

One If by Land, Two If by Sea: Using Dashboards to Revolutionize Your Performance Management System

By Mark J. Lorence



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One If by Land, Two If by Sea: Using Dashboards to Revolutionize Your Performance Management System

By Mark J. Lorence, Director, Palladium Group, Inc.

It takes more than a strategy map and BSC to gauge how well your organization is linking strategy and operations. Dashboards are a vital part of the management process. But they are not, contrary to popular belief, purely “operational.” Confused? Mark Lorence provides clear-cut, intelligible definitions of these two critical tools and shows how they work together in a well-oiled performance management system.

Evening, April 18, 1775. The lanterns were visible only for a few moments. Hanging in the belfry of Boston’s North Church, they flickered against the light of the rising moon until the nervous sexton—a friend of Paul Revere’s—extinguished them and retreated down the narrow stairs, anxious that his subterfuge remain undetected by the British soldiers gathering on nearby Boston Common.

Paul Revere had two simple strategic objectives: warn John Hancock and Samuel Adams, who were staying about 10 miles away in Lexington, that the British army was on the move, and notify the townspeople in nearby Concord quickly enough for them to hide their ammunition stores. His strategy was straightforward: ride as fast as possible, using his prearranged communications system of sympathetic patriots to help spread the word.

But to execute his strategy, Revere needed one critical piece of information: of the two possible ways to get from Boston to Lexington, which one would British General Gage’s troops choose? Would they take the longer route down the narrow strip of land known as the Boston Neck and cross the river at the Harvard Bridge? Or

would they use longboats to move across the Charles River and continue marching straight on to Lexington?

Once he had that information, Revere had to quickly communicate it to the small group of co-conspirators waiting to help him achieve his objectives.

Although Revere may have lacked the tools and technologies available today, he nonetheless used a well-designed performance management system—including a clear strategy, measurable objectives, and a two-lantern “dashboard”—to launch his famous midnight ride. What lessons can we learn from this American hero?

Dashboards vs. Scorecards: What’s the Difference?

The term “dashboard” is often used interchangeably with the term “scorecard.” Though the two things share some similarities, they should be viewed as two different management tools. Each displays data needed to make decisions and improve performance. Each can be used in hard-copy form but is more powerful when implemented online, which allows for faster updating, richer visualization, and enhanced analysis of detailed data. And each

can display a mix of financial and operational measures or key performance indicators (KPIs), allowing users to drill down to underlying performance drivers.

But scorecards and dashboards differ in several important ways: the methodology used to select the information they display, the users for whom the information is designed, the granularity of the information, and their timeliness.

Scorecards are typically based on a formal methodology, such as the Balanced Scorecard or Six Sigma. These methodologies are prescriptive in nature and offer a framework and context for identifying the appropriate information. The Balanced Scorecard, for example, provides an integrated, holistic picture of your strategy that shows the intrinsic causal relationships between the four perspectives. Scorecards, and their high-level measures, are used by executives and managers to address broad questions about the organization’s strategy execution.

Suppose your business involves the distribution of products to customers. The Balanced Scorecard methodology would guide you in identifying a strategic theme (e.g., Supply Chain Excellence), objectives within that theme (such as “Improve distribution efficiency” and “Improve distribution quality”), and associated measures (“warehouse throughput” and “percent of on-time deliveries”) to gauge progress against the theme’s objectives.

Dashboards typically employ a user-centered¹ methodology that aggregates data based on business problems, key functions, or critical business processes. Dashboards are often designed to address a single problem in isolation and evolve from simple online reports to elaborate visual displays of key metrics. A distribution dashboard might contain 20 to 25 different

measures for warehouse efficiency and quality, measured daily and displayed in the form of tables with figures as well as graphs, charts, dials, or gauges. Dashboards can display a large number of summary and detailed measures. Updated monthly, weekly, daily, or even hourly, they are used by employees throughout the organization.

Their widespread use means that dashboards are often developed in “silos” and reflect information that requires action specific to a department, group, or individual.

