E-Commerce Opportunities in Direct Store Delivery

GMA
Grocery Manufacturers of America

E-Commerce Opportunities in Direct Store Delivery

A White Paper

Prepared by the DSD E-Commerce Task Force
Of the Direct Store Delivery (DSD) Committee
Grocery Manufacturers of America

GMA is the world's largest association of food, beverage and consumer product companies. With U.S. sales of more than $450 billion, GMA members employ more than 2.5 million workers in all 50 states. The organization applies legal, scientific and political expertise from its member companies to vital food, nutrition and public policy issues affecting the industry. Led by a board of 44 chief executive officers, GMA speaks for food and consumer product suppliers at the state, federal and international levels on legislative and regulatory issues. The association also leads efforts to increase productivity, efficiency and growth in the food, beverage and consumer product industry.

Table of Contents

Acknowledgments

In June 2001, the Direct Store Delivery (DSD) Committee of the Grocery Manufacturers of America created a new task force designed to demonstrate the value for the DSD community of critical e-commerce initiatives within the food and consumer products industry. The group also sought to educate the industry on the opportunities and benefits of implementing new technologies and standards to DSD processes.

Comprised of executives from DSD member-companies that had shown leadership in e-commerce initiatives, the task force acts as liaison between DSD companies and trade exchanges, standards-setting organizations, application and technology service providers, and other companies or organizations whose services may provide e-commerce value to the DSD community. The task force believes these liaison activities are essential, given the complexities of the DSD system and the unique requirements necessary to transact business within the DSD community.

The purpose of this white paper is to provide a common understanding of the basic DSD process in North America. The task force also examines key areas for enhanced e-commerce opportunities within the DSD framework. This document provides an outline for retailers, DSD suppliers and third-party service providers when developing e-commerce solutions and standards.

The DSD E-Commerce Task Force plans to use the opportunities published in this document to pilot solutions for use by the DSD and retail community in the food and consumer packaged goods industry.

The task force wishes to thank Erin Harcourt of GMA, who wrote the report, and the following individuals who participated in the development of this white paper:

Ken Arnold, Kraft Foods/Nabisco
Tim Braden, Dean Foods Company
Jack Buffington, Coors Brewing Company
Ann Dozier, Coca-Cola Enterprises
Bryan Dunlap, Pillsbury Winthrop LLP
Diane Fisher, Frito-Lay, Inc.
John Garber, PepsiCo, Inc.
Kim Goodell, Dreyer's Grand Ice Cream, Inc.
Terry Hoffman, Anheuser-Busch, Inc.
Rob Johnson, Dr Pepper/Seven Up, Inc.
Tom O'Keefe, Miller Brewing Company
John Phillips, Frito-Lay, Inc.
Harish Ramani, Cadbury Schweppes
Martha Uhlhorn, Sara Lee Bakery Group

Chapter 1: Introduction

The E-DSD Opportunity

Direct store delivery (DSD) has grown over the past decade and today accounts for as much as 25 percent of U.S. supermarket and an even higher percentage of convenience store sales volume. Many DSD categories, such as beverages, snacks, cookies/crackers and baked goods, are among the highest performers in a store.

Industry analysts estimate that half of the top 10 packaged foods at retail today are delivered by DSD. These categories are merchandised frequently — some even daily. These are categories with extremely high turns (beverages and breads) and with extremely high percentages of impulse buying (snacks, crackers).

DSD is becoming increasingly critical to maintaining high sales levels in the industry — a trend that is expected to continue as consumer demand for "fresh" requires increased speed of product from manufacturer to retailer shelf. The increased importance of DSD to daily food and consumer packaged goods sales means that improving the daily operational practices of DSD through e-commerce applications is imperative for the industry.

However, any system that has so many deliveries and merchandising services calls to individual stores, creating so many invoices and involving so many logistical and other details presents a challenge to the industry. While DSD accounts for a growing percentage of profits for the industry, its high-turn, high velocity and high administrative characteristics lead many to seek new and better methods of execution. Most industry analysts and the DSD E-Commerce Task Force believe that DSD could surely benefit from the newer e-commerce technologies that have emerged over the past several years. While DSD has been around for a while, it is only recently that technology has advanced to the point where e-commerce applications could be integrated into DSD business processes to produce a more efficient, more profitable supply chain.

Task Force Identifies Areas of Opportunity And Plans Pilot Study

The task force decided in 2001 to pursue the opportunities offered in e-DSD to address these multiple challenges of current-day DSD. The task force determined that an essential first step in educating the industry on the e-commerce opportunities for the DSD community was to document the various operational steps in the DSD business process. Thus, much of this white paper includes a detailed outline of the DSD e-commerce processes and the capabilities required for DSD companies to conduct business electronically with their retail trading partners.

The task force also wanted to highlight potential opportunities for generating mutual savings by conducting e-commerce with DSD companies. Thus, this white paper delves into the technology available today and the potential technologies for the future that could relieve DSD of much of its current headaches and offer savings for the industry. The overall benefits of e-commerce to retailers and DSD suppliers also are discussed.

The task force intends to launch a pilot study in 2002 that demonstrates and measures one of the opportunities outlined in this publication to document what can be achieved by uniting e-commerce and DSD.

Direct Store Delivery (DSD):
A method of delivering product from a supplier (in this report called brand owner/distributor) directly to the retail store, bypassing warehouses. Shelf-inventory is usually managed by this brand owner/distributor, with product check-in done by both the brand owner/distributor and the retailer. Major DSD categories include greeting cards, beverages, baked goods, snacks, etc.

Overview

The size and complexity of the DSD system prompts many in the industry to challenge some of its practices. Numerous industry studies, the existence of thousands of day-to-day DSD operations and the continuing success and profitability of these practices are a testament to the benefits of such a system to the brand owner/distributor. For example, brand owners/distributors:

- Manage the space containing their company product(s) .
- Conduct and execute in-store merchandising.
- Handle store-level category management.
- Are responsible for appropriate store-level inventory to ensure maximum sell-through from shelf and displays and minimum out-of-stocks.
- Benefit from products with high velocity returns and high profit margins.

Retailers, on the other hand, also benefit from direct store delivery. They gain significant labor savings — eliminating labor hours from warehouse to retailer delivery, from shelf-replenishment to inventory control. In fact, with most DSD products, the first time a retail employee touches the product is when it is being scanned at checkout.

While the benefits of working through DSD to all trading partners are widespread and proven, attention is now turned toward enhancing current initiatives and creating even more efficient ways for retailers to work with DSD brand owners and distributors using e-commerce technology.

Despite its proven benefits, the DSD community faces numerous hurdles, including (1) large numbers of supply chain partners; (2) multiple company systems; (3) complicated data synchro-

nization needs; (4) store-level pricing and execution requirements; and (5) various industry-specific and geographic legal restrictions. All these hurdles can hinder potential trading partners' ability to transact business seamlessly.

However, the DSD E-Commerce Task Force contends that many of these hurdles can begin to be addressed by the evolution of technology and by industry service providers that are harnessing this technology.

The direct benefits to DSD companies partnering in e-commerce initiatives include expedited back-door receiving and check-in, reduced invoice discrepancies, reduced out-of-stocks and enhanced category management. All of these benefits lead to increased sales, lower costs and higher profits for all trading partners.

This white paper does not address DSD distribution to foodservice.

