

# Dashboarding Articles

## The Dashboard Demystified

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This article aims to provide a fundamental understanding of what a dashboard is and provide a brief look at what dashboards can do for an organization. There is an abundance of dashboard literature out there and this article is a good starting point for those interested in a high level understanding of dashboards.

A dashboard is a business tool that displays a set of PIs (performance indicators), KPIs (key performance indicators), and any other relevant information to a business user. Dashboard data is often displayed in real-time after retrieval from one or more data sources in a business. Dashboards are interactive, allowing an executive to drill into particular aspects of the display or switch between facets or views of the data. Key performance indicators need special consideration because they are high-level measurements of how well an organization is doing in achieving critical success factors – in other words, the goals or targets set by an organization in their strategic plan (i). Dashboards are composed of data visualization tools like charts, grids, gauges and maps. Many different sectors of many different businesses benefit from dashboards: both a miner determining where to drill from a map of a geographical area and a CEO deciding where to channel funds would benefit from dashboard use.

Dashboards can provide an effective solution to the overwhelming amount of data that business users experience every day(ii). A dashboard can save employees time - and companies money - by making everything more intuitive, easier to observe, and allowing for extensive, real-time access instead of going through papers and emails to compile information. In order to have a significant return on the investment of a dashboard, it is important that the dashboard be exactly tailored to suit the needs of a company or a particular role within a company. In addition, it is important that a dashboard have metrics that are meaningful and useful to its target audience. Dashboard vendors, and those looking to invest in dashboards,

must consider dashboard options such as interface – i.e., would a primarily graphical interface or an integration of graphics and text suit best? How about a static display or an interactive display(iii)? Would it be necessary to invest in an ODS (operational data store) to store and support access to data and metadata(iv)?

Before deciding on a dashboard and becoming familiar with dashboard categorization and the countless types of data visualization tools available, it is important to be aware of several traits all good dashboards have in common. All dashboards should display a quantitative analysis of what is going on with immediacy and intuitiveness. They should offer creative visual insight, such as an anatomy chart or heat map would offer a hospital – but the interface must not be overly complex: distractions, clichés, and unnecessary embellishments can create confusion(v). Good dashboards offer appropriate context for data: for example, a gauge may show that Company X sold 1000 units this year, but compared to what? Highlighting relevant data, effective color use, and a visually appealing interface all help too. A good business dashboard, in other words, pairs dashboard technology with visual effectiveness. In more explicit terms, here are some key elements of a good dashboard:

- It communicates with clarity; quickly, and compellingly. Simplicity is key.
- It has minimal unnecessary distractions, no matter how interesting, which could cause confusion.
- It organizes business information to support meaning and usability
- It applies the latest understanding of human visual perception to the visual presentation of information
- It is pleasant to look at

Due to the incredible array of available dashboard technologies, definitive categorization of dashboards is a difficult task. One can categorize dashboards in terms of role,

or strategic, analytic, and operational dashboards. Vendors are probably most used to referring to dashboards in these terms(vi); though there are several other categorizations that are very common as well.

Most often, dashboards are used for strategic purposes(vii). The common executive dashboard, designed for a strategic manager of a medium-sized business, for example, is a strategic dashboard. The strategic dashboard allows for a quick overview of an organization's 'health,' so to speak; assisting with executive decisions such as the formation of long-term goals. The strategic dashboard, therefore, doesn't require real-time data: what is going on right now is not important, what is pressing is what has been going on. When designing a strategic dashboard, visual communications experts recommend keeping the interface simple – showing just what has been going. It should be noted that not only higher-up corporate people use strategic dashboards to monitor an organization. For example, a middle manager can monitor data on a dashboard, and then create a presentation to pitch to his CEO about the data he has observed.

The analytic dashboard, as the name suggests, assists with data analysis. This can include making comparisons, reviewing extensive histories, and evaluating performance. When using an analytic dashboard, a tactical manager can go beyond what is going on – as with the strategic dashboard – and drill into the causes. They can determine why sales targets were not met; why problems keep occurring(viii). Through exploring these patterns, goals can be set to correct these issues over time.

The operational dashboard monitors functions which need constant, real-time, minute-by-minute attention, from a blood pressure monitor in an operating room to an assembly line in a refrigerator factory. As with the strategic dashboard, it is recommended that an operational dashboard have a simple interface: no statistics or analyzing. All that is required of a good operational dashboard is immediacy and practicality, like names of workers and sections of the workplace. They are generally used by those

on a departmental, rather than executive level(ix).

Categorization of dashboards can go another, equally common route: a vendor could categorize dashboards by the type of data they handle: either quantitative; or pertaining to data based on quantity or number – which is overwhelmingly more common – or qualitative; which could include scheduling and simple, pertinent lists. A vendor could also think of dashboards in terms of domains, both vertical and lateral. A vertical dashboard is specialized for a specific industry, such as mining, manufacturing, banking, or healthcare. Dashboards in lateral domains are designed for the internal departments that most organizations have: the financial, marketing, manufacturing, and human resources departments of a bank, a mining company, and a hospital could all use a similar dashboard to create goals and determine solutions for financial problems; likely from strategic and analytic dashboards for example. It is hard to have an understanding of one mode of categorization without the other.

There are many, many different kinds of dashboards, all tailored to fit specific roles and almost every lateral and vertical cross-section of the world's industries. This article described three fundamental types of dashboards, but a dashboard does not need to fit one of the categories in order to be successful. Successful dashboards convey a great deal of dense necessary information with clarity and immediacy. Over time, a successful dashboard will improve an organization's decision-making based on aggregated BI, assist in goal-setting, help monitor negative trends, and improve workplace productivity.

#### Sources:

- (i) (Mayo Medical Laboratories, glossary; 2009)
- (ii) (Few, Perceptual Edge, 1.)
- (iii) (Few, Information Dashboard Design, 40)
- (iv) (Eckerson, Performance Dashboards, 57)
- (v) (Few, 71)
- (vi) (Few, 36)
- (vii) (Few, 41)
- (viii) (Chen, Manish, Rasmussen, Business Dashboards: A Visual Catalog for Design and Deployment, 110)
- (ix) (Chen, Manish, Rasmussen, 111)