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## The Realization and Promise of Downstream Data Approaches

Having followed the evolution of the downstream data landscape for over six years, AMR Research predicted in November 2009 that 2010 would be a pivotal year for demand signal repositories (DSR) and the use of downstream data. The results of a December 2009 study support this prediction, with downstream data usage expanding as companies move beyond pilots to making these initiatives operational.

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Courtesy of the recession and a changed consumer, shifting portfolios in the consumer products (CP) industry are causing continued pain as companies struggle to predict demand, which drives the need for integrated downstream data solutions. Managing demand variability has never been more important, but it still remains a significant challenge for CP companies. The growing need for better demand visibility across the supply chain, coupled with the challenge of demand latency and the difficulty with translating demand from multiple sources, further demonstrates the need and growing interest in DSRs and downstream data, which is also validated by our findings.

In late 2009, AMR Research conducted a follow-up to the 2008 downstream data and DSR study that consisted of 129 U.S.-based companies. The survey reached across the following three CP industry segments:

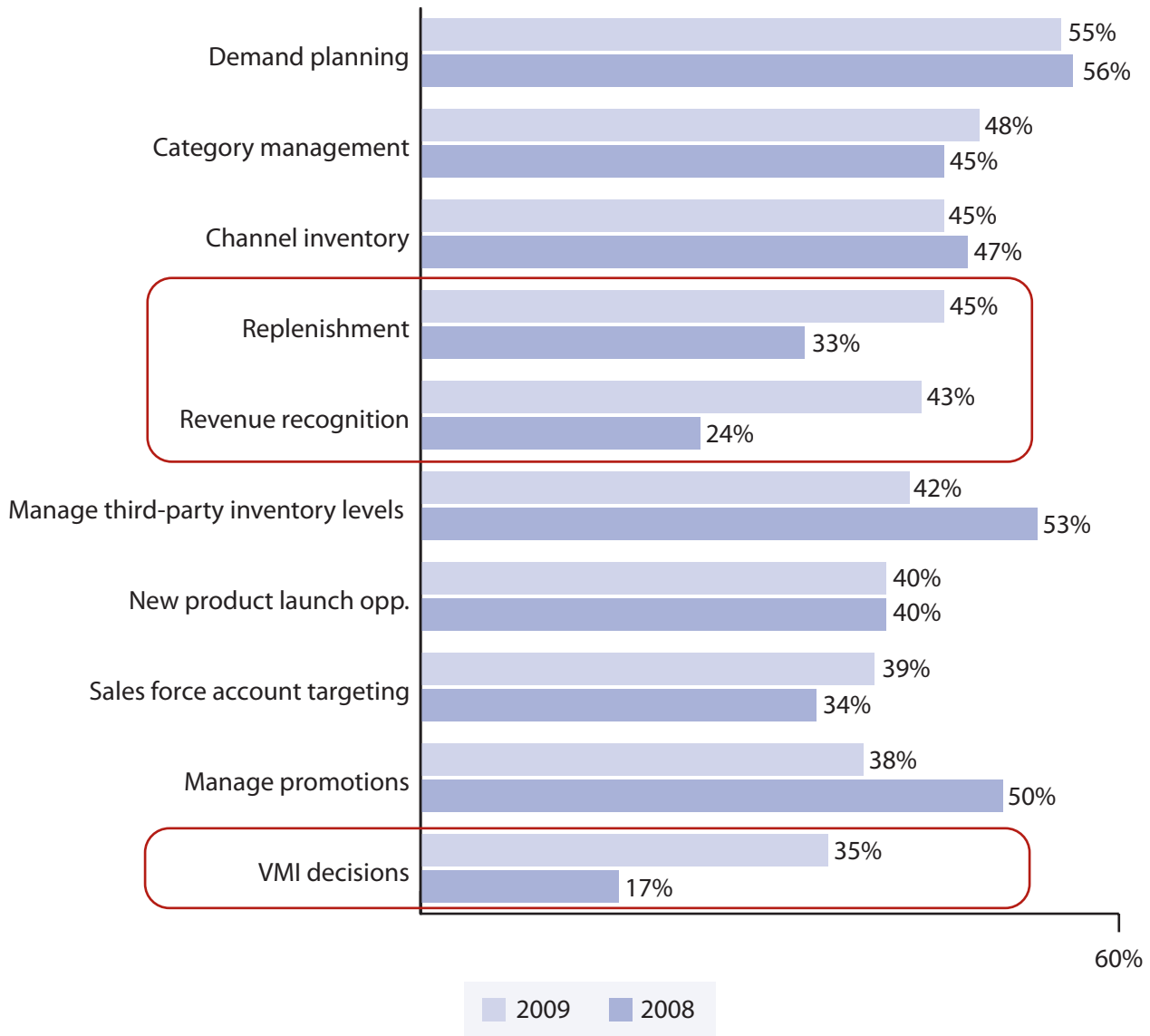
consumer packaged goods (CPG), over-the-counter (OTC) drug and beauty, and food and beverage. The survey focused mainly on line-of-business (LOB) roles within the organization (69%) along with some IT roles (31%). Respondent firms ranged in size, with the smallest firms starting at \$1B in annual revenue and larger firms (47% of the overall sample) with more than \$10B in annual revenue.