DSD Trading Partners Defined

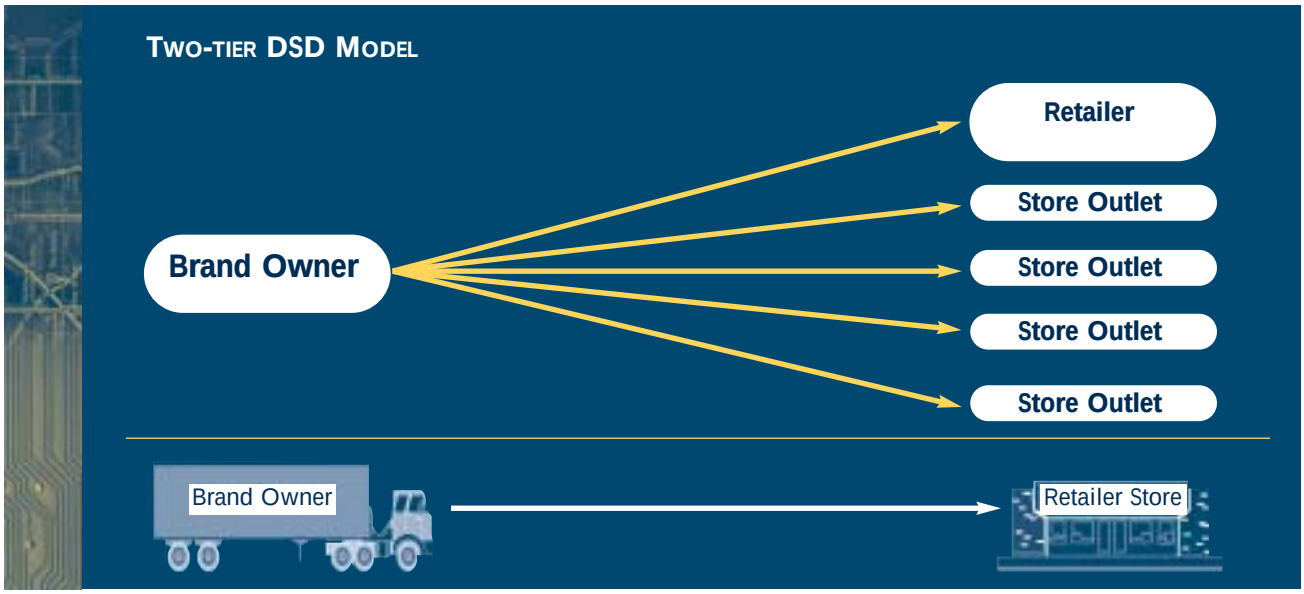
- **Brand owner: Entity that has ownership of the brand.**
- **Distributor: Entity that has the responsibility of getting product from the brand owner to the retail store. This entity can be the same as the brand owner, or it can be a third-party company, which can be owned by the brand owner. A third party for a soft drink brand owner is typically referred to as a bottler, and a third party for an alcohol beverage brand owner is typically referred to as a wholesaler. In two-tier DSD models, the brand owner and distributor are typically the same entity.**
- **Retailer: Headquarter-level of a retailer, the decision-maker or any level above the individual store.**
- **Retail Store: Individual store outlet.**

In order to identify and develop the potential of e-commerce for DSD, it is critical that all industry partners gain a full understanding of the DSD business processes and capabilities. Within DSD, the individual processes can vary by category due to product type or legal requirements, but the basic processes fit in one of two models. Those models are two-tier DSD and three-tier DSD. The three-tier model has two variations — the licensed third-party (soft-drink bottler or beer wholesaler) and wholesale distributor (some bread, cracker and cookie products suppliers).

Two-tier DSD Model:

The brand owner and the retailer transact business with each other directly. This model is typically defined by the brand owner being responsible for the distribution of the product directly to the store.

In the two-tier model, the brand owner may use a third-party distributor, but that distributor acts only as an agent for the brand owner. In the two-tier model, the brand owner controls the sales force, determines the selection of items and controls the wholesale pricing of the products they distribute.



Three-tier DSD Model:

I. Licensed Third-Party Model

In this three-tier model, the brand owner uses a licensed third-party company (brand owner and/or distributor) to manage its products, e.g., a soft drink bottler or beer wholesaler. The distributor delivers the product on behalf of the brand owner.

The distributor determines which items will be sold at what price to the retailer and makes the service policy decisions. The distributor also controls the supply chain process and typically is responsible for many of the e-commerce processes with the retailer. In some cases, the distributor may manage products for multiple brand owners. Each distributor has its own separate business system that is independent from the brand owner, and can be independent of other distributors' business systems.

The three tiers represented include brand owner, distributor and retailer. Depending on the business process, information may flow between all trading partners. Additional characteristics of this three-tier model often include:

- Exclusive territories that are owned by, or assigned to the distributor by, the brand owner. In most cases, no other distributor may sell the same branded product within that specific area.
- Complete responsibility for the brand including:
  - Distribution (movement of product to store).
  - Merchandising (building displays, permanent and temporary POS placement).
  - Dispensing equipment if desired (cold drink equipment).
  - Local marketing agreements (programs related to image and product distribution within the exclusive territory).

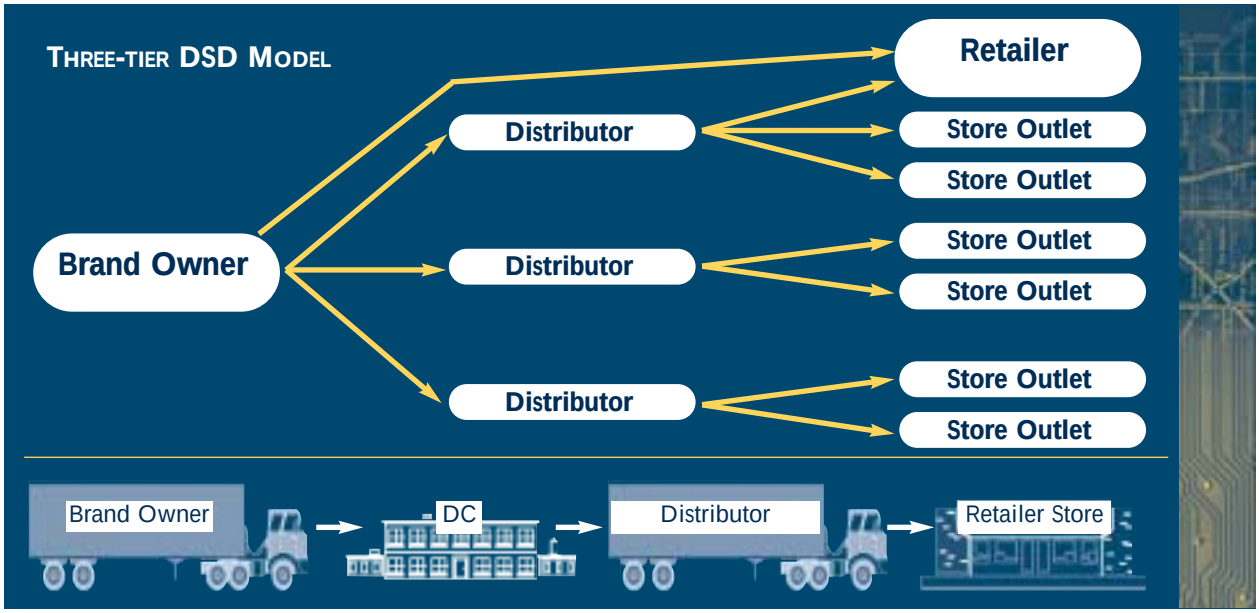
II. Wholesale Distributor Model

In this three-tier model, the brand owner contracts with a wholesale distributor for the sale of the brand owner's products in a territory. The distributor may purchase products from the brand owner and resell those products to retailers. Or the distributor may distribute products on a consignment basis. The three tiers represented include brand owner, distributor and retailer.

In this model, the distributor determines which items will be sold and makes the service decisions. The distributor may drive many of the e-commerce processes with the retailer. In some cases, the distributor may manage products for multiple brand owners, and each distributor has its own separate business system. In many cases, information flows between the brand owner and the distributor.

Additional characteristics of this three-tier model may include:

- Exclusive or primary sales territories owned by, or assigned to, the distributor.
- Distribution and merchandising of the products by the distributor.



The Benefits of E-Commerce to DSD

E-commerce has the potential to open new doors for the DSD community to retailers, brand owners and distributors and— ultimately — to consumers. Using existing technology and staying in the forefront of emerging technology, DSD companies continue to focus on increasing sales and lowering costs and non-value added activities.

This white paper has identified several key opportunities for the industry, in particular the DSD community, regarding e-commerce. Each of these opportunities has been outlined and related back to the core business process it will improve.

Critical opportunities identified include:

- Data synchronization.
- Automated and standardized customer outlet identification.
- Hierarchy management.
- Electronic product coding and "smart tags" (MIT Auto-ID).
- Standardized product imaging.
- Increased adoption of automated payment process.
- Item and price synchronization.
- Automated communication of data between trading partners.

One of the key benefits of data synchronization is its ability to speed up back-door check-in, reduce distribution of non-approved items and eliminate invoice discrepancies and, therefore, invoice deductions. Synchronization also allows supply chain partners to spend less time discussing data, errors and discrepancies and more time discussing business-building activities.

