



Kimball Design Tip #58: The BI Portal (also known as the Data Warehouse Web Site)

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The success of a data warehouse/business intelligence system depends on whether or not the organization gets value out of it. Obviously, people have to use the environment for the organization to realize value. Since the BI portal is the primary point of interaction (the only interaction in many cases), the BI team needs to ensure it's a positive experience.

Too often, BI portal home pages focus largely on the history of the data warehouse, the current status of the load process, or who's on the data warehouse team. These are interesting bits of information, but typically not what BI users are looking for. The BI portal is the user interface to the data warehouse. It must be designed with the user community's needs foremost in mind. There are two basic web design concepts that help: density and structure.

Density

The human mind can take in an incredible amount of information. The human eye is able to resolve images at a resolution of about 530 pixels per inch at a distance of 20 inches (R. N. Clark). Compare this with the paltry 72 pixels per inch resolution of the typical computer screen. Our brains rapidly process information looking for the relevant elements. This combination of visual acuity and mental capacity is what kept our ancestors from being removed from the gene pool by various threats; from predators to low hanging branches to a knife in a bar fight. The browser gives us such a low resolution platform that we have to use it as carefully and efficiently as possible. This means we should fill the BI portal pages with as much information as possible. But we can't just load it hundreds of unordered descriptions and links.

Structure

Our brain can handle all this information only if it is accompanied by an organizing structure. Since the primary reason users come to the BI portal is to find information, a great percentage of the home page should be dedicated to categorizing standardized reports and analyses in a way that makes sense to people. Generally we've found the best way to organize the BI portal is around the organization's core business processes. The business process categories allow users to quickly identify the relevant choice. Within each category, there are detailed sub-categories, allowing the user to quickly parse through the home page to find information that is interesting to them.

For example, a web site for a university data warehouse/BI system might have the following report categories (business processes) on its home page:

<i>Admissions</i>	<i>Employee Tracking</i>	<i>Finance</i>
<i>Alumni Development</i>	<i>Enrollment</i>	<i>Research Grants</i>

Each of these might link to another page that provides additional descriptions and links to pages with reports on them. We can increase the information density by pulling some of the lower level categories up to the home page:

<i>Admissions</i>	<i>Employee Tracking</i>	<i>Enrollment</i>
- Application Stats	- Headcount	- Registration
- Offers and Acceptance	- Benefits and Vacation	- Instructors & Classes
- Financial Aid	- Affirmative Action	- Degrees & Majors

Increasing the density in this manner helps define each category and refine the choices before the user has to click. One way to test your BI portal home page is to measure the percentage of the visible page (full screen browser on an average sized monitor) dedicated to providing users with access to information. It should be at least 50%. Some information design folks believe the target should be closer to 90% "substance."

More Structure

Categories help structure the content, but the web site needs a physical structure as well. The web site needs to have a standard look-and-feel, typically based on the organization's overall page layout, so people can navigate the site with ease.

More Content

Although the main point of the BI portal is to provide access to the standardized reports, it must offer much more than just reports. In addition to the categories and reports lists, we need to provide access to a whole range of tools and information, including:

- Search tool that indexes every report, document and page on the BI web site
- Metadata browser
- Online training, tutorials, example reports and help pages
- Help request system and contact information
- Status, notices, surveys, installs, and other administrative info
- Perhaps a support-oriented news/discussion group
- Personalization capabilities that allow users to save reports or report links to their own page

This information all goes in the lower right corner, the least valuable real estate on the screen (at least in English where we read from left to right and top to bottom).

Building an effective BI portal is an incredible amount of work, but it is a key link in the data warehouse value chain. Every word, header, description, function and link included on the portal needs to communicate the underlying DW/BI content. You should do a design review and test the BI portal with users, asking them to find certain reports and other information. Make sure you don't build a weak link.