Getting the Intelligence to Build Demand-Driven Supply Networks

Connected Experiences for **Consumer Goods**

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Microsoft

Introduction

Building an effective Demand-Driven Supply Network (DDSN) presents an ongoing challenge. Most companies remain in the early phases of developing this business capability. The necessary information on which strategies are based is very complex and can change quickly. Businesses must not only respond quickly to market requirements such as demand, supply variables, and seasonal trends, but also maintain a balance between high levels of customer service and manageable inventory levels.

This paper identifies the challenges of building a Demand-Driven Supply Network, explains how to use near-real-time data in an integrated Demand Signal Repository (DSR), and shares examples of current successes and ideal states.

The Challenges of Building a Demand-Driven Supply Network

A Demand-Driven Supply Network (DDSN) is designed to improve the responsiveness of a company's value chain. Some of the challenges of building an effective DDSN include an improper understanding of consumer consumption, not enough IT resources, and outmoded business practices around the tracking and use of Point of Sale (POS) scan data. A primary objective is to use real-time POS consumption data to build a better DDSN.

Aligning Demand and Supply with Consumer-Driven Planning

Aligning demand and supply with Consumer-Driven Planning means using real-time consumption data to ascertain what is really happening in the marketplace, and creating an effective and accurate forecast and plan to more accurately manage demand and supply.

Consumer-Driven Planning supports organizations in creating realistic and achievable sales targets, developing detailed market intelligence, managing promotions more effectively, and establishing optimal inventory levels for a maximum return on investment at stores and in distribution across the value chain. In other words, it enables a company to establish a clear and unified vision of current and future demand, so that it can develop an execution plan that aligns all supply and sales processes around that vision.

Consumer-Driven Planning can help companies:

- Eliminate Out-of-Stock (OOS) conditions.
- Reduce safety stocks and remainders.
- Decrease stock levels and inventory costs.
- Cut unnecessarily long lead times.
- Improve promotion effectiveness.
- Increase customer service.
- Drive down costs.

Good demand planning requires communication among stakeholders across the organization, particularly in the areas of marketing, sales, and supply chain management. Consumer-Driven Planning enables effective collaboration between key individuals and departments, and helps maintain the security of confidential information.

Building Business Efficiency with a Demand Signal Repository

A Demand Signal Repository (DSR) is a powerful enterprise data warehouse that stores large volumes of external and internal data that has been harmonized to provide visibility up and down the supply network. It can also be used to feed line-of-business applications that support DDSNs. A DSR stores retailer data, third-party data, and internal data in order to drive demand-driven business insights across the value chain of stakeholders.

The following outlines some examples of these enterprise data sources.

Retailer Data Sources

- Point of Sale Scan Data
- Store and DCs Inventories
- Planograms
- Store Clusters
- Retail Item Hierarchies
- Events

Internal Data Sources

- Sales
- Promotions
- Events
- Item Hierarchies and Attributes
- Store/Location Hierarchies
- Forecasts
- Shipments

Third-Party Data Sources

- Syndicated Data
- Weather Data
- Map/Spatial Data

A DSR is an important building block of an efficient DDSN for the following reasons:

- It is the central database for all demand data.
- It harmonizes external data with internal line-of-business data to support multidimensional analytics across the organization.
- It supports cross-functional reporting and analysis with integrated demand analytics embedded into critical spend areas such as trade promotion management.
- It can be used to support business monitoring and trigger alerts for impending business issues (for example, Retail Out of Stock).

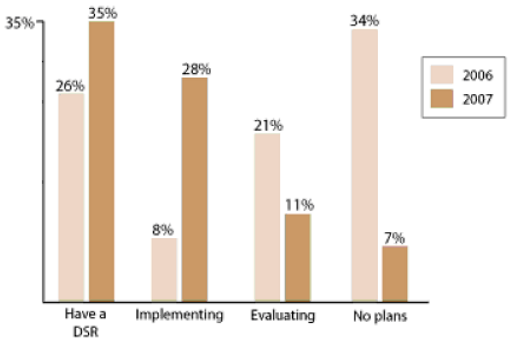
An effective DSR is extremely useful in gathering data from disparate sources. A DSR provides item, location, and calendar harmonization for disparate data types—for example, POS data from stores, warehouse withdrawal data, and syndicated data. It is the source of retail-specific information for retail forecasts, store withdrawals, shipments, and planograms, providing demand insight data on what customers bought within a category, and who they bought it from.