A real-time database for automated and standardized customer hierarchy management would allow the DSD brand owner and/or distributor to identify an outlet, streamline and more efficiently maintain individual store locations, management changes, ownership changes and general information. There is so much information being received about individual store outlets that it is difficult to manage in real-time. Correct identification of the individual retail outlet is a critical part of data integrity and absolutely vital for delivery to an individual store.

Electronic product coding will virtually eliminate the following: back-door check-in, out-of-stocks, out-of-codes, inventory management of store shelf, backroom and display. It also will streamline the order-writing process. The very real benefits from implementing these e-commerce components to current DSD practices will be shared by both the brand owner/distributor and by the retailer in cost savings and increased sales.

Standardized images create the opportunity for data sharing across all applications and lower costs associated with creating and cataloguing imagery. For all DSD participants, automated payment processes, such as electronic remittance advice and funds transfer (820), can reduce administrative costs and streamline the check-in process at the store.

Chapter 2: DSD Business Processes and E-Commerce Solutions

DSD's Seven Steps

The DSD E-Commerce Task Force has identified seven distinct business processes within direct store delivery that facilitate the working relationships between trading partners and that aid all concerned parties in creating a smooth flow of information and product.

These processes, which represent the steps in the DSD supply chain, include:

1. Customer creation/maintenance
2. Efficient assortment
3. Product and price synchronization and authorization
4. Promotional planning
5. Promotional price and item synchronization
6. Replenishment
7. Payment

Each of these seven steps or processes — which can apply to a new or an existing customer or new or existing product — is defined in this section. Potential e-commerce solutions for each are also identified. The intent is to provide a deeper understanding of the DSD business process and the necessary communication between the brand owner, distributor and retailer.

All of these steps or processes are inter-related, some can happen independently while some build upon others. Additionally, many steps can be found within each process, but not all steps must happen in order for the process to be complete.

1 Customer Creation/Maintenance

The focus of this process is to communicate information about stores between trading partners. Since DSD companies deliver directly to individual stores, it is in the retailer's best interest to provide accurate store-level location information and customer reporting hierarchies to ensure proper and timely delivery of product.

For new customers, this process may also include the creation and approval of credit applications, plus application for and identification of appropriate licenses. Simultaneously, the customer is setting up the brand-owner/distributor in its systems.

In the three-tier model, this setup process will occur at multiple levels. For example, store-level information usually will originate with the distributor and is passed to the brand owner, and the brand owner will assign retail account hierarchies based on this information.

The specific components in this set-up process for both two- and three-tier systems are:

- Assignment of customer numbers.
- Credit and/or license approval of customer (new customers only).
- Establishment of locations to the customer hierarchy/profile.
- Mapping of customer's location to the internal distribution hierarchy.
- Determination of class of trade.
- Loading of customer characteristics/attributes into database, including store numbers, e-commerce capability (EDI, EFT, DEX, NEX), scan based trading capabilities, etc.
- Establishment or registration of Global Locator Numbers (GLNs).
- Establishment of process for communicating/managing changes in retailer hierarchy.

E-Commerce Solutions for Customer Creation/Maintenance

The most obvious e-commerce solution for customer creation is to establish a complete and detailed database of retailer information — an *electronic hierarchy management system*. This system would have all information on all retail chains including hierarchical and location information from corporate level down to store level, including store address, territory designations by store, etc. And — most importantly and unlike similar databases today — this information would be available in real time.

Such an electronic hierarchy system could drastically improve the customer-creation process for DSD brand owners and distributors. In a three-tier DSD system, electronic management of this information is critical for both internal (between brand owner and distributor) and external (between brand owner/distributor and retailer) communication. This solution should also include a system that uniquely identifies retail outlets in order to link them to other databases and information systems that are store-centric.

Since DSD companies require customer information to store-level detail, the management of customer hierarchies is a daunting task. Keeping this information up-to-date and accurate is extremely important, especially in the face of recent industry consolidation and high turnover rates in store ownership/management.

In an ideal situation, a third-party solution provider would electronically manage customer lists and hierarchies for the DSD community. The solution provider would be responsible for collect-

ing, cleansing, standardizing and maintaining the data. Additionally, it would disseminate the information on a real-time basis to any subscribing brand owner or distributor. All subscribers could load the data electronically into their systems.

The identification of store definition data standards would also encourage faster identity adoption and data sharing. Critical to this would be the creation and adoption of naming conventions and standards for account names, address conventions and trade channel definitions. It is probable that the Global Locator Number (GLN), when implemented, could provide the unique way to identify retail outlets and increase information flow between brand owner, distributor and retailer.

GLOBAL LOCATION NUMBER (GLN):

A bar code containing 13 digits used to uniquely identify a legal, functional or physical location within a business or organization. Its components include an EAN/UCC company prefix, a location reference and a check digit.

GLOBAL ITEM NUMBER (GTIN):

A bar code containing a 14-digit data structure to uniquely identify trade items (products and services) within the EAN/UCC system. The GTIN provides information on the type, manufacturer, size, weight and price of a product.

Improvement in the accuracy and the standardization of information and its real-time availability will allow DSD brand owners and distributors to handle product more efficiently and manage their categories and product assortment more successfully.

Retailers will also benefit, since they will provide information to only one solution provider (vs. thousands of brand-owners and distributors). This streamlined information flow would guarantee that trading partners receive the standards and exact information the retailer wants conveyed. The key to success is the standardization of identifying retail outlets, their attributes and hierarchies by a single entity. Creation, maintenance and seamless communication of this information would allow the DSD brand owner and/or distributor to update and maintain their internal systems in a more effective manner.

The complexity of this problem does not end with proper location and identification of a store outlet. Some DSD tracking even includes the identification of varied locations within each store where a particular product is merchandised and sold. For example, a soft drink or snack company may have product being merchandised in multiple locations beyond the main aisle. Managing all this information in real-time becomes quite difficult, but identifying the individual retail outlet accurately and in detail, is critical for data integrity and for efficient deliveries to the store.

2 Efficient Assortment

Efficient assortment is the process of determining the optimal product offering in the right place, within the right category and right store location. It also focuses on having the right product at the right time for the end consumer. Analysis can occur by category, sub-category, brand family and brand, plus by store cluster, individual store and date.

DSD suppliers typically have more influence over product assortment than warehouse-direct, since they are responsible for store-specific merchandising and shelf replenishment, and they offer store-level category management. They also are capable of implementing store-level actions to address local market competitive factors or sales opportunities.

Efficient assortment is critical at this stage for a new customer. However, the efficient assortment process continues throughout the lifetime with a customer and is continually refined as new products are introduced or old products are discontinued.

DSD efficient assortment may differ within the stores of a retailer, or among stores in a market, by geographic brand variances, channel-specific limitations or account-specific strategies and tactics. For example, a bread or milk company may have different brands or packages with limited (or no) distribution in various regions of the United States. Therefore, a "national" efficient assortment plan would not be effective or appropriate. Regardless of how the assortment process may vary, the process continually evolves, and it is continually refined with each customer as new products are introduced or old products are discontinued.

The specific components of this process include:

- **Shelf or Display Decision** — Types of fixtures or equipment necessary for that particular product and store location. This is a collaborative process between the brand owner, distributor and retailer.
- **Category Analysis** — There are multiple steps involved in category analysis in both the two-tier and three-tier DSD models. For the three-tier model, however, there is an internal selling process to ensure the distributor offers the products for sale in their territory.
  - Collect market, account and/or store-level data. This data can be sourced from syndicated data providers, from retail POS systems, from brand-owners/distributors (internal sales or shipment data), or from third-party auditors and sales forecasts.
  - Cleanse the data. This step is necessary, particularly if data are received from third-party auditors or occasionally directly from retail POS systems that have outdated U.P.C. codes, store codes or case equivalent conversion/rollup codes.
  - Analyze the data. This important step applies the category assortment rules to all the data to determine market coverage, optimal brand and package assortment, and targeted space requirements.
- **Space Management/Schematics** — Plan-o-grams.
  - Produce the plan-o-gram by entering the data and assortment decisions into a category schematic.

- Communicate the category schematic to the retailer.
- Gain schematic approval from the retailer. This sell-in process can be initiated by the brand owner and/or distributor. It may be conducted at multiple levels within the retailer's organization, depending upon the retailer's decision-making structure and its category management process.

E-Commerce Solutions for Efficient Assortment and Product Placement

Since DSD brand owners and distributors have strong local market knowledge, and are in retail stores on a regular basis, efficient assortment is an area in which they provide vast expertise. Efficient assortment is a data-driven process. Therefore, significant opportunities exist to improve this process by increasing data sharing and data analysis among trading partners.

