Measuring and Monitoring IT Using a Balanced Scorecard Approach

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ABSTRACT

Ensuring that the information technology department is aligned with the overall health system strategy and is performing at a consistently high level is a priority at Saint Luke’s Health System in Kansas City, Mo. The information technology department of Saint Luke’s Health System has been using the balanced scorecard approach described in this article to measure and monitor its performance for four years. This article will review the structure of the IT department’s scorecard; the categories and measures used; how benchmarks are determined; how linkage to the organizational scorecard is made; how results are reported; how changes are made to the scorecard; and tips for using a scorecard in other IT departments.

KEYWORDS

- Balanced scorecards
- IT management
- IT strategy
- Planning methodologies
- Process improvement

In the increasingly complex healthcare information technology environment, using a balanced scorecard approach to measure performance has become an important management tool. Many information services staff and leadership are so bombarded with daily problems, such as application or technology downtime and constant application or technology deployments and upgrades that they often forget—or are unable to step back and see—the larger picture.

Additionally, many staff members find the task of objectively demonstrating overall value and results to the organization difficult. Using a balanced scorecard can help IT staff overcome this challenge.

The IT department of Saint Luke’s Health System in Kansas City, Mo., is in its fourth year of using a scorecard to monitor and measure organizational performance. IT considers itself a service organization that provides technology services to its customer base—physicians, staff and leaders of the integrated delivery system.

This article outlines how the balanced scorecard provides objective proof that the IT department is performing as expected by the organization, is integrated into the overall Saint Luke’s Health System organization, how scorecard measures are selected, how the goals are set and measured and how the balanced scorecard is deployed.

Link to Organizational Strategy

At Saint Luke’s Health System, balanced scorecards communicate objective performance measures that contribute to achievement of the strategic objectives of the overall organization. Figure 1 depicts the framework by which Saint Luke’s Health System aligns the balanced scorecard.
One level down from the system scorecard are the entity balanced scorecards. Each hospital and every organizational entity in the system maintains a scorecard; the goals and objectives of each scorecard reflect the goals specific to that entity, as well as those of the overall health system. Next are the departmental scorecards. Again, each departmental scorecard reflects the goals for that entity. Below the department scorecards, the approach turns to managing processes that cross departments (for example, Human Resources) and concern individual performance. Each of these focuses on areas of the larger organization, but link directly back to a measurement above. The arrows leading upward indicate that individual and process goals influence and are linked to the larger goals in the levels above.

These measurement tools are designed to guide the organization’s process management toward the achievement of key organizational performance results and strategic objectives, and to anticipate and respond to rapid or unexpected internal or external changes. A successful performance measurement system focuses on alignment and integration, and how to generate information from data.

Saint Luke’s Health System’s IT department is a corporate department that functions not for a single hospital, but for all of the system’s hospitals and entities. It is viewed in the health system as a business support process. Several other departments within the organization are similarly structured and are considered business support processes. These include health information management, human resource management, physician partnering, facilities management, supplier management and revenue cycle management. Because of this, the reporting level for these key processes is just below the system scorecard. Key customer requirements are defined for each business support process.

For example, the key customer requirements for Saint Luke’s IT department are access, reliability, responsiveness, education and timeliness. Consequently, the department’s scorecard includes defined measurements of these requirements by which the system can gauge achievement and performance.

The health system’s balanced scorecard is shown in Figure 2. The scorecard measures are listed on the left-hand side and are categorized by strategic focus area. Across the top is the scoring for each measure, which is described later in the article. The field of the scorecard plots the achieved value. Color-coding provides a quick mechanism for determining performance in each strategic focus area. The combination of each individual measure generates the overall process scorecard result, which is reported to the organization quarterly.

The organization’s strategy is categorized into five focus areas, which include people, clinical and administrative quality, customers, growth and development, and financial stability. Each balanced scorecard aligns the measurement criteria toward one of these strategic focus areas. Further, the personal commitments of each employee also are aligned to one of these five focus areas. Linking to the strategic focus areas ensures alignment throughout the organization. Essentially, every member of the organization is working toward the same objectives and contributing to implement the organization’s strategy. The ability to create such alignment promotes employee awareness of the organization’s objectives and provides a sense of purpose and value to the IT staff.

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An added benefit of the scorecard approach is making performance evaluations more objective. By creating personal commitments from the measurement criteria, staff members know, at regular intervals, how well they are performing, as well as how the department and overall organization are performing. When performance reviews are completed, there is less subjective assessment of performance because of the existence of objective measures.

At the health system, the IT staff can clearly articulate the mission, vision and values of the organization, as well as its key strategic objectives and how they, as individuals, contribute to achieve these objectives. A balanced scorecard enables the IT department to understand its role within the organization. The alignment created with this tool has improved employee satisfaction and retention. Saint Luke’s Health System’s IT department has maintained a 94 percent overall retention rate in the past two years, and satisfaction scores have improved by 10 percent.