This information may be tightly linked to a higher-level strategy or may simply represent an important, but lower-level, set of operational metrics less directly related to overall corporate objectives. The distribution dashboard may contain an “on-time delivery” metric, measured daily and aggregated to a quarterly value for inclusion on the Balanced Scorecard. It may also contain low-level measures that require specific, often immediate, action. For example, the dashboard may receive a signal from a delivery truck’s GPS indicating that the truck is stuck

in traffic and will arrive at the warehouse 20 minutes behind schedule. This delay would affect the “on-time delivery” measure but can be acted on immediately by dynamically adjusting the loading schedule and notifying the customer.

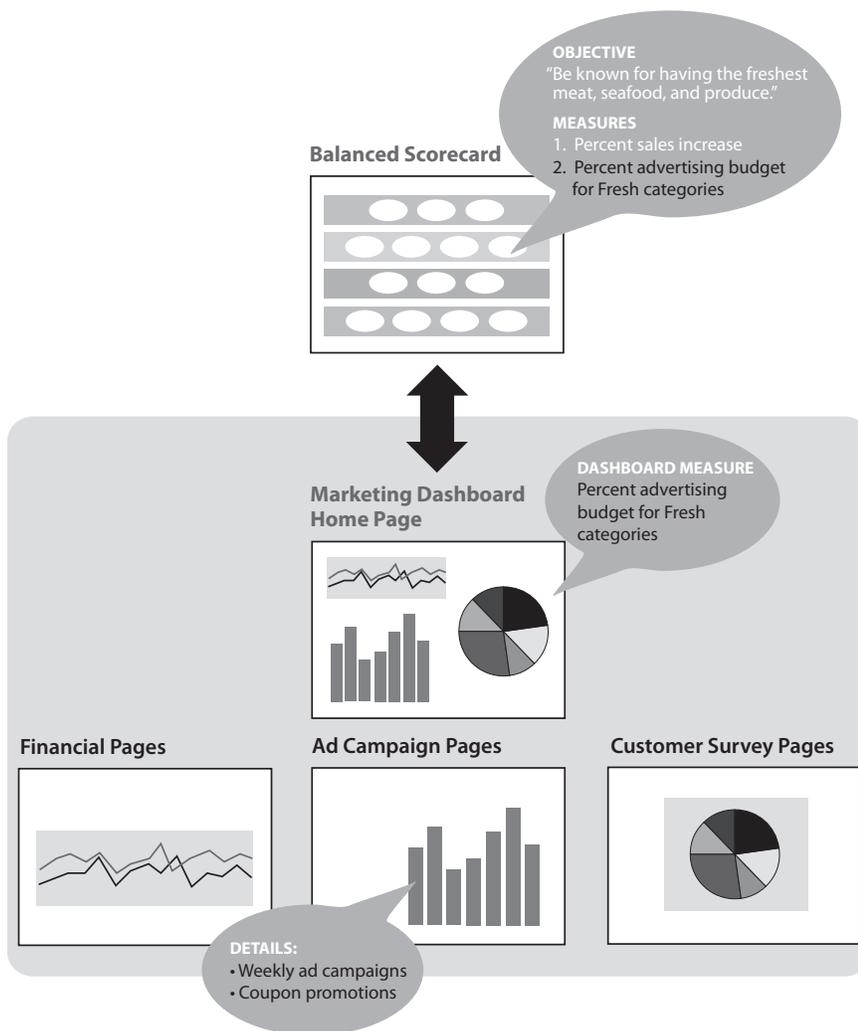
Paul Revere’s “scorecard” had two objectives, described earlier, that couldn’t be measured until his ride was completed. And there were several lower-level “measures” about the British army that could have been relayed to the Minutemen. But only one was critical to the success of his plan—“By land, or by sea?” This essential information was “put on a dashboard” because it prompted a specific, immediate action that was ultimately part of a larger strategy.

A good performance management system should include a mix of BSCs and dashboards. They should be designed and developed in tandem to ensure tight linkage between your strategy (usually measured on a scorecard) and your operations (tracked on one or more dashboards).

Designing Scorecards and Dashboards

How do we design these tools—and determine what information gets displayed? It’s tempting to say, “Let scorecards represent strategic measures, and dashboards the tactical ones,” but this oversimplifies the matter. Although scorecards, especially well-designed Balanced Scorecards, contain strategic measures, all these measures (especially those in the internal process perspective) ultimately need to be acted on—and are thus, in fact, operational. Dashboards can also contain such strategic/operational measures along with their usual lower-level metrics. *Yet even though all strategic measures are*

Figure 1. How the Scorecard/Strategy Map and Dashboards Link Together in a Performance Management System



Dashboard metrics link to the scorecard/strategy map measures and objectives. In this illustration, the marketing dashboard home page summarizes key marketing metrics. Drill-down pages provide additional detail on financials, ad campaign progress, and customer survey data.

also operational, most operational measures are not strategic.