One such opportunity is the development of collaborative category schematic solutions between retailers and DSD suppliers. This would allow for virtual and real-time implementation of category schematics. It would provide trading partners with an electronic category schematic system that could be changed and updated regularly by participants. If the solution were truly dynamic, it would provide the opportunity for either trading partner to track the profitability, sales lift and benefits of making a major or minor schematic change. This added scenario planning would show the value of a schematic change to the retailer.

Enhanced POS Sharing Between the Retailer and Its Trading Partners

An even greater opportunity could come from enhanced point-of-sale data sharing between retailers and DSD brand owners and/or distributors. This would further streamline electronic efficient assortment and collaborative schematic development, but could also feed other analytic initiatives between retailer and DSD trading partners. Such activities could include:

- Category management.
- Promotion profitability and lift analysis (historical).
- Promotion profitability forecasting.
- Days of supply analysis. This ensures that items have adequate shelf-holding power or the appropriate mix between shelf and display holding power. For example, brands with fewer displays may require more shelf space.
- Sales and order forecasting. This ensures proper and efficient replenishment of item quantities based on shelf and display holding-power requirements, inventory build-to requirements, upcoming promotional schedules and supplier delivery schedules.
- Development of store, cluster or account-specific marketing programs. This insight is derived from transaction-level (loyalty card) shopper data and/or store-level scanner data. Such programs could also be developed for a specific demographic mix or target shopper category.

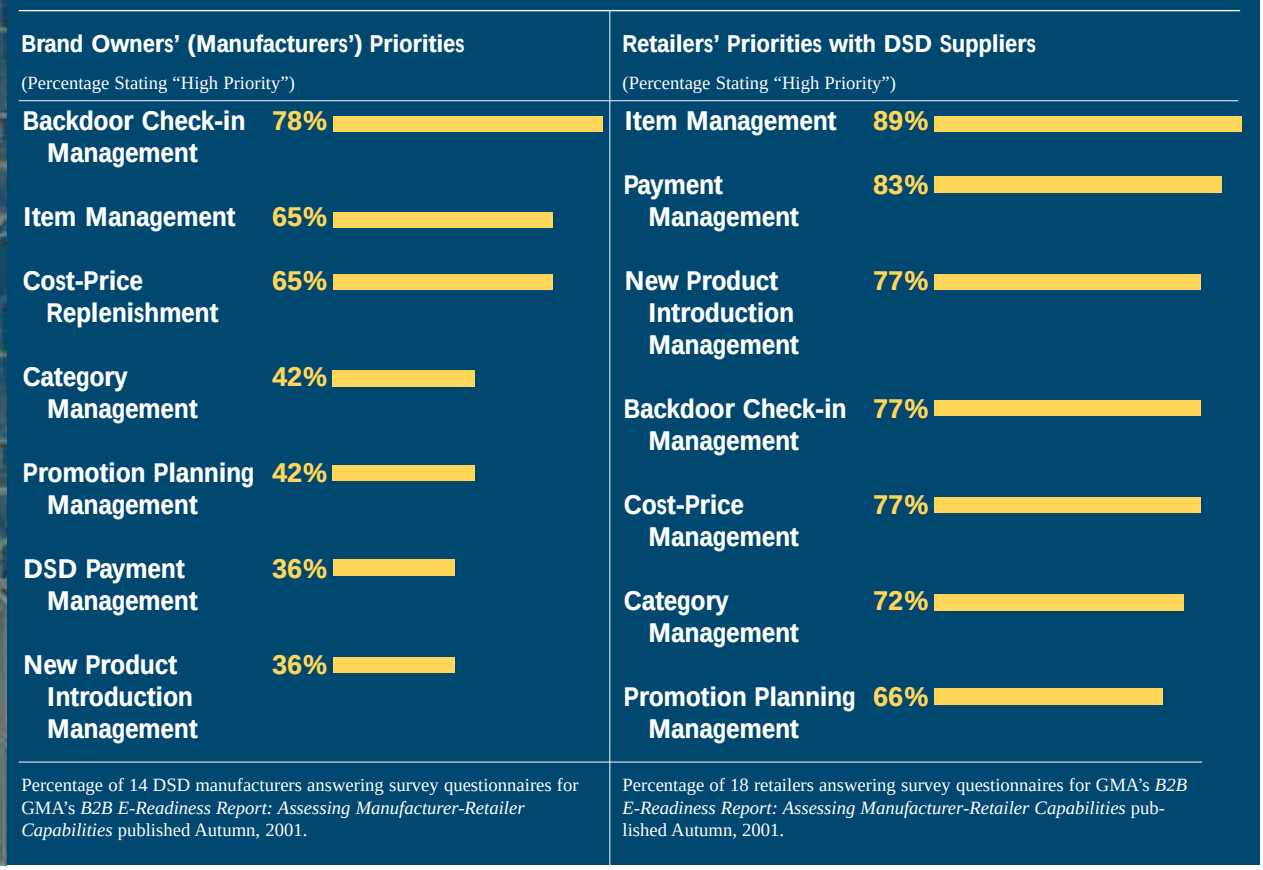
An improved collaborative data model between syndicated data providers, retailers and data users (brand owners and distributors) would also facilitate this process.

There would be countless opportunities and benefits gained from the creation of software or a tool that could integrate and analyze all of this industry and proprietary data. It would facilitate better decision-making on efficient assortment and product placement as well as synchronize multiple data points (e.g., industry sales, sales to retailer, sales to consumer, individual transaction-level data, etc.). It could also create a common repository or data engine that would allow for collaborative in-depth analysis between the retailer and its DSD trading partners.

The Auto-ID Center is working on a new technology that will incorporate radio frequency identification (RFID) technology with several other existing technologies to create a network of "smart tags," readers and computers to track pallets and cases of products as they move across the supply chain. (This is discussed in more depth in the replenishment section, page 26.).

In relation to efficient assortment, this "smart tag" technology could vastly improve the integrity of assortment and category schematics, since trading partners will be able to identify exactly where product is at all times during its transit from factory to shelf to checkstand. It will also facilitate the removal of out-of-code items and product recalls, reduce out-of-stocks, and create the possibility for perpetual inventory through "smart shelf" capabilities.

B2B E-Commerce Priorities in DSD



Percentage of 14 DSD manufacturers answering survey questionnaires for GMA's *B2B E-Readiness Report: Assessing Manufacturer-Retailer Capabilities* published Autumn, 2001.

Percentage of 18 retailers answering survey questionnaires for GMA's *B2B E-Readiness Report: Assessing Manufacturer-Retailer Capabilities* published Autumn, 2001.

3 Product/Price Synchronization and Authorization

Data communication and synchronization are essential components to successful partnerships in the food and consumer packaged goods industry. These elements are even more critical for DSD companies due to the following factors:

- The number of demand points is far greater for DSD categories than for traditional warehouse-delivered categories, since DSD companies deliver directly to store level vs. a retailer's warehouse. Many of these demand points have varying requirements and capabilities for data communication.
- The number of supply points is far greater than for traditional warehouse-delivered categories. For example, the beer category alone has more than 2,500 individual companies that deliver product directly to more than 500,000 stores.
- The resulting number of invoices generated by these complexities, when combined with weekly or daily store visits, is astronomical.

Product and price synchronization is crucial, because all items for each individual store must be loaded into each trading partner's business system and synchronized between trading partners prior to delivery to that store. Real-time data synchronization also gives trading partners the ability to make last minute price changes to realize local market dynamics and business opportunities. Synchronization will ensure that product and price information are correct upon delivery to the backdoor. Lack of synchronization or untimely synchronization between trading partners can result in invoice discrepancies, delivery check-in problems/delays, incorrect payments and/or deductions, and significant labor expended to resolve discrepancies.

The synchronization of price and item information, although difficult to manage in the DSD system, will produce significant benefits for retailers, brand owners and distributors. Since DSD suppliers must maintain pricing at the store, brand and package levels, difficulties arise between trading partners when full synchronization is not achieved. To date, there is not a wide-scale, universally adopted system or solution that delivers this type of detailed information or enables synchronization on a real-time basis between retailer and brand owner/distributor.

What is Synchronization

Synchronization is the process that aligns the information systems' databases of the brand owner/distributor with those of their retailer customers in areas of item authorization, price and promotional programs.

