

# Yours, mine AND OURS

Integrating data from multiple business areas improves decision making. *by Randy Lea and Imad Birouty*

Every day, countless decisions are made by every person at every level of an organization. Success depends heavily upon how well those decisions are made.

Organizations go to great lengths to provide information to their employees to help them make the best choices. In fact, companies that build decision support systems to accomplish that goal tend to stand out as leaders. These organizations leverage their data in a way that gives them greater insight into their business. Accordingly, they can

consistently make smarter, faster decisions that yield streamlined operations, effective customer service, improved revenue and market growth.

Getting to intelligent conclusions often requires information from different areas of the business, including inventory, sales, marketing and financial data. Bringing this data together in a timely and meaningful manner is the key to getting the right information on which to make

choices. Companies that do this will enable differentiated decisions solidly based on all available facts, which gives them a competitive advantage.

Cross-functional analysis of data is essential to making differentiated business decisions. Consider the retail scenario described across the bottom of this article. In this

## Product sales

START

**Situation:** Analysis of product sales data shows that a specific type of sunglasses is selling at 50% of the normal rate or sell-through rate. This is affecting revenue and could result in obsolete inventory. A decision must be made quickly.

**Decision point:** Should the retailer mark down the sunglasses? Cancel future orders? Stop future shipments?

**Findings:** Looking at the product sales data shows only what products are selling and how much is being sold—not what factors may be driving the lack of sales for this product or whether the lower sales volume has a material effect on company profitability.

**Decision:** Put sunglasses on sale to reduce inventory.

Taken alone, sales data represents a narrow, subject-specific view of a complex business decision. To develop a clear understanding of the sales trend and the overall conditions, additional data is required from other areas.

ADD

## Market basket

**New data:** Looking at market basket data can reveal what other products are typically sold with the sunglasses and how their sales are being affected. If they are part of larger-than-average market baskets, having lower sales volume might be acceptable as they seem to be driving an overall larger, more profitable sale.

**Decision point:** Are the market baskets larger when the sunglasses are sold?

**Findings:** Analysis shows no material difference in the size or profitability of the market baskets when this product is part of the sale. While the market basket analysis doesn't reveal the root cause of the low sales, it does indicate that the sunglasses are not part of a more profitable market basket.

**Decision:** Put sunglasses on sale to reduce inventory.

This analysis contributes to the understanding of how the product fits into the business, but more data is required to make an informed decision.

situation, a certain style of sunglasses was selling at 50% of the normal rate. Through a step-by-step analysis you can see how new insights are gained by leveraging cross-functional data, producing a complete view of the business conditions and yielding the best conclusion for the company:

> **Situation:** Sales of the sunglasses were low but were not affecting sales of other products, nor were they driving market baskets that were more or less profitable than average.

**Decision**—Put sunglasses on sale to reduce inventory.

> **New insight:** The company's best customers were not purchasing the sunglasses.

**Decision**—Put sunglasses on sale to reduce inventory.

> **New insight:** Product profitability was average compared with similar sunglasses.

**Decision**—Put sunglasses on sale to reduce inventory.

> **New insight:** The supplier only shipped 60% of requested inventory, and sales were actually 83% of available inventory.

**Informed decision**—Check alternative suppliers, order more sunglasses and consider raising the price, as demand seems higher than supply.



In each step of the analysis, additional data is leveraged, leading to new insights as well as a better understanding of the surrounding conditions. At any given stage,

## Customer data

**New data:** Adding customer data to the analysis will shed more light on the business conditions and on what to do. It will indicate who in the customer base is buying this product. If the retailer's best customers are buying these sunglasses, continuing to sell them will help retain these valued consumers, even if the sunglasses themselves are selling at lower volumes.

**Decision point:** Are the company's best customers buying these sunglasses?

**Findings:** Analysis of customer data reveals no correlation between the best customers and sales of this brand and style of sunglasses.

**Decision:** Put sunglasses on sale to reduce inventory.

This data adds another important dimension of information, but more is required to understand the root cause of slow sales.