### Growing maturity in uses of downstream data

CP companies have many uses for downstream data, with the late-2009 study showing demand planning (55%), category management (48%), and channel inventory (45%) as the top three. The number of respondents using downstream data for replenishment, however, grew to 45% from just 33% in 2008, which indicates increased use of downstream data as companies gain maturity and move beyond sensing demand to learning how to replenish to a demand signal.

A greater use of downstream data for vendor-managed inventory (VMI) decisions was also revealed, growing to 35% from 17% in 2008. This is significant since it allows companies to use store-level data to better manage retailer distribution center (DC) inventories, remove days of sale and thus reduce working capital requirements, and improve cashflows and service levels.

**Figure 1:** How downstream data is used—2008 versus 2009



Q: How is downstream data used in your company today?  
 n=129 total respondents

Source: AMR Research, 2010

Here are other key findings from our study:

- Food and beverage respondents were less inclined to cite category management as a use for downstream data than the other industry segments (36%), but are more likely to use it to manage promotions (50%) than the others.
- Far less OTC respondents cited VMI decisions (26%) as a use for downstream data, whereas CPG and food and beverage respondents had a higher inclination (44% and 34%, respectively).
- From a company size perspective, a higher number of respondents with less than \$10B in annual revenue cited channel inventory (51%), replenishment (52%), and managing third-party inventory levels (51%) as uses for downstream data. These percentages were higher than those of the larger companies surveyed (38%, 37%, and 32%, respectively).
- Looking at the results from a state-of-use perspective, the top-three responses from companies currently using a DSR were demand planning (49%),

managing third-party inventory levels (48%), and channel inventory (47%). Companies currently evaluating a DSR cited category management (53%), replenishment (53%), and demand planning (50%), indicating that they're fine-tuning the lessons learned as they gain better insights from their DSR and/or downstream data investments.