It's a misconception to think that somehow "strategic" is good and "operational" is bad. In reality, you need to "operate" on everything you measure; you're simply selecting certain things and saying, "These are important to our strategy" and selecting other things and saying, "These are important to keeping the lights on." How do you decide which information should go only on a dashboard? And how do you ensure that your dashboards are aligned with your scorecard? Two approaches can be used.

The Top-Down Approach

In the top-down approach, you start with a scorecard objective. Suppose you're a grocery retailer and one of your customer objectives is to "Be known for having the freshest meat, seafood, and produce." Your scorecard measure is "percent sales increase" for these categories, measured every quarter. Although that measure is useful and will certainly indicate whether you're achieving your strategy, it doesn't provide timely information that can be acted on from day to day.

This timely, actionable information can be obtained by deconstructing the objective into the underlying drivers that contribute to "fresh sales." A useful technique for deconstructing an objective is to create an Ishikawa, or "fishbone," diagram. A fishbone diagram organizes the underlying drivers of the objective into different categories and identifies measures associated with each of these drivers. Drivers can be external (i.e., beyond your organization's direct control: "percent of customers not purchasing fresh categories") as well as internal ("percent of advertising budget targeting fresh categories").

A deconstruction exercise may yield as many as 20 to 25 different measures for a particular objective. Select one or two summary measures to include on your scorecard, and save the rest to incorporate into a set of dashboards—say, a marketing dashboard, a merchandising dashboard, an HR dashboard, or even a "Fresh" dashboard if you want to isolate the measures and manage that aspect of your strategy exclusively (see *Figure 1*).

This approach ensures a tight coupling of your strategy and your operations, because you're starting with a strategic objective and deriving the underlying operational measures that support that objective. It facilitates the creation of your quarterly Balanced Scorecard, because the operational measures (updated frequently on your dashboard) can easily be rolled up to the quarterly values. And by prominently displaying the key measures on your dashboards, this approach helps operationalize your strategy. For example, the marketing team members will see the "percent of Fresh advertising budget" measure every time they look at their dashboards and will be able to manage that number on a daily basis rather than waiting for a quarterly review. So this approach has the added benefit of promoting proactive, rather than reactive, management.

The Bottom-Up Approach

The top-down approach is useful if you're designing a performance management system from scratch. But what if you're already using a scorecard and dashboards (or online reports)? The bottom-up approach can help organize existing information and improve the linkage between the two tools.

Here, you start by cataloging the various reports used throughout

your organization. Be sure to include financial as well as operational reports, and don't forget those ad hoc reports that have made their way into general use. To make the design phase more manageable, consider "going deep" rather than "going wide." Instead of attempting to design an enterprisewide dashboard environment, select a slice of your organization—a particular business unit or functional group, such as marketing—and design a set of tools to manage the performance for this group, from tactics to strategy. For example, collect all existing marketing reports and use the data as a starting point for developing marketing dashboards: one for the entire marketing department, and one for each of the areas within marketing (e.g., advertising, customer care, web analytics). Going deep forces you to link the tools at different levels and helps identify the technical infrastructure needed to fully automate the dashboards.

Once you've collected all the reports, study the information they contain. Look for redundancies, overlaps, and discrepancies in how the information is presented. Often, data elements may be defined somewhat differently in different parts of the organization. To accurately roll up these data elements to summary-level measures, you should make sure that the definitions are consistent and their sources clearly defined. Returning to our distribution dashboard example of "on-time delivery," we would establish a uniform definition of lateness: Does it simply depend on a notification from the truck's GPS? Or does the truck have any arrival-time latitude that would still allow for an on-time departure? And what happens if the truck leaves the warehouse late but still arrives at the customer location in an

acceptable amount of time? These business rules may seem trivial, but it is critical that you understand them when selecting the metrics and KPIs for a dashboard. You want to ensure accuracy and uniformity in measuring performance.

