

MINING DINING DATA

Restaurants and fast-food chains rely heavily on business intelligence to make important decisions. Casinos do as well. Some of the leading restaurants, fast-food chains, and casinos using data warehouses include AFC Enterprises (operator and franchiser of more than 3,300 Church's Chicken, Popeye's Chicken and Biscuits, Seattle Coffee Company, Cinnabon, and Torrefazione outlets worldwide); Red Robin International (a 170-unit casual-dining chain); Harrah's Entertainment (owner of 26 U.U. casinos); Pizzeria Uno; and Einstein/Noah Bagel (operator of 428 Einstein's and 111 Noah's New York Bagel stores).

AFC ENTERPRISES

AFC Enterprises cultivates a loyal clientele by slicing and dicing its data warehouse to strategically configure promotions and tailor menus to suit local preferences. AFC's data warehouse helps it better understand its core customers and maximize its overall profitability. AFC tracks customer-specific information from name and address to order history and frequency of visits. This enables AFC to determine exactly which customers are likely to respond to a given promotion on a given day of the week.

AFC also uses its data warehouse to anticipate and manipulate customer behavior. For example, AFC can use its data warehouse to determine that coffee is added to the tab 65 percent of the time when a particular dessert is ordered and 85 percent of the time when that dessert is offered as a promotional item. Knowing that, AFC can run more promotions for certain desserts figuring that customers will respond by ordering more desserts and especially more coffee (coffee is a high-margin item in the restaurant business).

RED ROBIN INTERNATIONAL

Red Robin's terabyte-size data warehouse tracks hundreds of thousands of point-of-sale (POS) transactions, involving millions of menu items and more than 1.5 million invoices. As Howard Jenkins, Red Robin's vice president of Information Systems, explains it, "With data mining in place, we can ask ourselves, 'If we put the items with high margins in the middle of the menu, do we sell more versus putting it at the top or bottom,

[and if so], to whom and where?' We can also tell if something cannibalizes the sale of other items and can give the marketing department an almost instant picture of how promotions are being sold and used."

The placement of items on a menu is strategic business, just as the placement of promotional items in a grocery store can mean increased sales for one item and reduced sales for another. The job of finding the right mix is definitely suited to mining a data warehouse.

Using Cognos Business Intelligence, Red Robin now has measurable results of promotion and menu changes, makes better and more timely decisions, and has realized seven-figure savings in operational costs.

HARRAH'S ENTERTAINMENT

Harrah's Entertainment uses its data warehouse to make decisions for its highly successful Total Gold customer recognition program. Depending on their spending records, Total Gold members can receive free vouchers for dining, entertainment, and sleeping accommodations. Knowing which rewards to give to which customers is key.

John Boushy, senior vice president of Entertainment and Technology for Harrah's, says, "We can determine what adds value to each customer and provide that value at the right time." Dining vouchers or free tickets for shows are awarded to day visitors, not sleeping accommodations. Customers who consistently visit a particular restaurant and order higher-end foods receive free dinners and cocktails, not vouchers for free (and cheaper) breakfasts.

PIZZERIA UNO

Pizzeria Uno uses its data warehouse to apply the 80/20 rule. That is, it can determine which 20 percent of its customers contribute to 80 percent of its sales and adjust menus and promotions to suit top patron preferences. These changes can often lead to converting some of the other 80 percent of Pizzeria Uno's customers to the more profitable 20 percent.

EINSTEIN/NOAH BAGEL

Einstein/Noah Bagel uses its data warehouse in real time to maximize cross-selling opportunities.

example, if data warehouse information reveals that a manager in a given store might be missing a cross-selling opportunity on a particular day, an e-mail is automatically sent out to alert managers to the opportunity. Salespeople can then respond by offering the cross-selling opportunity ("How about a cup of hot chocolate with that bagel since it's so cold outside?") to the next customer.^{21,22,23,24}

Questions

1. Consider the issue of timely information with respect to the businesses discussed in the case. Which of the businesses must have the most up-to-date information in its data warehouse? Which business can have the most out-of-date information in its data warehouse and still be effective? Rank the five businesses discussed with a 1 for the one that needs the most up-to-date information and a 5 for the one that is least sensitive to timeliness of information. Be prepared to justify your rankings.
2. Harrah's Entertainment tracks a wealth of information concerning customer spending habits. If you were to design Harrah's Entertainment's data warehouse, what dimensions of information would you include? As you develop your list of dimensions, consider every facet of Harrah's business operations, including hotels, restaurants, and gaming casinos.
3. AFC Enterprises includes information in its data warehouse such as customer name and address. Where does it (or could it) gather such information? Think carefully about this, because customers seldom provide their names and addresses when ordering fast food at a Church's or Popeye's. Is AFC gathering information in an ethical fashion? Why or why not?
4. Visit a local grocery store and walk down the breakfast cereal aisle. You should notice something very specific about the positioning of the various breakfast cereals. What is it? On the basis of what information do you think grocery stores determine cereal placement? Could they have determined that information from a data warehouse or from some other source? If another source, what might that source be?
5. Suppose you're opening a pizza parlor in the town where you live. It will be a "take and bake" pizza parlor in which you make pizzas for customers but do not cook them. Customers buy the pizzas uncooked and take them home for baking. You will have no predefined pizza types but will make each pizza to the customer's specifications. What sort of data warehouse would you need to predict the use of toppings by time of day and by day of the week? What would your dimensions of information be? If you wanted to increase the requests for a new topping (such as mandarin oranges), what information would you hope to find in your data warehouse that would enable you to do so?

Key Terms and Concepts

Application generation subsystem, 122	Data manipulation subsystem, 120	Online transaction processing (OLTP), 112
Backup, 123	Data mart, 128	Operational database, 112
Business intelligence (BI), 112	Data-mining tool, 127	Physical view, 118
Competitive intelligence (CI), 131	Data warehouse, 125	Primary key, 116
Data administration, 132	DBMS engine, 118	Query-and-reporting tool, 127
Data administration subsystem, 123	Digital dashboard, 131	Query-by-example (QBE) tool, 122
Database, 114	Foreign key, 116	Recovery, 124
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Database management system (DBMS), 118	Logical view, 118	Relational database, 114
Data definition subsystem, 119	Multidimensional analysis (MDA) tool, 127	Report generator, 121
Data dictionary, 114	Online analytical processing (OLAP), 112	Structured query language (SQL), 122
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