### **Performance gaps in use of downstream data challenge organizations**

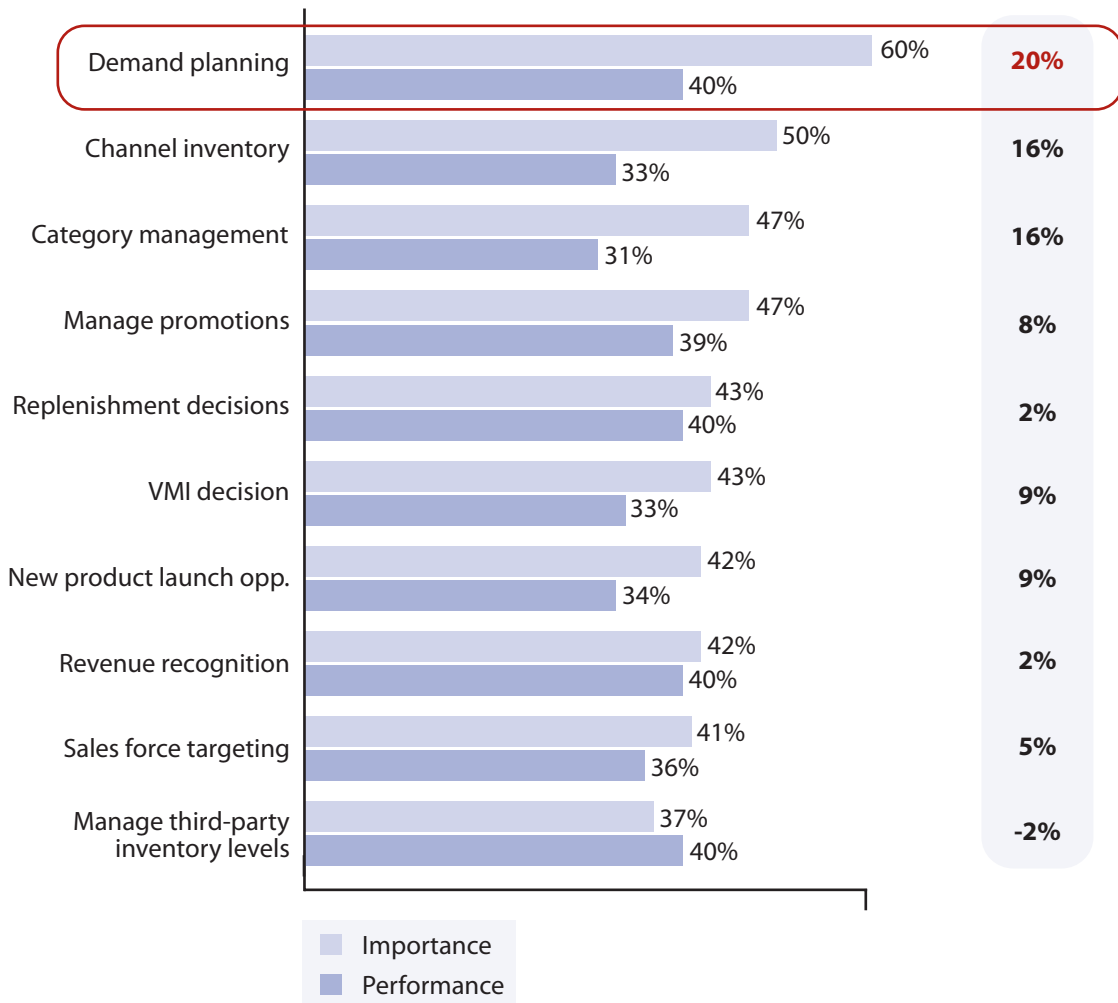
We also asked respondents about the largest performance gaps with respect to using downstream data. The performance gap measures the difference between the importance of using downstream data for a specific area and a company's performance when using it in that area.

The largest gap was in demand planning (20%), which is consistent with the struggles companies are having with managing demand variation caused by shifting consumer buying patterns. This was followed by a 16% gap in both channel management and category management.

**Figure 2:** Performance gaps in use of downstream data

**Top 3 Box Summary**

**Gap Score**



Q: Using a scale of 1 to 10, what is the importance of using downstream data in your operations in 2010?

Q: Using a scale of 1 to 10, please rate your company's performance on the use of downstream data in each category.

n=129 total respondents

Source: AMR Research, 2010

Consider the following:

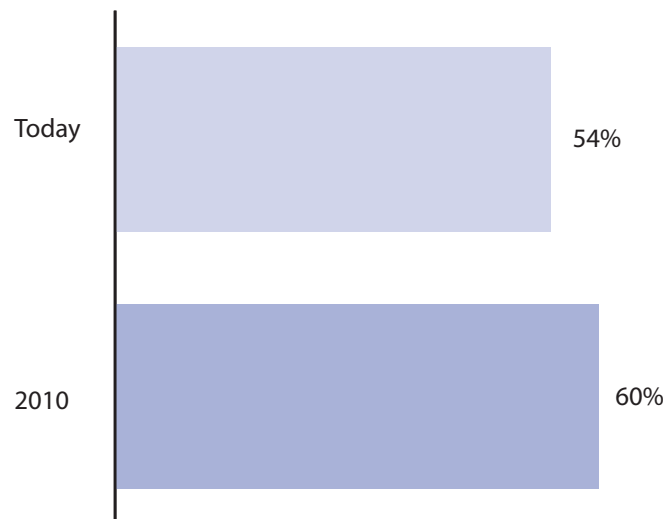
- Although demand planning received the largest gap score for CPG (26%) and food and beverage (25%), OTC respondents cited only a 10% gap.
- The gap score for category management was much higher for OTC respondents (26%) than CPG (12%) and food and beverage (9%).
- Food and beverage respondents cited several areas where performance exceeded importance, including decisions for replenishment, revenue recognition, and managing third-party inventory levels.
- The gap score for respondents with less than \$10B in annual revenue was much higher in demand planning (26%) than it was for respondents with higher annual revenue (13%). Companies with less