**Demonstrating Value**

Healthcare IT groups often speak about return on investment and justifying expenditures. In many organizations, IT
departments are structured as non-revenue producing departments. The average IT department consumes 3 percent to 4 percent of the organization’s net revenue, so IT groups must respond when leaders ask, “What is the return on investment?” Many groups struggle to demonstrate this return because projects do not lead to tangible economic returns or benefits that are easily quantified in dollars.

Saint Luke’s Health System IT has added the scorecard approach to its return on investment analysis to demonstrate its performance in achieving the requirements defined by its customer base—physicians, staff and leaders of the health system. The ability to report performance objectively for customer services helps the organization know that the investment made in IT is worthwhile.

For example, storage networks, redundancy and backup solutions are often viewed as necessary for business continuity. IT linked this technology to system availability. Care providers are becoming more dependent on clinical systems in the performance of their work, so when systems go down, it is disruptive to patient care. Understanding that these technologies would improve system availability, a key satisfier for clinical staff, helped Saint Luke’s Health System
understand the importance of the technology. When the organization compared this expenditure to the cost of clinical systems, it ranked of equal importance because without these technologies, the clinical systems would be severely affected. It used its measure of system availability to demonstrate the return on investment of these solutions.
versus return on investment alone. Saint Luke’s Health System’s leaders understand that these expenditures ensure the availability of key systems used every day in delivering healthcare. As the measure improved with the implementation of the technology, value was demonstrated to the organization for the expenditure.

**Selection of Measures**

The measurements that the IT department selects for its scorecard are developed from the annual strategic planning process. This process includes completion of a customer satisfaction survey designed to identify customer requirements, a SWOT analysis and an organizational environmental assessment. Customer and business requirements identified during the strategic planning process are aligned with one of the strategic focus areas.

Examples of requirements identified for 2006 are continuous system availability (access), quick response to problems (responsiveness), completion of projects on time and on budget (timeliness), and a competent and knowledgeable staff (education and reliability). Selecting balanced scorecard measures can be very difficult; selecting the right measures that are linked to larger organizational goals and have meaning to staff is extremely critical to the success of the scorecard process. The measures that Saint Luke’s Health System’s IT department used for its 2006 scorecard are included in Figure 3.

Traits of a good measure include the existence of links to one or more of the strategic focus areas or a larger organizational goal; meaningfulness to many of the staff and leadership; data for the measure can be readily gathered and analyzed; the measure is incremental and can be improved; and achieving the measure does not have immediate unintended consequences.

In developing the first round of a balanced scorecard for a department, staff should be consulted in addition to the leadership—that helps build trust that the measures selected are not punitive in nature and have buy-in from many levels. A measure that does not produce data readily, such as call wait time, but is deemed to be of strategic importance to the customer may require the purchase of additional technologies that will take an extended period of time to implement. This should not be seen as a motivator, because these technologies are important to making the department a more efficient and high-quality work environment.

A balanced scorecard measure should be something that can be improved. A bad scorecard measure would be something like, “Implementing Physician Results Review System.” This is really a project that is either complete or not complete. In fact, there would be no way to set a goal for this other than a completion date. A better measure would be tracking the overall unique log-in growth to the system after it is implemented. Measuring this does so much more than indicating that a project is complete or not. It measures that the system is in use and growing in importance. This measure may only be pertinent for a few years, until adoption has reached its limit, but it definitely is actionable for the staff and provides meaning to the medical staff leadership.

Measures may have an unintended consequence, and this could be a good or a bad thing. Measuring the amount of emergency changes is a good example. Implementing a strong change control process is of the utmost importance to many IT departments. Using a scorecard to track the number of times that changes are submitted as emergencies could be construed as punitive. An unintended consequence of this measure could be staff making changes to the system that would be considered emergencies outside of the change control process. This midstream change could be extremely negative if the change goes badly and is definitely against policy.

In addition to setting the individual measures, a determination of the frequency of reporting must be made. The health system’s IT scorecard is reported quarterly. Realizing a significant amount of effort must be given to score each measure, and many measures may not produce data more often than monthly, a monthly or quarterly cycle usually makes the most sense.

**Setting and Measuring Goals**

After the measures are set, the overall structure of the scorecard should take shape. The next step is to assign a goal and benchmark to each of the measures. Multiple approaches can be used to set a goal for the scorecard, such as industry specific or non-specific national benchmarks from published sources; historical organizational data; and team goal-setting.

It is important to get buy-in from staff and leadership that a goal is attainable and the stretch goal is where everyone wants to go. Those who use scorecards may reach their goal or exceed it, but that may not be good enough. Comparisons to benchmarks are important in determining if individual organization performance is “best in class.” Those areas where individual performance meets the goal but does not reach the benchmark should be considered an opportunity for improvement.

