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Building better business intelligence: Utilizing data cubes to increase your company's performance

February 12, 2013 - Design / Build

Why do so many (up to 30%, by one expert's reckoning) of business intelligence harvesting efforts not net the results companies are looking for?

Besides being overly ambitious, many companies also contract with generalists to design your data warehouse, populate it with data, and design your data cube. These firms, which may have expertise at warehousing and building analysis services, are not experts in the day-to-day operations of the client company's industry, and as a result may not anticipate all of the client's needs.

Analysis services also provide a convenient grasp on key performance indicators, so clients can easily assess actual spending against targeted projections, occupancy rates, or any other targeted indicators. For property management companies, especially large ones, use of data cubes to house leasing data, spend analysis and financial data can be a major aid in creating annual reports, tracking trends, identifying problem areas, and ultimately functioning more efficiently and effectively.

Within the cube, simplified, succinct schema allows the client to look at the performance for very large portfolios very quickly, change the dimensions and dimension parameters quickly and easily, and hone in on fields where there may be trending or problematic performance. Complicated business analysis questions can be broken down into simple data sets.

"You're trying to identify problem areas and trends. Once you find a problem, you want to solve it. The cube is great for that because it's instantaneous," said Jay Shobe, vice president of technology for Yardi.

Time is an important dimension in cubes. You can look at data over days, weeks, months or quarters for the most useful comparison and creation of helpful charts and graphs. Anticipated data is also highly useful and analysis services provide a valuable predictive tool.

There are three ways to access the data: Excel, for the power user, SharePoint's performance point dashboards, and reporting services reports. In Excel, analysts can drag and drop the dimensions they need into horizontals (facts) and verticals (dimensions). There are no transaction computations necessary, just the simple and expedient use of a read-only program. An Excel pivot table gives you the flexibility to manipulate the variables you are interested in into as many relevant combinations as possible.

Technology services companies are using the cubes in various ways. As one example, Yardi Orion for SharePoint utilizes both Yardi Voyager and a client-specific proprietary OLAP data cube. Users seeking dynamic business intelligence will be able to draw their company data out of the cube in as broad or limited a fashion as they wish. Comprehensive annual reports or subsets of facts and dimensions for regional managers or on-site managers will be at your fingertips.

"An OLAP Cube is highly optimized for doing one thing: analyzing large amounts of data. The

reason it can do it so well is because there is a very thin layer between it and the data. The data is the cube, and the cube is the data. Therefore, it is essential that you have developers with deep understanding of the particular line of business. Otherwise your chances of success go down significantly," Shobe said.

Analysis services technology is available from mega-corps like Oracle and Microsoft, but Yardi Orion is optimized specifically for property management clients. Data can be loaded from a variety of different sources, including Yardi Voyager, as well as from third party programs or files.

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