revenue also had high gaps scores in promotions management (15%) and sales force targeting (12%), whereas for companies with higher revenue, performance exceeded importance in these areas.

### Downstream or POS data has never been more available

When asked what percentage of channel revenue is captured by downstream or point-of-sale (POS) data today, the aggregate mean response was 54%. Respondents expect it to reach 60% by the end of 2010. This is significant because once a company gains visibility into 60% of its volume, it has reasonable enough scale to benefit from the varied uses of downstream data. This is especially true in the areas of improving customer service, forecasts, and replenishment, as well as better managing order and shipment cycles with trading partners.

**Figure 3:** Percentage of channel revenue represented by accounts with downstream data



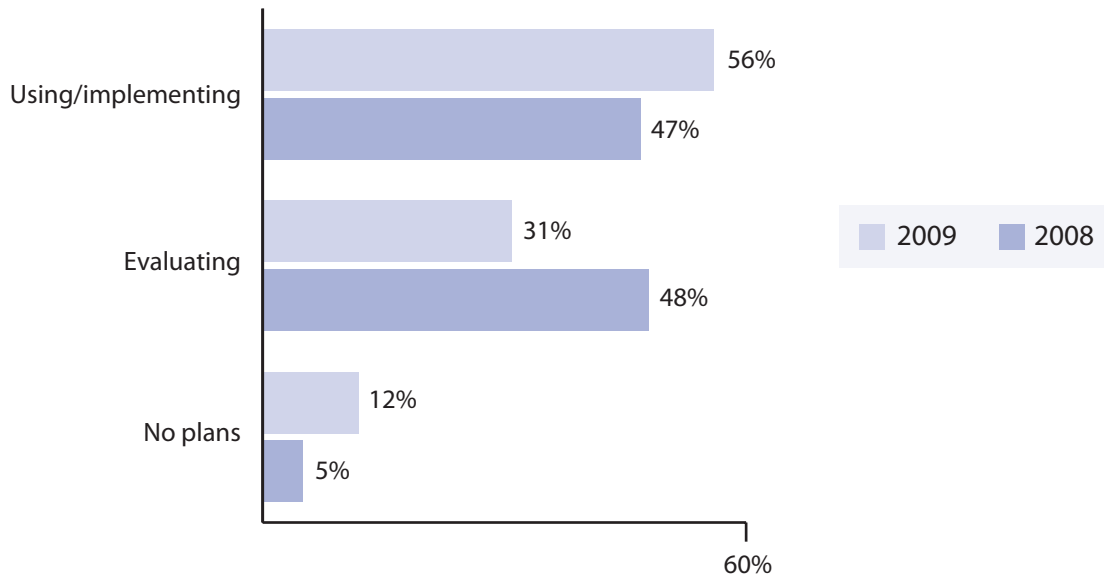
Q: What percentage of channel revenue do the accounts with downstream data represent today?

Q: What percentage of channel revenue will the accounts with downstream data represent by the end of 2010?

n=129 total respondents

Source: AMR Research, 2010

**Figure 4:** Plans for DSRs—2008 versus 2009



Q: Which of the following best describe your company's plans for a DSR?  
n=113 total respondents

Source: AMR Research, 2010

Other research indicates a number of pilots are taking place, with industry leaders learning and scaling their downstream data investments across business units and regions.