The brand owner determines the product cost to the distributor and, in certain cases, may recommend the cost to the retailer. The brand owner will then work with its distributors and retailers to gain system acceptance and manual synchronization of the authorized cost. Once the cost to the retailer is defined, the brand owner or distributor confirms the authorized cost either manual-

ly or electronically. At this time, the brand owner or distributor may also recommend a suggested retail price, though the retailer has ultimate control over retail price determination.

Introduction and authorization of products in individual locations also takes place in this process. Item information, such as package data and U.P.C./GTIN numbers, are provided to distributors and retailers. This authorization can occur at multiple levels within the retailer's hierarchy — national, regional, divisional or individual store level.

Steps involved in this operational process include:

- Supplier loads new item information and item attributes into its systems.
- Supplier determines where a new item will be available (by region, market-specific distributors.)
- Supplier creates selling and shelf placement strategy for new item.
- Supplier loads new item information into industry registry. (UCCnet registry expected in 2002.)
- Supplier provides retailer with new item information including product hierarchy, such as unit, six-pack, case and pallet. This information may be communicated to the retailer by either the brand owner, distributor or third-party provider acting as an agent for the brand owner/distributor.
- Retailer agrees to product authorization at store level, market level and geographic level, as well as in specific location within each store.
- Supplier synchronizes items that have been authorized by retailer and provides required attributes to its system.
- Supplier or retailer loads distributor pricing into retailers' systems.
- Supplier reviews packaging with retailer and tests for scanning at register.
- Supplier sends confirmation of authorization to synchronize systems.
- Supplier receives acceptance/rejection/confirmation of the information from the retailer.
- Supplier communicates this acceptance/rejection/confirmation back to all relevant parties in the supply chain.
- Supplier receives confirmation from industry registry/third party on U.P.C. and GTIN registration and attribute compliance. (Compliance with the GLN and GTIN are expected in 2002.)
- Supplier establishes initial pipeline-fill quantities and replenishment criteria.
- Supplier establishes a process with the retailer to eliminate seasonal or pulse-in items, unused U.P.C.s or de-authorized items.

For three-tier DSD models, authorization can be obtained at either the brand owner or distributor level. Frequently, item authorization at retail headquarters does not mean that each distributor will carry that item. Nor does it guarantee that all levels below retail headquarters will authorize the item. The brand owner can advocate that its distributors carry the item at all recommended geographic levels defined by the retailer. It is the responsibility of the distributors to ensure that item authorizations made at corporate or division levels are also authorized at store level.

In certain circumstances, DSD three-tier systems may require the brand owner to collect wholesale price information from its distributors.

E-Commerce Solutions for Product and Price Synchronization and Authorization

Huge wins for DSD companies and their trading partners would be created via industrywide solutions that enable electronic loading of new items and electronic authorization and de-authorization of items at store level through data catalogues.

Item and price maintenance for DSD is challenging, because it must occur at store level. As already mentioned, the complexity of DSD supply chain processes produces an astronomical web of trading partner relationships. This increases the margin for error exponentially. A system that enables a DSD brand owner and/or distributor and its retail trading partners to electronically load, authorize and de-authorize items at store level will facilitate improved communication of critical information between trading partners, expedite backdoor receiving, reduce item/invoice errors, and decrease the number and cost of invoice deductions.

Widespread adoption of item and price synchronization could be a tool to assist companies in more efficient product authorization and de-authorization. Implementation of the existing technology that enables electronic communication/synchronization of price and item data (from brand owner to distributor to retailer) has delivered strong benefits for DSD trading partners. In 2000, this solution was tested and proven viable in the GMA scan based trading and data synchronization pilot. This pilot reports a reduction in invoice deductions as well as in time spent on invoice discrepancies and reconciliation.

A further evolution of this process would enable a retailer with the ability to provide feedback on whether new items or price changes have been accepted by their system. This advancement would decrease invoice errors and pricing discrepancies and significantly improve backdoor check-in accuracy. The third-party service provider maintaining the price and item files would become the "hall of record" for price discrepancies and any other inconsistencies in data streams between trading partners.

In addition to the synchronization benefits noted above, the third-party service provider would be able to provide each brand-owner/distributor with chain-specific sales data and acceptance/rejection notifications.

This solution will be challenging to develop, maintain and implement, given the DSD industry’s requirement to track items by price, by day and by store. However, it provides DSD suppliers, and their retail partners with a significant opportunity to achieve an even greater level of cost savings than warehouse-delivered companies could deliver.

Item Standardization Technologies

It is clear that data standardization builds the foundation for many aspects of e-commerce communication between DSD suppliers and their retail trading partners. Several other technologies that deserve mention are:

- The creation of a standardized image repository for all food and consumer packaged goods products. If widely adopted by the industry, this concept would allow for more effective and in-depth product information-sharing between trading partners.
- The adoption of the Global Trade Item Number (GTIN) for item identification and standardization of product descriptions. GTIN's will streamline product administration and decrease the time companies spend aligning and entering product information.
- The creation of industry-standard product hierarchies, defining how products are packaged and sold. This capability is currently available electronically through such companies as UCCnet. Wide-scale adoption of this product hierarchy (weight, unit size, color, variety) will enable retailers to manage data with the same perspective as their suppliers and to access common data stored in a central repository. This data could also be integrated into other emerging technologies for self-scan and other retail re-engineering efforts.

PROFITS & DSD

"Profitable growth across the supermarket industry is being driven by DSD categories, whose strong brands, consumer elastic products, and hyper-efficient distribution systems make for fast-turning, low maintenance and, thus, highly profitable businesses at retail."

Supermarket Business

4 Promotional Planning

Any promotions associated with product advertising and promotional calendars are determined and confirmed at this stage.

Promotion planning occurs at different levels and in different ways for each level. For example, the store-level promotional calendar developed by an individual distributor may differ slightly from the calendar established at the brand owner's headquarters.

DSD brand owners and distributors provide great value in promotion planning and as promotions relate to local markets and regions.

Components of this step include:

- Development of promotion strategy and promotion budget.
- Development of national calendar and national trade funds.
- Communication of promotion strategy and allocation of promotion budget to local distributors (in the three-tier model). The distributor may also be allocating its own promotion budget as well.
- Development of specific (store/chain/channel/sampling) promotions for funds.
- Development of national account-specific promotions and budget requirements.
- Development of local promotional schedules and local trade funds.
- Communication and promotional program agreement with customers at multiple levels (headquarter, regional, local), as appropriate. Promotion profitability analysis is also completed during this step. The distributor may be included in this step for three-tier DSD models.
- Synchronization of promotion price information with retailer by store, by product and by effective date. Various price formats and types may be required, such as net price, promotion type and/or suggested retails.
- Communication/development of strategy for POS materials and physical POS requirements (custom, generic, displays) at multiple levels within the retailer's organization.
  - Forecast POS needs, based on promotional strategy and schedule.
  - Develop POS execution components (permanent vs. temporary, tear-pads, signs, type of display, etc.).*
  - Review material requirements and modify, if needed.* (Three-tier DSD models may share this material with distributors.)
  - Communicate POS information to distributors and key retailers and stores.
  - Order.*
  - Deliver.* (In three-tier DSD models, POS materials can be delivered directly to store or delivered to distributor who, in turn, will deliver to store.)
  - Execute.*
  - Remove promotional materials and any excess product.*
  - Provide feedback.

- Measure success/compliance.* Compliance programs are typically determined by the brand owner, but compliance measurement can be conducted by the brand owner, distributor or third party.

**Third parties can be used for these steps. Based on their capability, any or all of these activities could be performed by the same third-party company. For example, one third-party could develop, review, modify and order the POS materials, while another third-party could deliver, execute and remove excess POS material. The measurement/compliance component could also be outsourced to a third party.*

E-Commerce Solutions for Promotional Planning

DSD companies provide excellent service capabilities to support the development and execution of local promotions. However, there are opportunities to improve communications for more efficient execution of promotions through the implementation of automated, electronic systems.

Discovering methods to improve promotional product and POS material tracking and enhance information-sharing about promotion effectiveness and profitability are key e-commerce opportunities. Integrated and seamless methods to increase communication and collaboration among a retailer, brand owner/distributor and a third-party service provider about all aspects of a promotional event would increase the overall success of promotions, resulting in increased sales.