The following image illustrates key trends in Consumer Packaged Goods (CPG) around DSR.

The Trends: Key CPG Trends around DSR

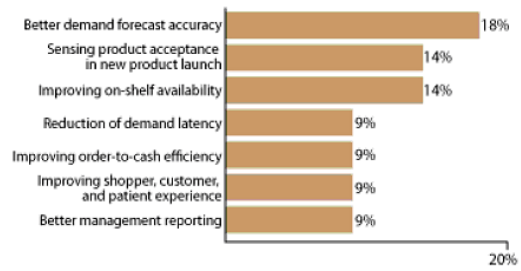
- In 2004, AMR coined the term Demand Signal Repository (DSR) as a common Database that harmonizes and cleanses downstream data, including Point of Sale (POS), inventory movement data, shopper demographics, market trends, and loyalty

Figure 1: Demand signal repository—year-over-year changes



Source: AMR Research, 2007

Figure 2: Demand signal repository benefits



Q. Of the benefits from your work with DSR processes, which do you consider most important to the success of your DSR processes?
% of responses: mature respondents, n=46

Source: AMR Research, 2007

Making Better Business Decisions by Incorporating Near-Real-Time Insights from the DSR into Functional Areas

Effective inventory planning and management depend on accurate sales forecasts. Detailed consumption data from the DSR can be used to revitalize and improve the accuracy of business planning around the following functions:

- Replenishment
- Demand Planning
- Account Management
- Category Management

By incorporating near-real-time demand data from the DSR into business planning and management, companies can take into account the impact of a promotion and predict the demand for new products. Factors such as trends and seasonality can also be incorporated into the forecast.

Forecasts can easily be shared among stakeholders and updated on a regular basis. New sales data and information about promotions, product launches, and discounts can be entered into the program regularly. These regular updates help maintain the integrity of the forecast and reduce overall statistical errors.

Increasing Demand with Successful Promotions Driving Accountable Marketing

An effective promotion can facilitate the successful launch of new products into the marketplace. It can also have a dramatic impact on the demand for existing products. This is why promotion management is an important part of the forecasting process.

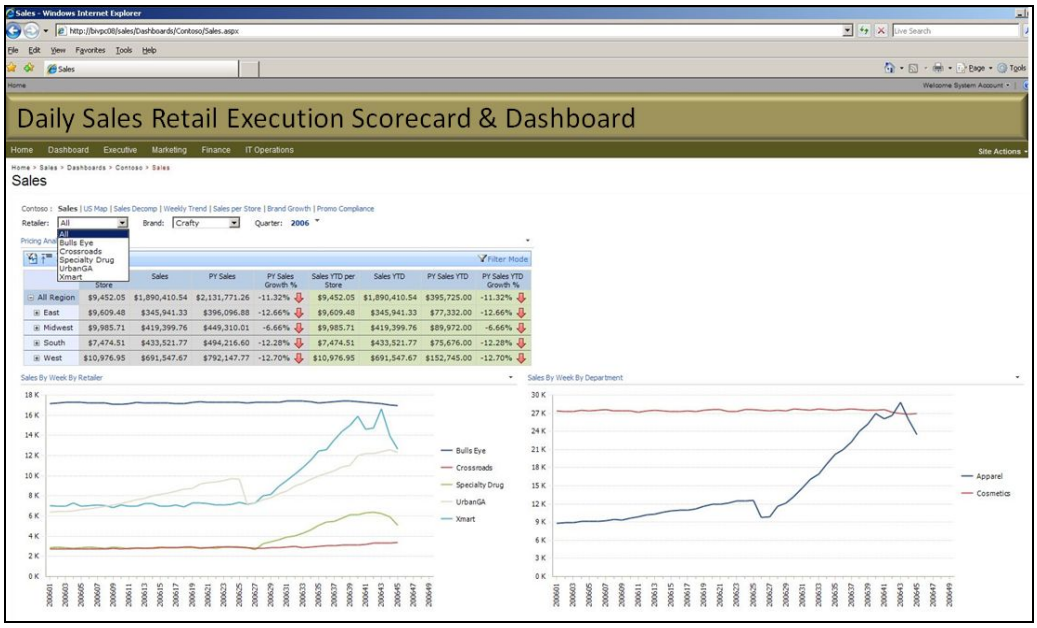
By using the data from the DSR in combination with a consumer-driven approach, companies can determine the best strategy for stimulating customer demand—for example, discounts, special offers, or marketing campaigns. Through the evaluation of harmonized POS data from the DSR, they can determine the impact of specific initiatives on such factors as sales volume, product turnover, and margins, and then decide which products to promote through which channels.