Although the results showed varying degrees of frequency in data sharing, with the largest percentage of companies sharing weekly and daily data every week, leaders are emerging that are differentiated in their abilities to sense and shape demand by using daily data on a daily basis. The key to data sharing is trust and suppliers' abilities to demonstrate to the retailer the capability of using the data for increased performance and value creation. In order to grow the top line in a difficult economic climate, targeting and reaching consumers and shoppers through the use of store-level data is critical.

In the future, more companies will move to sharing data daily because of its benefits. Those that master daily data and design supply chains from the shelf back will gain a competitive advantage in the market. For this reason, manufacturers must realize that with the improvement in data sharing will come an increase in retailer expectations to use that data to improve trade promotion effectiveness, inventory and working capital requirements, and service levels.

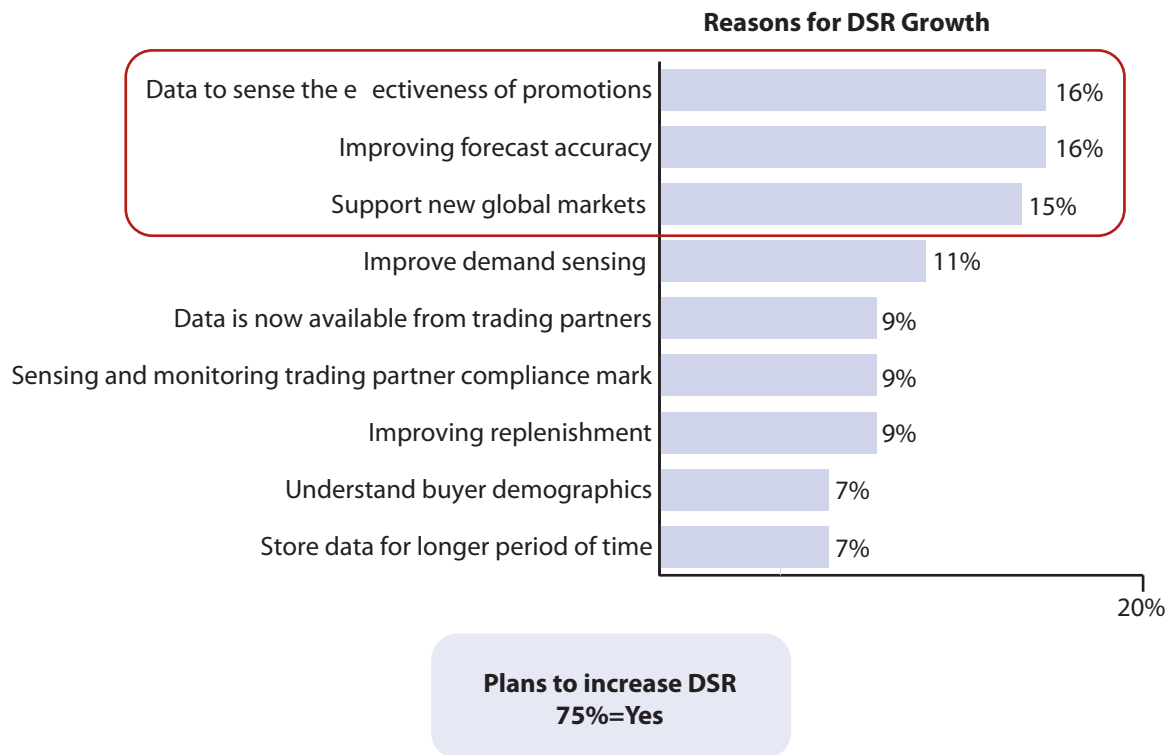
### Increased use of a demand signal repository to manage downstream data

This study focused on the current state of DSRs used to store, harmonize, and normalize large volumes of data. The number of companies currently using or implementing a DSR increased to 56% from 47% in 2008. This is a direct result of increased data requirements and continued interest and understanding by companies that demand visibility is required in order to become demand driven.

45% of companies currently have a DSR with more than 10 terabytes. As companies utilize multiple data streams (e.g., POS data; transactional data, including shipment and order history; VMI data; and syndicated data), larger DSRs are needed. This is supported by our survey results, with 75% of respondents that are currently using or implementing a DSR saying they plan

to increase the size of their DSRs in 2010. The main reasons stated for this increase were to improve forecast accuracy as well as to sense promotions effectiveness and price incentives. Also high on the list was the need to support new global markets (15%), especially as companies look to expand to Brazil, China, India, and Russia.

