.

Student Learning and Perceptions

Student understanding of the BSC is achieved through the initial lecture and discussion on the BSC and Balanced Scorecard Metrics sections in this article. Increased understanding of the BSC is achieved by visiting the Web sites referenced and reading additional cases and viewing actual BSCs in use at various organizations in addition to the university setting.

Learning is enhanced when students are challenged to collect their university metrics by interviewing administrators or visiting the university Web site. Student learning is achieved by reading about the BSC, hearing the initial lecture presented by the instructor, and by creating their own BSC metrics. Follow-up activities to enhance student learning include assignments to research other organizations using a BSC or to create a BSC for a nonacademic organization. Students learn the importance of balancing metrics to include other than financial metrics by creating metrics for the various dimensions that affect the university. Students learn these as they review the metrics they brainstormed for the operations, customer, and employee learning and growth dimensions.

Students were engaged in the activity of creating metrics for an institution that they are familiar with, and have participated firsthand in a metric when they complete faculty evaluations at the end of every course at the university. At the graduate level, students have shared their company's BSC as a followup activity that combines real-world application with theory. The knowledge of the BSC framework as a performance measurement system can transcend many management topics throughout the semester such as performance measurement, human resource management, organizational control, customer relationship management, and total quality management. Knowledge of the BSC as a strategic alignment tool can be transferred to discussions of strategic planning, mission and culture, and strategy management.

References

- Atkinson, A., & Epstein, M. (2000, September). Measure for measure. *CMA Management*, 25.
- Green, M., Garrity, J. Gumbus, A., & Lyons, B. (2002, May). Pitney Bowes calls for new metrics. *Strategic Finance*, 30-35.
- Gumbus, A., & Lyons, B. (2002, November). The balanced scorecard at Philips Electronics. *Strategic Finance*, 45-4-9.
- Gumbus, A., Lyons, B., & Bellhouse, D. (2002, August). Journey to destination 2005: How Bridgeport Hospital uses a balanced scorecard to map its course. *Strategic Finance*, 46-50.
- Inamdar, S. N., Kaplan, R. S., Helfrich Jones, M. L., & Menitoff, R. (2000, summer). The balanced scorecard: A strategic management system for multi-sector collaboration and strategy implementation. *Quality Management in Health Care*, 36.
- Kaplan, R. S., & Norton, D. P. (1992, January-February). The balanced scorecard: Measures that drive performance. *Harvard Business Review*, 71-79.
- Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard*. Boston: Harvard Business School Press.
- Kaplan, R. S., & Norton, D. P. (2001, February). A CFO interview: On balance. *CFO*, 75.
- Lyons, B., Gumbus, A., & Bellhouse, D. (2003). Aligning capital investment decisions with the balanced scorecard. *Journal of Cost Management*, 17(2), 34-38.

McLean, S. R., & Mahaffey, S. M. (2000, January). Implementing a surgical balanced scorecard. *Surgical Services Management*, 48.

Schatz, W. (2000, Summer). The balancing act. *AFP Exchange*, 40.

AuthorAffiliation

Andra Gumbus

Sacred Heart University

Appendix

Appendix A Typical Responses of Undergraduates to the Balanced Scorecard Exercise

Financial metrics:

Tuition

Payroll

Corporate sponsorships

Donors

Housing

Revenue from space rentals, parking, athletics, ticket sales to university events, laptop sales

Expenses of construction, maintenance of facility and grounds

Customer metrics:

Class surveys on instruction

Surveys on housing, internships, extracurricular activities, food, facilities, sports, technology, abroad programs, financial aid available

Surveys postgraduate on % employed after graduation

Academic surveys on course offerings, majors offered, class size, faculty responsiveness

Competence/employee learning and growth metrics:

Professor turnover rate

Affiliate versus full-time faculty

Faculty credentials: preparation, degree attained, research, and publishing

Student evaluations of faculty and courses

Continuing education of faculty

Work experience of faculty related to subject taught

Operational efficiency metrics:

Recruitment of students and faculty

Registration process

Application process

Laptop computer program

Housing availability

Parking availability

Classroom space

Appendix B Typical Responses From University Administrators

Financial:

Unrestricted revenue from: tuition and fees, auxiliary activities, funds released from restriction, contributions, other, and investment return

Unrestricted expenses from: instruction, institutional support, student services, auxiliary services, academic support, public-service radio station

Balanced budget by college

Debt-to-equity ratio of \$3 to \$1

% alumni fundraising

% employee fundraising

% revenue dependent on tuition

Customer:

National Survey of Student Engagement (NSSE) results

American Association of Colleges of Schools of Business Undergraduate Business Exit Study (AACSB) results

Student evaluations of academic classes

Ranking of US News and World Report on colleges and universities

Student evaluations of nonacademic student services

Competence/employee learning and growth:

Faculty annual appraisal of performance by department chair in areas of teaching, research, service, student advisement, curriculum development

Student evaluations of academic classes

Tenure and promotion process including: peer evaluation, 10 student evaluations, rank and tenure committee review of tenure package, Academic Affairs Vice President and President of University review, university trustee recommendation

Operational Efficiency:

New England Association of Schools and Colleges (NEASC) accreditation process

American Association of Colleges of Schools of Business accreditation process: including a review of all processes such as how the college admits students, how faculty are allocated to teach, the structure of the college, faculty involvement in college committees

Advisory Board of the College of Business-alumni and local business leaders who advise the college on teaching to meet current business needs

MBA capstone course performs a SWOT analysis of the university to continuously improve and define the university produce