Locating national benchmark data has been a struggle for the health system’s IT department. It takes time to research industry resources (HIMSS, AHIMA, Help Desk Institute, VHA, Scottsdale Institute and others) to locate a goal that is specific to the measure. In the case of IT customer satisfac-
tion, the Saint Luke’s Health System’s research department has developed a repeatable process and is offering it to other IT organizations so that a benchmark may be set.

Use of comparative data is an important component for performance measurement because it provides information about where the organization stands relative to competitors and to best practices; provides the impetus for significant improvement or change; and lends to comparing performance information frequently leads to a better understanding of organizational process and its performance. Comparative benchmarks also can support analysis and decision relating to core competencies, alliances and outsourcing.

If a national benchmark cannot be located, it should not be a deterrent from setting a goal. The next best thing an organization can do is use its own data to determine what the goal should be. For a measure that has been around for a while, it can use previous data points to determine a mean average for the goal. If there are enough data points, the standard deviation may represent a move upwards or downwards. It is important to ensure that there are at least 12 data points before establishing a goal.

The goal for the Saint Luke’s Health System IT scorecard is a range equal to the mean of the respective data points plus three standard deviations from the mean and the mean of the respective data points minus two standard deviations from the mean. The value of any score in this range is given a score of between eight and three on the scorecard and coded green. One positive standard deviation from the mean will be scored as a “6” and a negative as a “4” and so on. Although this method is not perfect (notice the training measures that have multiple 100 percents as a stretch goal) it does give a starting point that is strongly based in historical performance.

The broad range established for the goal allows for standard variation and ensures that the organization, department or entity does not react to normal fluctuations in performance that are not statistically significant. Four positive standard deviations from the mean are considered exceeding performance. Three negative standard deviations from the mean are considered at moderate risk and coded yellow. Four negative standard deviations from the mean are considered at risk and coded red.

If a measure has never been tracked, an organization can begin tracking it using a method that makes sense. In the meantime, the measure can be shown on the scorecard and the outcome can be reported on the normal reporting cycle; a goal can be set after enough data has been gathered.

The final way to set a goal is to challenge the team working on a process to develop the scale, or it may be handed down to the department from a larger organizational objective. In either case, the organization can determine what the “stretch” goal and the “needs immediate attention” goal would be and develop a scale.

The measurement of each goal is set to a scale of one to nine, with five being the goal. As each measure is scored for the quarter, a raw number is assigned to it in the far right column. Each measurement is then totaled and divided by the total number of measures to determine an overall department score, which is located across the bottom of the scorecard.

Saint Luke’s Health System has set goals on the following scale: nine, stretch goal attained (usually shown in deep blue); three through eight, goal attained (usually shown in green); two, needs attention (usually shown in yellow); and one, needs immediate attention (usually shown in red).

If a score of one for any measure is attained, a 90-day action plan is put into place. The 90-day action plan should put a plan in place for immediate process improvement. A process improvement team may be charted to closely focus on the measure and look for ways to improve performance so the measure can be brought to within the goal.

**Deploying the Scorecard**

An organization should make the balanced scorecard a part of day-to-day business, and that takes constant reinforcement and refinement. The scorecard should be a part of staff meetings and personal goal setting. If scorecard goals are met or exceeded, positive reinforcement and staff celebrations are great motivators.

The scorecard should be readily available to the department via a Web site or other accessible location and communicated to organizational leadership and internal staff via e-mail after it is compiled. Charts of the historical performance of measures also should be kept and displayed where appropriate. For example, having a trend line depicting decreasing call wait times can be a great satisfier to the client support center personnel.

Saint Luke’s Health System reviews scorecards and measures annually to determine if the data are providing the necessary information to ensure organizational effectiveness. Each measure is analyzed to determine if it should be retained, and consideration is given to potential new measures. Changes also are driven by customer needs, environmental analysis, and financial, regulatory or educational requirements. Staff and teams actively monitor performance for their areas of responsibility. For example, system administrators monitor system availability for individual environments they support. Client support center staff monitors problem resolution rates and responsiveness to calls for their work queues and shifts.

The ability to translate a measure into personal commit-
ments is important in aligning the staff with the organization’s objectives. It also ensures that staff members know how their individual efforts contribute to the organization’s overall success. Staff also may be able to show how his or her individual process change idea, project or day-to-day performance has enabled the department to succeed.

Using the balanced scorecard approach to manage a department has many short-term and long-term benefits. This management tool provides an objective measurement of performance. It also helps demonstrate the value of IT to the organization beyond the traditional return on investment. The scorecard approach has helped improve staff retention and job satisfaction rates in the IT department at Saint Luke’s Health System. The tool also enables IT to focus its improvement opportunities in areas that are meaningful to its customers. The tool is also a key component in creating alignment and focusing efforts on what is strategically important to the organization.

The additional effort it takes to develop and compile the measures will pay off in the long run with a more aligned efficient operation of the department that is providing value to the organization it serves.

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