This enables planners to more accurately assess what is the right assortment and inventory level of products along the distribution network, taking into account special promotions, stock rotations, and constraints such as display space and allocation rules. This type of detailed demand planning helps ensure that companies can meet their sales objectives and improve margins.

Improving Field Intelligence by Combining Mobile Merchandising and POS Sell-Through Analytics as an Integrated Retail Execution Decision Cockpit

POS data from the DSR, when combined and harmonized with physical observations at the shelf, can be used to drive a Retail Execution Decision Cockpit. This, in turn, can drive a consumer-driven account planning approach that utilizes near-real-time demand dashboards—part of a Retail Execution Decision Cockpit—to provide near-real-time business insights that allow businesses to save time and resources.

The following image illustrates the concept of using DSR data in an integrated Retail Execution BI portal.



Ensuring Product Availability with Logical Replenishment Policies

Every business's goal is to ensure that products are always available when and where they are needed. The ideal situation is to make this happen while maintaining the minimum required stock level, thus preventing unnecessary storage costs. Therefore, a sound replenishment policy is an important component of demand-driven inventory planning.

With a sound replenishment policy driven by real consumer demand, a business can:

- Reduce stock replenishment delivery costs.
- Minimize inventory excess and increase stock turnover rates.
- Reduce lost sales from stock-outs.
- Respond quickly to market demands.

Good replenishment policies help businesses establish replenishment dates and quantities for each warehouse and product, and synchronize the flow of products from production warehouses, to distribution centers, all the way out to point of sale.

Changing the Game

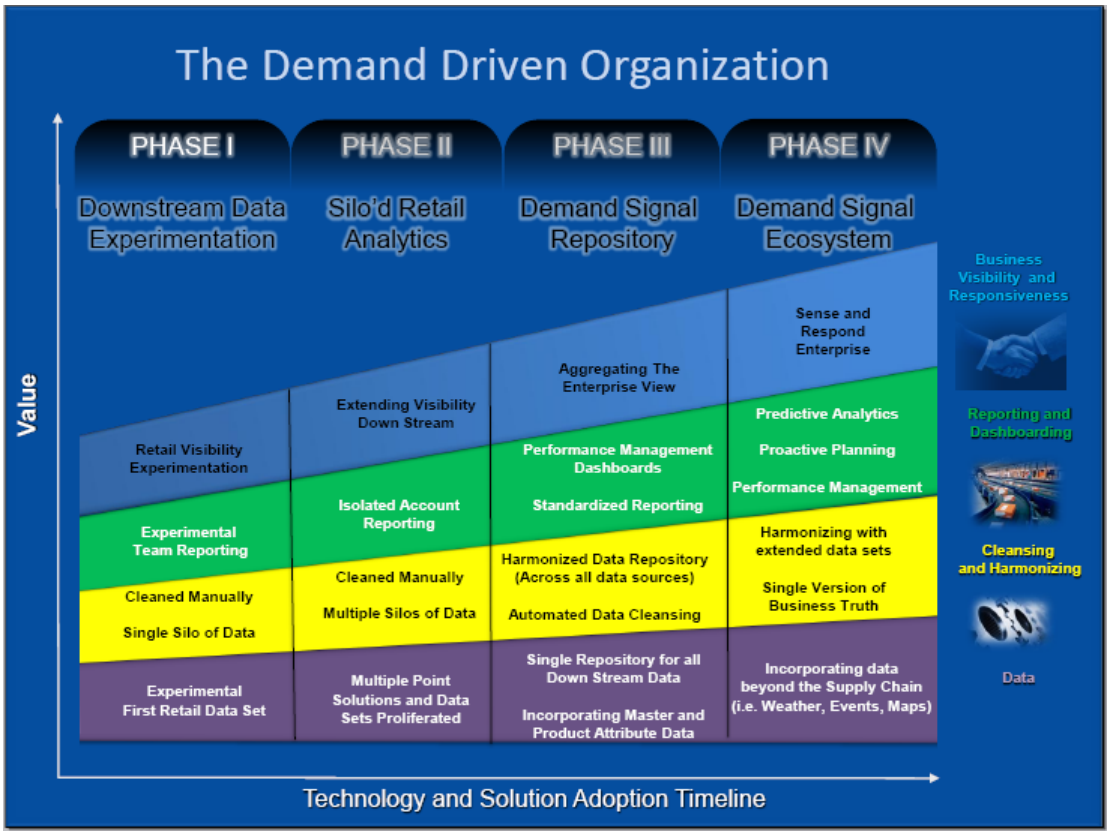
As companies mature in their DDSN approach, they can leverage technology to change the game and create significant competitive advantage. By leveraging the demand-sensing capabilities provided by a DSR system, along with business knowledge they have gained, companies can drive other business processes and thus productionalize their business insights. For example, a business monitoring capability that utilizes predictive analytics can be leveraged to watch for impending business issues, and automatically deliver alarms and alerts to account managers and merchandisers when they occur. For example, the system can watch for an impending retail Out-of-Stock (OOS) condition, and then send an automated alarm or alert to the account manager or merchandiser responsible for servicing that specific retail outlet. This then allows the merchandiser to respond proactively and thus prevent the OOS condition from occurring.