It's also helpful to create a series of "use cases"—mini-scenarios describing exactly what data is available, how it's used, and who uses it—to arrange existing data as well as identify missing components.²

Use cases should be developed for common decision-making situations. In our marketing example, we would collect several reports for the marketing department: the monthly financial report, the weekly campaign reports, biannual data from customer surveys, annual third-party competitor analysis, and so on. Studying how this information is used in meetings will guide you in creating use cases. Is the information complete? Does the data in the reports answer the whole question, or is additional information needed? Is the data accurate, timely, and presented in a manner that highlights the important points? Who is involved in the decision-making process: meeting participants only, or others as well? Think of the use case as a narrative that answers the who, what, where, when, why, and how aspects of the dashboard.

The resulting use cases can now be used to create a site map of your dashboard environment: a diagram similar to a navigation diagram for a large website that shows the logical arrangement of data. A common misperception about dashboards is that they must be limited to one page or one screen. Although dashboards are often depicted as single-screen solutions, actual dashboard applications—those that incorporate key metrics

as well as detailed information underlying them—can contain dozens of individual screens.

A dashboard "home page" contains the most important metrics, often displayed graphically, while "detail pages," navigable from the home page via tabs or buttons, contain the detailed information—thus resembling the paper reports and spreadsheets they are replacing. A site map helps arrange the information into logical groupings, linked to the home page (which, in turn, can be linked to a higher-level scorecard). Think of the site map for a large website like amazon.com. There's a home page for the entire site; subpages for categories such as books, music, and electronics; individual pages for each of the specific products; and a set of pages associated with checkout, payment, and shipping.

Select your key metrics (such as "percent of Fresh advertising budget"), and put them on your dashboard's home page. Ensure that they meet the criteria we've outlined—for example, that they're displayed graphically, that the actions they are designed to prompt are unambiguous to users, that they're based on standardized data definitions, that they are relevant to the daily operations of the groups that use the dashboards, and—of course—that they support the overall business strategy. Put the rest of the measures (e.g., "campaign effectiveness," "customer survey results," or "website hits") on detail pages that are one click away from the home page, as shown in Figure 1. (Certain strategic measures, of course, such as "percent of Fresh advertising budget," will show up on both the marketing dashboard and the corporate scorecard, linking the two tools even more tightly.)

The bottom-up design approach allows you to use existing reports

or dashboards to augment your performance management system. In practice, your dashboard design process will likely be a combination of the top-down and bottom-up approaches, helping you ensure alignment to the strategic goals at all levels of your organization.

It Takes Both Tools

Paul Revere used his resources effectively to achieve his goals—from his intelligence gathering and communications networks to the tactics designed to keep his actions secret. He gleaned intelligence on British troop movements from the local boys who took care of the horses. His communication network included numerous doctors who, if stopped by British patrols in the middle of the night, could claim they were visiting a sick patient. And he even borrowed a neighbor's petticoat to muffle the sound of his oars as he rowed across the harbor prior to commencing his ride.

The "dashboard" in the North Church was an important part of Revere's performance management system, but it wasn't the only part. Similarly, dashboards can play an important role in helping you achieve your strategic goals. But you must design them properly, integrate them tightly with your strategic scorecards, and implement them carefully. When coupled with a solid strategy, an effective communications plan, and a sound initiative management process, dashboards can help you make a little history of your own.

Editor's note: In Part 2 of this article, Lorence will explore dashboard implementation, examining the major risks associated with it and illustrating leading practices for dealing with these risks. ■

1. A user-centered methodology is a design philosophy and process in which the needs, wants, and limitations of end users of an interface are given extensive attention at each stage of the design process (source: Wikipedia). This approach is particularly important in dashboard design, given the iterative nature of the design process and

One If by Land, Two If by Sea *(continued)*

the difficulty of establishing complete requirements at the front end of the process.

2. The term “use case” comes from software and systems engineering.

T O L E A R N M O R E

See the latest book by performance management expert Gary Cokins, Performance Management: Integrating Strategy Execution, Methodologies, Risk, and Analytics (Wiley, 2009). Cokins’s blog is also worthwhile: <http://blogs.sas.com/cokins>.

References to Paul Revere’s ride come from the acclaimed book by historian David Hackett Fischer, Paul Revere’s Ride (Oxford University Press, 1994).