**Figure 5:** Plans for DSR growth



Q: Do you plan to increase the size of your DSR in the next 12 months?

Q: What is the primary reason for your plans for DSR growth in the coming 12 months?

n=55 respondents using/implementing a DSR that plan to increase its size over the next 12 months

Source: AMR Research, 2010

Further segment analysis revealed the following differences:

- A higher percentage of CPG (70%) and food and beverage (64%) respondents plan to increase the size of their DSRs over OTC respondents (57%).
- Food and beverage respondents were less inclined to cite improved forecast accuracy as a reason for DSR growth. CPG respondents had the lowest number of respondents that plan to grow their DSRs to support new global markets.

### Benefits from the use of DSRs are creating value across many areas and functions

When asked about the types of data collected as part of a DSR strategy, the study found that POS data (58%), inventory data (55%), and warehouse withdrawal data (49%) were the most common types. However, when asked about the value of this data, respondents cited that the most value comes from POS data (83%), RFID data (81%), and customer panel data (81%).

**Table 1:** Value of data collected by industry

Data Type	CPG	OTC	F&B
RFID product movement	<b>94%</b>	73%	64%
Third-party demographic content	<b>84%</b>	45%	47%
Point of sale	<b>81%</b>	<b>78%</b>	<b>86%</b>
From internet marketing campaigns	78%	69%	42%
Customer panel	76%	53%	73%
Warehouse withdrawal	76%	69%	<b>81%</b>
Wholesale distribution, inventory levels and sales	76%	68%	<b>78%</b>
Inventory	69%	72%	62%
Loyalty	67%	<b>77%</b>	53%
Syndicated	60%	55%	71%
Unstructured text on consumer acceptance of new products	60%	<b>86%</b>	60%
Unstructured Social Sensing	44%	54%	67%
Sample Size n=	<b>43</b>	<b>42</b>	<b>44</b>

Source: AMR Research, 2010

Q: Please rate the current value of the data collected as part of your DSR strategy.

Consider the following:

- CPG respondents found extremely high value in RFID data (94%), third-party demographic data (84%), and POS data (81%).
- OTC respondents gave the highest value scores to unstructured text on consumer acceptance of new products data (86%), POS data (78%), and loyalty data (77%). This isn't surprising, given the importance of product innovation in the OTC industry and the opportunity to use social media and consumer data to improve new product launch success.
- 86% of food and beverage respondents said POS data had an extremely high value. 81% said warehouse withdrawal data was extremely valuable, and 78% gave a high-value score to wholesale distribution data.