As companies leverage their investment in developing DDSNs and the supporting demand-sensing capability, they use technology to change the game. The can transform their business and operation from being reactive to being more proactive.

Demand-Sensing Maturity Model and Road Map

The ability to sense what is happening with the demand-side replenishment is critical to success. An important key to building a successful Demand-Driven Supply Network is adopting the technology and solutions according to a timeline that will not only accommodate the current state, but also grow in value as new solutions are implemented.

The following image illustrates the four phases of a demand-driven organization.

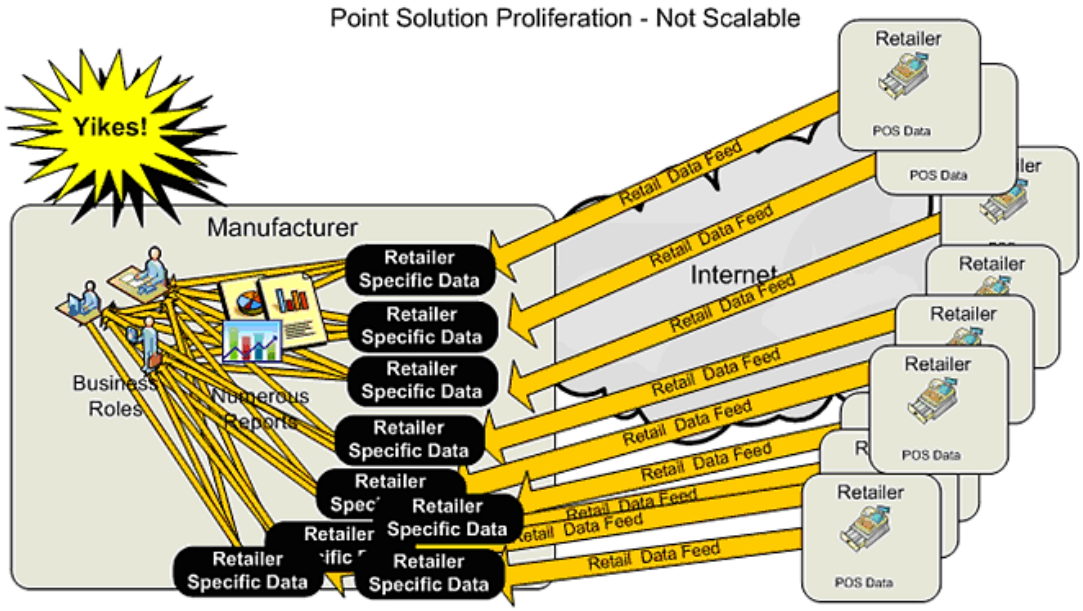


It is important that a company consider the key decisions that must be made around the technologies, architecture, and applications they will use to make better decisions. However, the technology is only part of the solution. Building a successful DDSN can transform a company in ways that require business and technology to unify. Uniting technology with business strategy enables a company to maximize the value of DSR data and Consumer-Driven Planning strategies. For this to be successful, it is usually necessary that there be role-based decision cockpits leading the initiative. In general, the companies that most successfully implement this strategy are those that view their DSR investment as a business transformation project with a technological component.

Basic Business Architecture, Current State, and Idea States Explored

