

: *What is a "performance" dashboard?*

A few days ago, I received a very nice promotional brochure from iViz Group (ivizgroup.com) about their "innovative Dashboard and Scorecard software". Also, Wayne Eckerson's new book on performance dashboards was released recently; so this topic is a timely one.

What's new? Much has been written about dashboards and the idea harkens back to the Executive Information Systems (EIS) of the 1980s. For "old timers" like me, there is little new other than improved technologies for implementing dashboards. The problems associated with identifying metrics are still with us, the difficulty in obtaining data has not gone away, the problems associated with motivating managers to use such systems remains, and problems with interpreting and understanding what is displayed on a dashboard is an ongoing issue. But ... despite ... nevertheless ... the improved technologies are significant enough for all of us to revisit the implementation of dashboards.

In a 2004 Intelligent Enterprise article by Stephen Few and edited by Margy Ross, Few defines a dashboard as "a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance." He then draws the traditional analogy and notes "Just as the automobile's dashboard provides all the critical information needed to operate the vehicle at a glance, a BI dashboard serves a similar purpose whether you're using it to make strategic decisions for a huge corporation, run the daily operations of a team, or perform tasks that involve no one but yourself. The means is a single-screen display; the purpose is to efficiently keep in touch with the information needed to do something."

Is a dashboard a scorecard? According to Schiff (2004), "A scorecard is a collection of metrics, and the dashboard is one way to display scorecard-type information." I agree.

BusinessObjects (businessobjects.com) claims its "Dashboard Manager makes it easy to deliver dashboards across the enterprise, helping you: align execution with strategy, monitor business metrics and manage ... Dashboard Manager is designed to provide visibility to your business activities across your organization. Dashboard Manager offers metrics, alerting and dashboard management capabilities to

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help your organization monitor and understand business activities." The BusinessObjects Web site has a quick flash tour of their Dashboard Manager that I recommend to readers unfamiliar with the latest technologies. Also, many vendors have screen shots from implementations of their dashboard products at their Web sites.

Dashboards are representations used to create a user interface for a data-driven DSS. The DSS may be focused on general performance monitoring and business intelligence or more specifically on monitoring an important operational activity. A dashboard can also be used in a model-driven DSS developed from a simulation model for planning purposes. Dashboard software represents "potential". A "powerful" user interface development environment should include many representations including, dashboard "gauges", maps, charts, indicator lights, and even tables. A data-driven DSS application developer then uses this software following interactions with targeted users to create an interface for monitoring Key Performance Indicators (KPIs) and displaying data.

Alex Kirtland in an article titled "Executive Dashboards" at boxesandarrows.com explains a dashboard should: 1) answer fundamental questions about the business or business unit; 2) alert the user to issues or problems in such areas as production, sales, and revenue; and 3) help make decisions that impact the business. That is a lot to expect from a DSS!!

Kirtland notes "The heart of any dashboard is the KPI." He means a dashboard is ineffective if KPIs are poorly defined and/or the KPI information is poorly displayed. A dashboard may compare actual with budgeted results, display current and leading indicators, and use historical data for comparison purposes for indicators.

Is there anything new to say about dashboards? YES. Let's closely examine the traditional analogy associated with dashboards that compares a business to an automobile. A dashboard is the control information panel of a car that contains gauges used to measure speed, distance traveled, and provide alerts. It is generally located in front of the driver. But an automobile also has a rearview mirror and windows for navigation support. A driver uses a steering wheel to adjust the direction of the auto. Heating controls, a turn signal lever, and windshield wiper controls allow a driver to perform

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important tasks. Also a car has an accelerator pedal and a brake pedal which change the values displayed on the dashboard. The speedometer changes as a driver accelerates or brakes.

In a business, what is a similar metric for a speedometer? Remember this should be a display of real-time data. Do we want to focus on the hourly volume of product sales, the number of patients entering a hospital or the production rate in a factory? And what about the odometer and trip odometer, do we use a measure of sales and then monitor sales for a particular event like a new marketing campaign? Also, what are the rear view mirrors and windows for a manager? They are part of the managers decision support environment. What controls can a manager manipulate? How direct is the ability to change acceleration, e.g., change marketing expenditures and price? Also, what is the brake, is it a slow down in production or a change in distribution?

Remember that with an automobile, the trip planning and routing occurs prior to and during a trip. Computerized decision support systems can help us with that as well. Also, in automobiles, we've added new gadgets like global positioning systems with map displays -- perhaps we need similar new devices for business managers. A business is NOT an automobile. Automation has not progressed to the point where managers have direct control of steering, acceleration or braking. In general, a dashboard is intended to support operational decisions, it is much harder to identify metrics that will be useful for strategic level managers.

What about Wayne's book? Wayne Eckerson is the Director of Research for The Data Warehousing Institute (TDWI). His new book is titled "Performance Dashboards: Measuring, Monitoring, and Managing Your Business". Eckerson interviewed managers in dozens of organizations that have built various types of performance dashboards. I haven't had the chance to read the book, but Wayne is covering the right topics. He has an example of an operational dashboard at Quicken Loans; a tactical dashboard at International Truck and Engine; and a strategic dashboard at Hewlett Packard. I'll be curious to see what former NCR Chief Executive Mark Hurd has implemented at HP. Wayne's book has 15 chapters including an appendix titled "Criteria for evaluating performance dashboards". Perhaps someone will do a book review for DSS News.

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If the analysis and design of KPIs is flawed, the dashboard will have little value. Also, we need to be willing to collect new data when necessary. IMHO it is a mistake to only use data in operational data stores to define KPIs. Also, let's acknowledge that creating the presentation front end of a data-driven DSS is a "design challenge". Remember -- buy the books before you buy the dashboard.

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