

Publication: Data Management Review

Column Title: Data Warehouse Delivery

Author: Douglas Hackney

Headline: Analytical Applications Defined

Issue: July/August 1999

[begin copy]

Just as we saw a few years ago with the overnight re-branding of commonplace data-movement tools and technologies into data warehouse wonder tools, today we are seeing a rush by vendors of all stripes to position themselves as providers or key facilitators of analytical applications. This relatively new market segment has been identified as a key growth opportunity, with IDC projecting that it will grow from \$1 billion in 1997 to \$3.6 billion by 2002. Other vendors, analysts and research firms are even more bullish with market projections of tens and scores of billions common among the breathless marketeers of the analytical applications startups.

With the ERP market slowing due to the waning of the Y2K panic; Customer Relationship Management (CRM) vendors struggling with troubled Sales Force Automation (SFA) implementations; query and reporting, OLAP and general purpose Business Intelligence (BI) tool vendors seeking shelter from the Microsoft tsunami and data warehousing vendors fighting the never ending credibility battle with the limited business impact of technology driven projects, there is a stampede to jump on the analytical applications bandwagon. With everyone claiming to be an analytical applications company and every tool, bundle and marketing alliance being touted as the be-all, end-all analytical application nirvana, what is the lowly customer to do when trying to separate the wheat from the chaff?

Let's start with a fundamental definition of what an analytical application is and is not. Firstly, it is not a logical model and a query tool. Nor is it a set of template interactive reports. Nor is it an OLAP tool with some pre-defined dimensions and aggregations. Nor is it a simple data mart with any or all of the above, turnkey or not.

A true, high-business-impact, analytical application is defined by the following characteristics:

- **Architected, integrated data from multiple sources (internal & external)**

An analytical application includes (or, at a minimum, *can* include) information from multiple sources, both native OLTP applications, as in the case of an analytical application offered by an ERP vendor, and external information from heterogeneous OLTP systems or 3rd party vendors. Note that many ERP vendor supplied analytical application offerings have no capability to capture, leverage or utilize external data of any kind. This shortcoming cannot be overly emphasized as you consider the implications of an environment made up of disparate, non-architected analytical applications, each with its own semantics, business rules, etc.

- **Flexible, multi-dimensional analysis, drill (up, down, across) and reporting**

Analytical applications allow business users a flexible environment to view business metrics and measures by any number of pertinent dimensions, with any required number of members. Analytical applications allow seamless drill through into pertinent detailed transactions and

flexible and easy movement across dimensions and measures. They also provide the capability to view and report information in all forms required by the applicable business processes, i.e. detailed lists as well as summary cross tab.

- **Turnkey package / short time to market**

Analytical applications feature rapid deployment, with easy data extraction and/or integration into OLTP packages and data sets; indigenous OLAP or native support for industry standard OLAP engines; pre-formatted, pre-defined relevant business metrics, measures, Key Performance Indicators (KPI), etc.; and implementation ready agents, reports, and aggregations.

- **Integrated business processes**

Analytical applications provide domain specific solutions to specific business challenges, including internal representations of relevant business processes. Analytical applications provide an interactive environment to interact with the business process by presenting applicable metrics and measures of processes, as well as the ability to interact with, and alter, process values and measures.

- **Self measuring (internally monitored ROI, etc.)**

Analytical applications provide internal value measurement of the relevant business processes and of the analytical application itself. They monitor the ongoing utilization of the analytical application, and its effects on the business process. In doing so, they provide ongoing ROI analysis of the business process, and the analytical application. In addition, they monitor the utilization of the analytical application, and provide an active monitor into the propagation of the tool throughout the organization, the relative sophistication of the usage of the system, optimization of the system and identification of best practices regarding usage of the system.

- **Closed loop system**

An analytical application provides a closed loop, feeding new inputs back into the host OLTP or data warehouse / data mart system. As the users interact with the business process, they introduce new information or alter existing information, as in a budgeting and forecasting system. These new values are then fed back into the source systems as new or modified information for use by all users of the source system and all downstream BI systems. Note that this new or altered information must flow back into the analytical application in real time or near real time. This places extraordinary challenges on the technical infrastructure of data warehouse and data mart systems more accustomed to relatively leisurely monthly, weekly or daily information refreshes. It also places heavy demands for massive re-calculation and reallocation of data, as in budget vs. actual calculations or performance against plan. An even greater challenge is that these write-back, flow-through prerequisites require a level of process rigor and structure that is diametrically opposed to the free-form flexibility required of a successful BI system. This is a key technological and cultural hurdle that many teams cannot overcome.

Whether your vendor du jour is trying to ply you with analytical applications in the Enterprise Performance Management (EPM), Customer Relationship Management (CRM), or Supply Chain Management (SCM) market segments; or simply trying to tack on a \$5,000,000 analytical application system onto their ERP package, you should use these criteria to determine if what they are selling is simply a re-branding of yesterday's schema, query/OLAP tool and templated reports or a viable, sustainable, high-impact analytical application.

[end copy]

[callout]

...many ERP vendor supplied analytical application offerings have no capability to capture, leverage or utilize external data of any kind.

[end callout]