Web-enabled methods that improve communication on promotions and promotional execution is invaluable to all participants when coordinating store-level executions. For example, electronic calendar technology that is shared between the retailer and its suppliers is a concept that could improve promotion communication to the store level. A collaborative calendar, which contains all promotions from all suppliers, could be established by a retailer and sent electronically (or accessed via the Internet) by individual stores. The retailer would provide a standard messaging format for company-specific promotions to its suppliers. This would permit the suppliers to, in turn, provide retailers with company-specific promotions in a recognizable format suitable for downloading into the retailer’s own "industry" calendar. This calendar would serve as an e-tool to communicate more effective and actionable information to the store level for DSD promotions.

The opportunity to standardize promotional execution management and the ability to audit certain categories for multiple suppliers may both create cost saving opportunities, allowing suppliers to redistribute promotional resources for the benefit of the consumer. It may be possible for business-to-business (B2B) exchanges to facilitate this opportunity by acting as an information repository.

5

Promotional Price & Item Synchronization

Promotional price and item synchronization is similar to the third process (product and price synchronization). This process, however, deals with the synchronization of promotional information. Since most DSD categories are highly promoted, there are significant opportunities for improving this process and significant savings that can be generated for all trading partners, including better execution and fewer deductions.

The party communicating to the retailer may be the brand owner or the distributor. For three-tier models, the brand owner and its distributor need to communicate internally to establish promotions prior to communicating them to retailers.

Steps involved in this process include:

- Communicate promotion event to retailers.
- Agree on promotion event.
- Synchronize promotional pricing in retail and brand owner/distributor systems by product, by store and by effective date.
- Communicate performance requirements for a particular promotional price.
- Receive acceptance of promotional event (price, effective date, store) from retailer.
- Execute promotion.
- Evaluate promotional event success and compliance during the event. (Variances may occur due to local regulations regarding the payment for alcoholic beverages.)
- Communicate price changes related to market dynamics. Since DSD pricing occurs at the store-level, many variables can influence the price at a given store, and, like warehouse-delivered products, both on- and off-invoice pricing components exist in DSD.

E-Commerce Solutions for Promotional Price and Item Synchronization

The solutions for promotional price and item synchronization are similar to those outlined for initial price and item synchronization found in process three. Communication to ensure the right price for the right promotional item is critical as products are placed on the store shelf.

Synchronization Benefits

- **Reduces invoice deductions.**
- **Initiates the first step in business-to-business DSD e-commerce.**
- **Reduces resource requirements in non-value-added activities.**
- **Enables resource allocation to sales and growth activities.**
- **Speeds back-door deliveries.**
- **Reduces the chance of out-of-stocks and missed sales.**
- **Improves DSD trading partner relationships.**

Catalog-service providers and industry exchanges have developed or are in the process of developing solutions that meet DSD supplier needs in communicating promotional price and item information. This concept was tested in 2000 during a GMA-sponsored pilot on scan based trading using viaLink as an intermediary for price and item synchronization. A confirmation process of price acceptance from retailer to brand owner and/or distributor is a necessary step in this process, since knowledge of information changes and acceptance levels avoids potential invoice discrepancies.

Third-party companies that can provide multiple transaction options for retailers (accept, accept with changes and reject) and add transparency to the communications process, will enable DSD brand owners and/or distributors to diagnose issues and discrepancies rapidly. This delivers benefits for all trading partners in the price and item synchronization process.

Proper synchronization of this data also ensures that the correct item and price is in the retailer's back-door system and the item can be placed on the shelf with no discrepancies.

6 Replenishment

Many factors affect the efficient replenishment process for DSD companies. Specifically, back-door congestion and delayed and/or antiquated check-in procedures are two of the most serious challenges for the route driver and the store receiver. A lack of standardization in back-door receiving processes delays the speed with which product gets from truck to store shelf. New products can slow down the check-in process if they have not yet been entered into a retailer's system before the time of delivery.

These inefficiencies are further complicated in some states for distributors of beer and other alcohol beverages. Many states require alcohol beverage distributors to receive cash payment upon delivery. Therefore, item price and quantity errors need to be resolved at the time of delivery. This legal requirement can introduce additional inefficiencies into the backdoor receiving process and increase the time associated with the check-in process.

The replenishment process represents one of the greatest opportunities for e-commerce solutions for retailers and DSD suppliers. Some of the replenishment expenses that drive DSD supplier costs include cost of delivery to store-level, backdoor check-in, and narrow retailer receiving windows that influence the number of routes that a brand owner/distributor will have in any given city. Since some of the highest paid hourly labor in a store is the retailer's back door receiver, there is a significant profit opportunity for the retailer through more efficient time management of this slot. E-commerce solutions that have the ability to eliminate or even decrease the check-in process and waiting time need to be a priority for retailers and DSD suppliers.

DSD Replenishment's Two Methods

Two types of replenishment exist in DSD: (1) spot or route sell and (2) pre-sell. The type of replenishment that is employed may differ by distributor, by territory, by trade channel and even by account. In the three-tier DSD system, each distributor decides which method is appropriate for its territory and account base.

SPOT/ROUTE SELL:

A form of DSD in which the sale and delivery of product is accomplished by the same individual on the same day. In route sell, the sales person — typically the route driver — has product on the truck and replenishes each store based on immediate needs.

PRE-SELL:

A form of DSD in which order placements occur on a day prior to product delivery. Orders are typically generated by a distributor sales representative or initiated by the customer and communicated to the distributor by telephone, fax or Internet. Once processed by the distributor, the order is delivered to the store within several days (typically one) following order placement.

Spot/route sell is defined by the sale and delivery of product by the same individual on the same day in real time. The sales person — typically referred to as the route driver — has the product on the truck and replenishes what is needed immediately in the store. All steps are completed by the salesperson in this method.

Pre-sell is defined by order placement taking place on a day and time *prior* to the delivery of product. This process could involve an account manager (who forecasts sales requirements, collaborates with the store manager and develops the most accurate order for the store) and a driver (who delivers the product to the backdoor). Some DSD suppliers use merchandisers as a third entity involved in the pre-sell model (replenish shelf and displays, pull-up product from backroom, remove out-of-date and damaged product, etc.). In other forms of pre-sell, the order can be initiated by the retailer and communicated to the distributor via telephone, fax or Internet.

The definition and role of pre-sell may differ by company or by category. Ultimately, the order is still managed by the DSD brand owner/distributor.

Steps Involved in the DSD Delivery Process				Pre-sell Business Process		
Spot/Route Sell Step #	Pre-Sell Step #	Steps/Activity	Route Sales	Account Manager	Delivery Driver	Merchandiser
5	1	Oversee picking of pre-sell order or selection of brands/packages for truck inventory at distribution center.	x		x	
8	2	Load truck.	x		x	
1	3	Review shelf, remove out-of-code and damaged product from shelf.	x	x		x
3	4	Issue credit from removed product — not physically, just acknowledgment of items requiring credit.	x	x		x
9	5	Reconcile delivery to advance shipment notification (ASN) where applicable .	x		x	
10	6	Deliver product to backroom.	x		x	
11	7	Check-in delivery (scan/verify item and price or conduct DEX process.	x		x	
12	8	Check out-of-code and damaged product.	x			
2	9	Inventory shelf, displays and backroom.	x	x		x
4	10	Create or pick (route sales) order for current needs.	x			x
6	11	Review order with retailer (if needed).	x	x		
7	12	Create/forecast order for future delivery (May vary by DSD channel/supplier.)	x	x		
13	13	Create proof of delivery document/invoice.	x		x	
14	14	Receive store stamp, signature or money.	x		x	
15	15	Merchandise store/build displays.	x			x

**Depending on the operation, steps 2 and 3 could be performed by either the account manager or the merchandiser.*

Scan based trading (SBT) changes the traditional DSD retailer-owned inventory model to a consignment model. At the inception of the SBT relationship, the brand owner/distributor "buys back" all of the inventory on the retailers shelves. The sales cycle converts from the traditional invoice-based payment process to a pay-on-scan relationship.

SCAN BASED TRADING

A business process between brand owners — typically DSD suppliers — and retailers. It is a partnership that incorporates daily point-of-sale data to pay for product, full use of database synchronization, electronic funds transfer and various store-level efficiencies, such as open windows and the elimination of product check-in.

This new way of doing business between DSD brand owners and retailers incorporates the daily point-of-sale data to pay for product. Its twin goals are to synchronize supply and demand at the point-of-sale and to eliminate inefficiencies that add costs to the DSD supply chain.