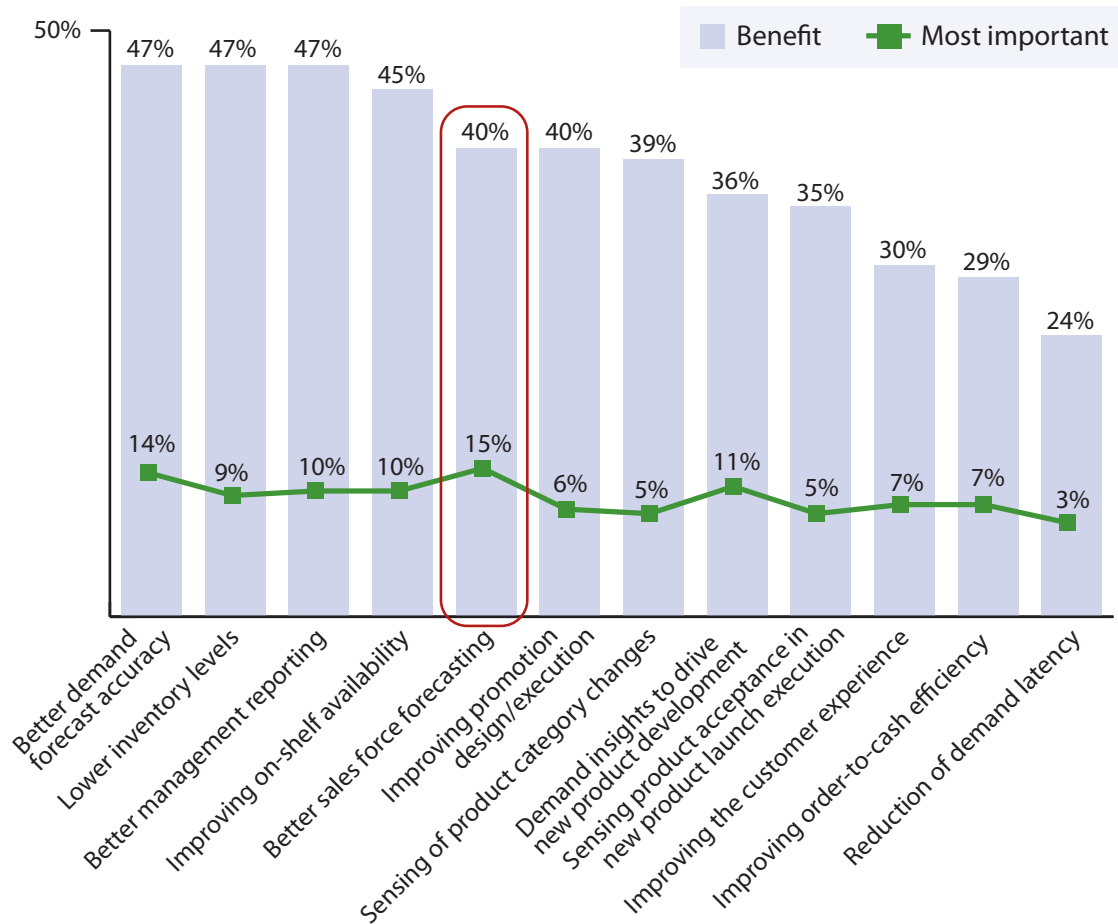
Benefits received from DSR processes are numerous and varied. Almost half of companies that are currently working with a DSR expect to receive benefits in the areas of better demand forecast accuracy, lower inventory levels, and better management reporting.

But when asked about the most important benefit, the top response was better sales force targeting (15%). Considering the struggle companies experience with growing their top lines during a tough economic climate, it makes sense that they would focus on using the data to better target consumers and work with retail partners to improve trade promotion effectiveness through better sales team insights.

Consider the following:

- Improving on-shelf availability had the highest number of respondents (58%) for companies using or implementing a DSR. Better forecast accuracy (55%) and lower inventory and safety stock levels (55%) were ranked highest for companies currently evaluating a DSR.
- 58% of CPG respondents cited improving on-shelf availability as a benefit received or that's expected to be received, whereas only 41% of OTC respondents and 36% of food and beverage companies said the same. This was also the most important benefit for CPG respondents.
- More CPG companies have received or expect to receive benefits from sensing product category changes than other industry segments.
- 57% of OTC respondents received or expect to receive benefits from lower inventory levels, whereas only 42% of CPG respondents and 41% of food and beverage respondents said the same. This was also cited as the most important benefit for OTC respondents.
- OTC respondents gave the highest value scores to unstructured text on consumer acceptance of new products data (86%), POS data (78%), and loyalty data (77%).
- 86% of food and beverage companies said POS data had an extremely high value. 81% said warehouse withdrawal data was extremely valuable, and 78% gave a high-value score to wholesale distribution data.

**Figure 6:** Benefits received from DSR processes



Q: Which of the following benefits have you received or will you receive from your work with DSR processes?

Q: Which do you consider the most important benefit?

n=129 total respondents

Source: AMR Research, 2010

### Downstream data has arrived

DSR investments are on the rise, with the use of downstream data continuing to expand, given the promise and benefits realization of near real-time data. To become demand driven, companies must first be able to sense and then shape demand by making conscious tradeoff decisions. This, however, requires a DSR strategy and a firm plan to use downstream data in connection with business strategy.

Companies are finding considerable value from their downstream data investments, with paybacks occurring in weeks to months. Leaders continue to separate themselves from the pack, and future competitive advantage will be won or lost on the ability to use data across the enterprise to better serve customers, delight consumers, manage costs, and balance operational efficiency with innovation excellence.