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## Profitability

**New data:** Bringing financial data into the equation will show the profitability of the sunglasses and their contribution to the company. If they have a very high profit margin, it could lead to a decision to continue offering them even if sales are slower. On the other hand, if the profit margin is very low, the product could be discontinued without much impact.

**Decision point:** Is the profitability of these sunglasses best in category?

**Findings:** Financial data shows this product has the same profit margin as other similar sunglasses.

**Decision:** Put sunglasses on sale to reduce inventory.

This information reveals the financial contribution of the sunglasses, but supplier issues have not been addressed yet.

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## Inventory

**New data:** Adding supplier and inventory data into the mix will reveal how much product the company has and any outstanding orders. This will help the retailer understand whether it is exposed to high inventory levels that could become obsolete, low levels that cause stockouts, outstanding orders that haven't been filled or future orders that must be canceled. This adds new insight into the overall business conditions.

**Decision point:** What is the inventory level of these sunglasses?

**Findings:** Analysis shows that inventory levels are very low and that the vendor shipped only 60% of the orders. This appears to be the root cause of the problem and helps the company determine what to do about it. So although the "sell-through rate" was showing 50%, the retailer actually sold 83% of available inventory, making it one of the best-selling items.

**Decision:** Increase inventory and consider raising the price as demand seems higher than supply.

*A holistic view of the problem rendered a beneficial result for the retailer and the consumer.*

ADD

a different conclusion might be drawn and the course of action altered. However, with a 360-degree view of business conditions, the best course of action emerges—simply increasing inventory will return sales to their normal level.

## A complete picture

The quality of information provided by analytical environments can be described in terms of how well-integrated the data is within them. When data is not integrated, it usually means that the user will make a decision based on information from a subset of total data available within the organization. Consequently, the user will have limited information with limited scope. This in turn reduces the breadth and sophistication of the questions the user can ask.

When data from multiple subject areas is brought together and integrated, the number and sophistication of the questions users can ask grow. Having integrated data provides users with access to all relevant information within an organization. Thus users can ask cross-functional questions

whose answers provide a complete picture of the business conditions. This enables them to make a fully informed decision.

When data isn't integrated, decision makers can only answer a limited number of questions in various subject areas. For instance, questions that can be answered based on product sales data alone would be narrow in scope. Using the retail example, these would include: What are my top-selling sunglasses by store and region? Questions based on market basket data alone would include: What products are purchased with the sunglasses? While these are important questions, they are undifferentiated from what competitors are answering.

However, when the subject areas are combined, new cross-functional questions can be addressed: Which brand of sunglasses is present in my most profitable market baskets? If I promote the sunglasses, which other products are likely to be sold? These questions carry more business impact and could not be answered by one subject area alone.

Integrating more subject areas yields evermore sophisticated questions: Based

on current promotions, which sunglasses are forecast to be out of stock at which locations, and how will that affect my best customers and other products I sell? These new cross-functional questions are much more relevant to the business and provide insight that enables differentiated decisions.

Having integrated data significantly increases the number of questions that can be answered. In the figure, each subject area can enable a certain number of questions when taken alone. Product sales data can enable 26 questions, market basket data 32 questions, and so on. The total number of subject-specific questions enabled is 164 (26+32+45+23+38). However, when the subject areas are integrated and new cross-functional questions are enabled, an additional 158 questions can now be answered, yielding a total of 322 (164+158).

## Improved vision

The pattern evolving is clear: The more subject areas that are integrated from across the company and available when a decision is made, the more sophisticated and relevant the decisions become. There's a double win. Integrated data enables more questions to be answered with greater business impact.

Imagine making a business decision without knowing how it affects your customers, the sale of other products or the bottom line. Organizations that lack integrated data will be challenged to make decisions with only partial data or in a potentially untimely manner. Those companies with integrated data will enjoy the ability to make rapid, informed and differentiated decisions. As a result, they will emerge as leaders among their competitors. **T**

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