E-Commerce Solutions for Replenishment

While the above processes describe the standard procedure for replenishment, there are initiatives currently underway in the DSD community that alter and improve the replenishment and order process. Two key replenishment initiatives have been used in DSD companies to date — scan based trading and honor check-in. Both benefit the retailer by placing less demand on the backdoor receiver during delivery check-in.

Scan based trading (SBT) is a consignment sale model that incorporates daily point-of-sale data to determine cost of product using electronic communication and database synchronization technologies to eliminate administrative inefficiencies. It incorporates various store-level operating improvements, such as open-delivery windows and the elimination of supplier check-in to expedite product flow.

With SBT, the check-in and payment processes change dramatically. Since the retailer does not own the supplier's product until it has been scanned at the consumer checkout register, there is no need for back-room check-in. This frees the route driver to spend more time merchandising the product and planning for future sales.

The order generation process also may change since the brand owner/distributor receives store-level scan data that can serve as an element for order generation. Orders may be generated from actual store sales. Payment is also determined from the scan data. Distributors and retailers agree to share a pre-determined percentage of shrink (the difference between supplier deliveries and retailer scan minus damaged/out-of-code product).

Not all retailers and distributors are able to do e-commerce-based replenishment at this time. Data synchronization is critical and necessary first step before trading partners can initiate the scan based trading process. Retailers must be committed to the process and embrace both the POS data quality requirements and the system changes needed for SBT to work.

Alcohol Beverages: Not a Good Candidate for Scan Based Trading

Moreover, legal requirements preclude retailers from conducting SBT with companies that sell alcohol beverages. One such requirement is that the majority of states require payment at the time of delivery for products containing alcohol. Since SBT payments are not received until after the product is scanned at the register, this would constitute a "credit" payment and, therefore, a violation of state law. Another such requirement is that alcohol beverage brand owners or distributors are precluded from providing any monetary value or payments to a retailer. Since distributors and retailers agree to share a pre-determined percentage of shrink in the SBT process, the shrink absorbed by the alcohol beverage supplier could be interpreted as monetary value. These and other regulations make it illegal for a retailer to initiate scan based trading with beer, wine or other alcohol beverage companies.

In addition to SBT, other factors can alter the normal DSD replenishment process. They include hot-shot deliveries (unplanned deliveries to the store that replenish an out-of-stock or near out-of-stock condition) and honor check-in programs.

Other E-Commerce Solutions Alter Replenishment Process

Retailers' increased use of sophisticated POS data collection systems is enabling them to gain more real-time insight into the daily sales and inventory trends in their stores. Additionally, suppliers' increased use of enhanced hand-held scanning technology to count in-store inventory is enabling them to better understand store conditions and order requirements. The integration of retailer POS, supplier inventory and other in-store factors (price, shelf holding capacity) allows suppliers to predict the occurrence of out-of-stocks more effectively, adjust future orders as necessary and reduce the number of hot-shot shipments. Direct integration of data between trading partners also eliminates data entry/keying errors and builds increased accuracy into the sophisticated sales and order forecasting systems being built by DSD suppliers to manage the sales process.

Honor check-in is another solution currently being used by DSD companies to reduce and streamline backdoor receiving costs. In this approach, the DSD brand owner/distributor delivers product directly to the store shelf, bypassing the receiving process entirely. The retailer conducts spot audits of the check-in process to ensure each supplier is meeting its check-in accuracy requirements. Honor check-in can also be facilitated by using Direct Exchange (DEX), Network Exchange (NEX), or Advance Ship Notice (ASN) and EDI transactions. "Smart tag" technology can also facilitate the concept of honor check-in.

DEX (Direct EXchange) is a receiving process in which the brand owner/distributor uses hand-held technology to communicate invoice and/or credit information to the retailer (store). This information is transmitted to the store's computer from the supplier's hand-held computer via a DEX port in the store's receiving area. After the information is uploaded to the store's receiving system from the DSD supplier, the store receiver retrieves the delivery information from the store's computer using a hand-held terminal. The receiver verifies the items and quantities of the delivery/return. Once verified, an acknowldgement (frequently an electronic handshake) is sent

from the store's receiving system to the manufacturer/distributor's business system, closing the delivery. DEX improves the receiving process by eliminating key-pad entry and/or scanning of delivered items and immediately identifies price/cost discrepancies and unauthorized items at the store — all of which ensures more accurate inventories at store level.

NEX (Network EXchange) is a process where invoices are electronically transmitted from the brand owner/distributor's business system to the retailer's headquarters business system, which in turn, transmits the invoices to the store level. NEX invoices are in the store's receiving system prior to the arrival of the delivery. The store receiver uses the NEX invoice to verify delivered items and quantities. NEX does not require the brand owner/distributors to have hand-held terminals. NEX improves the receiving process by eliminating the key-pad entry and/or scanning of delivered items, immediately identifies price-cost differences and unauthorized items at the store, and ensures accurate store level inventories/ Additionally, NEX facilitates delivery options, such as honor check-in.

ASN (Advance Ship Notice) is a similar process to NEX in that delivery information is electronically sent from the brand owner/distributor's business system to the retailer's headquarter business system, which, in turn, transmits the information to the individual store. The shipping notices are in the store's receiving system prior to the arrival of the delivery. The receiver uses the ASN to verify the delivered items and quantities. ASN does not require the brand owner/distributors to have hand-held terminals. The advance ship notice/manifest (ASN) improves the receiving process by eliminating the key entry and/or scanning of delivered items. Additionally, it facilitates such delivery options as honor check-in and UCC-128 pallet bar coding. This is a warehouse standard more conducive to pre-sell with long lead times.

UCC-128 pallet bar coding is a numbering and bar coding system that identifies the items and quantities of a specific pallet or complement of pallets being delivered to a store or warehouse location. This technology has historically been used in warehouse-direct delivery systems, but it is now being considered by several DSD suppliers as a method to expedite backdoor check-in for both trading partners.

UCC-128 bar codes are used in conjunction with the ASN to communicate item and quantity information to the retailer (store level). Detailed delivery information about item and quantity is communicated via an ASN document, which is transmitted to the retailer prior to delivery. These bar codes, which are called license plates by many in the industry, are developed and affixed to each delivery pallet(s) at the supplier's warehouse. At time of delivery, rather than scanning each item and entering its corresponding quantity into their receiving system, the receiver scans the barcode on each pallet, which references the already-received ASN. As such, detailed items and quantities are quickly received and verified without lengthy check-in, saving significant time for both trading partners. To ensure accuracy under this scenario, the retailer will perform random detailed audits of deliveries, typically 10 – 25 percent of the time.

Future Forces in DSD

Currently, there are many replenishment-focused e-commerce solutions that are in the development phase that could have a great impact on reducing supply chain costs. For example, the Auto-ID Center is working with radio frequency identification (RFID) technology as well as several other existing technologies to create a network of "smart tags," readers and computers to track shipment of products throughout the supply chain.

This technology could take supply chain dynamics to an entirely new level. The tags would tell trading partners where products are, when it is time to restock shelves and when products will become out-of-date. This technology will be able to track inventory and its movement down to an individual package, can or carton level. The tiny embedded microchips that signal radio frequency identifications will be a tremendous step in reducing out-of-stocks, and its traceability will be invaluable in any product recalls.

In relation to efficient assortment, this technology could vastly improve integrity of assortment and category schematics through real-time product location. This technology is expensive, but the cost is expected to drop significantly over the next five years as scientists at the Auto-ID Center's labs at MIT and around the world work to reduce the "broadcasting" microchip to the smallest size as possible. (Center Executive Director Kevin Ashton hopes to reduce chip size to the size of a speck of dust. "These fully traceable and 'intelligent' products could become a low-cost reality within the next few years," Ashton said.)

The work being done by MIT's Auto-ID center has the potential to revolutionize supply chain visibility for the food and consumer packaged goods industry. This new technology will facilitate the removal of out-of-code product and product recalls, reduce out-of-stocks, and create the possibility for perpetual inventory through "smart shelf" capabilities. Once "smart tags" have been tested and are affordable, all categories will be able to take advantage of this technological breakthrough, which many industry officials equate with the invention of the U.P.C. and scanning 25 years ago.

For DSD companies, this technology would increase productivity and reduce costs at every step in the DSD supply chain. All of this creates more time for brand owners/distributors to spend merchandising the store and focusing on driving sales.