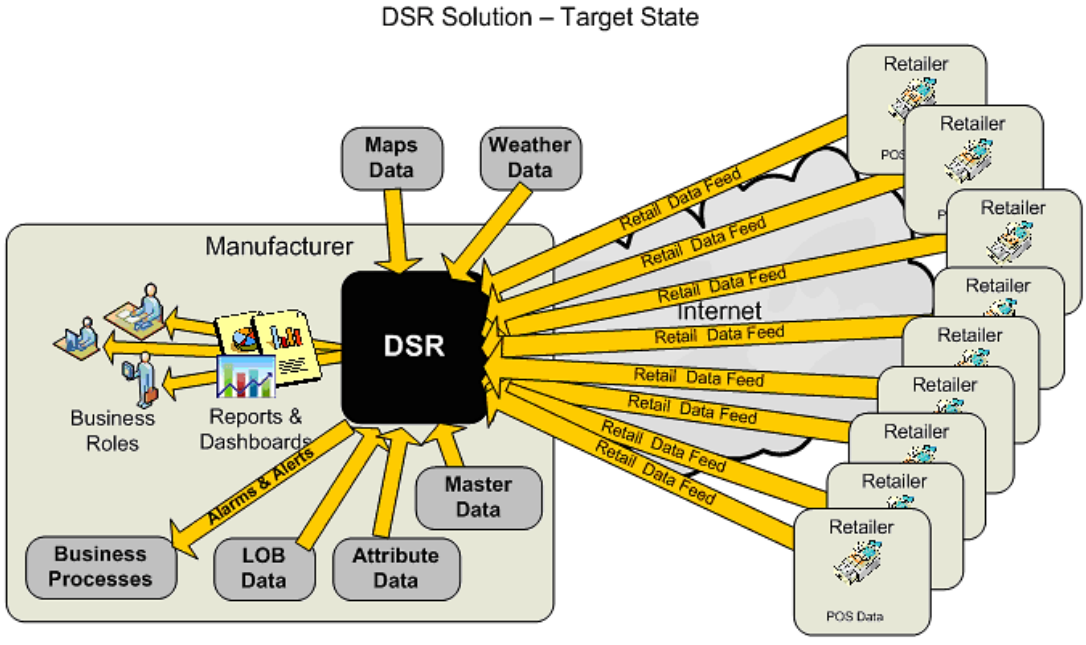
Currently, most businesses have a combination of one-off solutions for both business strategy and technology. This can result in difficulty in understanding and effectively using any data harnessed by technology.

The following image illustrates downstream data analysis based on current state issues.



Consumer-Driven Planning and a DSR-based DDSN enable a company to streamline processes across the chain, aligning data and attributes, uniting business and technology.

The following image illustrates a target state that incorporates DSR technology and demand-driven business insights.



The preceding illustration makes it clear that a DSR-based, demand-driven solution can transform communication along the supply chain. An ideal solution provides a single source for store-level consumer data that enables category managers, customer logistics managers, replenishment managers, and account managers to spend less time manipulating data and more time delivering store-level POS insights.

Conclusion

A Demand Signal Repository (DSR)–based Demand-Driven Supply Network (DDSN) can transform the way a company negotiates the demand and supply chain. Integrating good business strategy with effective technology can have a significant impact on a company's financial performance.

Building a successful DDSN can help businesses:

- Increase business efficiency through the use of DSR data.
- Optimize demand and supply cycles.
- Deliver integrated analytics for use in decision making.
- Reduce operational complexity.

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