

## Data Warehousing In eRetail

For the last ten years, retailers have been embracing a data warehousing technology as a way to empower the organization with access to detailed information derived from sophisticated data stores coupled with online analytics. This trend was triggered, in part, by WalMart's well-publicized use of its massive data warehouse to optimize its supply chain and improve product sell-through.

With the advent of eRetailing, data warehouse vendors have been quick to recognize the value of adding detailed customer information into the data warehouse; extending information analysis into how specific customer groups shop online.

*“Data warehouses are now being used to drive website personalization”*

### Data Warehouse Basics

A data warehouse is a massive collection of detailed transaction data, typically housed on a separate computer, which is stored in such a way as to allow complex analysis of the data to be executed very quickly. This means much of the design of the data warehouse goes into determining how to store the data to permit optimum analysis performance. The resulting analysis is typically used to enhance decision-making; hence, the term 'decision support' is often used in conjunction with data warehousing.

An effective data warehouse is more than a single tool or technology. By combining database technology, analytical processing, and experiential knowledge to design appropriate data structures, an effective data warehouse is like a living organism; to function well,

everything must be in balance, including the ability of decision makers to utilize the data warehouse effectively.

### Do eRetailers need a data warehouse?

Many eRetailers probably already use a basic data warehouse without knowing it. For example, Microsoft's SQL Server 7.0 database solution incorporates many of the functions of data warehousing technology. Companies using online analytic processing or OLAP functions within their existing packages are using one of the core components of a data warehouse solution.

Increasingly, data warehouses are being tightly integrated into transaction processing solutions to provide feedback functionality. This allows for the results of data warehouse analysis to be fed directly back to the online systems, dynamically changing the customer interface. Data warehouses are now being used to drive website personalization, where aspects of the online interaction with the customer are tailored to the specific needs of each customer group or individual shoppers.

This report examines data warehousing in eRetail and looks at how two leading eRetailers are using data warehouse technology to improve their ability to meet the needs of individual online shoppers. Recommendations are provided for selecting a data warehouse vendor, and we review two books on data warehousing that help to demystify the subject and provide guidelines for implementing data warehouse projects.

The report also includes a review of an exciting new technology for eRetailers to beat the eFulfillment blues.

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