7

Payment

Payment for product by the retailer to the brand owner or distributor takes place during this final DSD process. The payment procedures are similar to warehouse-delivered products. However, due to the proliferation of packages, the frequent number of deliveries and high level of promotions found in DSD, the opportunities to reduce supply chain costs in this area are significant. Automated payment is facilitated between trading partners when item and price synchronization is achieved. However, until synchronization is achieved, deduction management is a necessary but collaborative process practiced among many trading partners.

Steps involved in the payment process include:

- Distributor transmittal of invoice to store (alcohol DSD suppliers only).
- Receipt of payment on day of delivery (cash accounts).
- Transmittal of invoice to bill to address (non-cash accounts).
- Payment received.
- Management of deductions, if necessary.
- Process payment.

E-Commerce Solutions for Payment

The check-in and payment process is for DSD are inherently complicated, given the number of deliveries to individual stores, the number of line items on each invoice, and the large number of national, regional and local promotions. However, industry studies and the work of several DSD suppliers have demonstrated that implementing data synchronization and other e-commerce e-payment solutions vastly improves this process.

Several pilot studies have documented that the adoption of item and price synchronization between industry partners allows for expedited automated payments and fewer invoice deductions. Item and price synchronization — in addition to solving discrepancies at back-door check-in time — will greatly improve the payment process for retailers and DSD suppliers.

The DSD E-Commerce Task Force believes that electronic invoicing (via EDI transaction set 810 or 880 and electronic funds transfer, EFT 820), if widely implemented, has great potential to expedite the payment process and reduce the time spent in managing deductions. In fact, many of the DSD e-commerce task force member companies are already using one or all of these electronic invoicing or funds transfer documents to streamline payment.

The creation of a real time, standardized, Web-based invoice/deduction resolution system to streamline the reconciliation process and facilitate the back-up process would be extremely beneficial to the DSD community. This too would expedite the payment process and reduce the time spent in managing deductions. This area has significant benefit for products that require cash payment, such as alcohol beverages. because it reduces check-in time at the backdoor.

There is also an opportunity for eliminating cash at the back door for smaller accounts by increasing use of credit card readers by DSD drivers. This has been successfully tested by some channel trading partners.

Chapter 3: E-Commerce DSD Priorities

Pilot Test Scheduled

A 2002 pilot test will focus on proving the benefit of applying an e-commerce application to one specific DSD operational practice.

Today, however, it is possible to outline the tremendous benefits possible to DSD trading partners that adopt the new technologies of e-commerce to the seven operational steps of their DSD operations. (Please see chart, pages 30–31.)

Priorities of the DSD E-Commerce Process

The chart on the next two pages highlights some of the priorities placed on the seven DSD e-commerce processes in the food and consumer packaged goods industry. Also note the listing of benefits DSD companies and their trading partners can expect to gain.

DSD Companies More Ready for E-Commerce

The report recently released by GMA, *B2B e-Readiness Report: Assessing Manufacturer/Retailer Capabilities,* said DSD manufacturers have different B2B e-commerce needs and priorities. "For example, back-door check-in management ranked as the top priority among these companies, with three quarters of all DSD manufacturers ranking it as No. 1.

"Surprisingly, item management is listed by 65 percent of DSD manufacturers compared with 89 percent of DSD retailers as an area for trading partner opportunity in synchronizing their product databases and improving back-door check-in and payment management….

"Overall, the study found that DSD and warehouse-delivered business models had different levels of e-readiness. Manufacturers with a DSD delivery model are more ready for B2B e-commerce than warehouse-delivered models. DSD manufacturers identified B2B e-commerce as a top strategic priority and set financial budgets to build e-commerce capabilities.

"DSD manufacturers also appear to be more advanced in the IT capabilities necessary for B2B e-commerce."

The Seven DSD E-Commerce

Process	Ecommerce Value (High, Medium Low)	Technology & Resources Investment (High, Medium Low)	Data Available to Enable Process (Yes or No)
Customer Creation	**Medium**	**Medium**	**Yes**
Efficient Assortment	**High**	**High**	**Yes**
Initial Synchronization*	**High**	**Medium**	**Yes**
Promotional Planning	**Medium**	**Low**	**Yes**
Promotional Synchronization	**High**	**Medium**	**Yes**
Replenishment			
– Scan Based Trading	**High**	**High****	**Yes**
– MIT Auto-ID	**High**	**Very High**	**No**
– DEX	**Medium**	**Medium** (most handheld devices are capable)	**Yes**
– NEX	**Medium**	**Medium**	**Yes**
– ASN/UCC-128	**Medium**	**Medium**	**Yes**
Payment	**High**	**Low**	**Yes**

**Initial synchronization is necessary for promotional synchronization –the bigger win for DSD is in the promotional.*

***The key to win-win high value for scan based trading is an up-front protocol agreement (i.e., turns, store access, shrink, etc.). Scan based trading is prohibited in certain categories due to legal restrictions.*

Processes: Industry Priorities

Ease of Implementation (Difficult or Easy)	Industry Solution*** (Yes or No)	Benefits
Difficult	**Yes**	**Customer Creation:** ➔ Improved maintenance of store locations. ➔ More efficient product distribution. ➔ Improved category & product management. ➔ Single information source decreases/eliminates need for multiple-source data submissions.
Difficult	**No**	**Efficient Assortment and Product Placement:** ➔ Improved data sharing/analysis between trading partners. ➔ Collaborative category schematics improve profitability & sales. ➔ Opportunity to develop specific marketing programs by store, demographic mix, target-shopper. ➔ Decreased out-of-stocks/increased sales.
Difficult	**Yes**	**Product and Price Synchronization and Authorization:** ➔ Fewer invoice deductions/errors. ➔ Reduced time at back-door check-in. ➔ More efficient product authorization/de-authorization.
Difficult	**Yes**	**Promotional Planning:** ➔ Improved trading partner communication/collaboration. ➔ More efficient execution of promotions. ➔ More successful promotions. ➔ Increase in sales.
Difficult	**Yes**	**Promotional Price and Item Synchronization:** ➔ Fewer invoice deductions/errors. ➔ Reduced time at back-door check-in. ➔ More efficient product authorization/de-authorization.
Difficult **Unknown** **Easy** **Easy** **Difficult**	**Yes** **Yes** **Yes** **Yes** **Yes**	**Replenishment**: ➔ Improved back-door check in time. ➔ Reduction of data entry/keying errors. ➔ Increased adoption of honor check-in. ➔ Decrease in out-of-stock/out-of-codes. ➔ Increase in overall efficiencies.
Easy	**Yes**	**Payment**: ➔ Fewer invoice deductions/errors. ➔ Faster deduction resolution.

**** Even if an industry solution is not an option in a process, there is still opportunity for solution providers to provide service to individual companies.*

Conclusion

An increase in the collaboration among DSD brand owners, their distributors and their retailers — particularly in the area of data sharing — is critical if the opportunities and benefits offered by a marriage of e-commerce and DSD come to fruition. It is only through this data sharing and true industry commitment to invest in current and emerging e-commerce technologies that all trading partners will realize the tremendous opportunities to "wire" DSD.

The DSD E-Commerce Task Force endorses and supports the creation of standards and processes that can streamline the collaboration between DSD trading partners. The task force also is committed to reducing the challenges retailers face when working with their DSD trading partners to create a more efficient supply chain.

In addition to benefiting the DSD trading partners, this welding of new technologies to the newest form of supply chain distribution will benefit America's consumers with fresher products at lower cost.

Glossary of Terms

Advance Ship Notice (ASN): (Or ship notice/manifest.) An EDI transaction set in which the shipper advises the customer of a pending shipment, when that shipment will arrive and what is in the shipment. The ASN enables the customer to identify short shipments before receipt and plan the receiving process more efficiently.

Auto-ID Center: Organization developing the radio frequency microchips (frequently called "smart tags") that contain the ePC codes. Developed by scientists at the Massachusetts Institute of Technology (MIT) and other universities around the world.

Brand Owner: Entity that has ownership of the brand.

Direct EXchange of Business Information (DEX/UCS): A store-level data interchange system that extends UCS to support direct store delivery allowing direct data transfer between the supplier's delivery personnel and the store's receiving agent. The standardized hardware/software system reduces time, costs and inaccuracies at the retail backdoor. The vendor's salesman or driver is equipped with a hand-held terminal into which details of the order are maintained. Once the item count is verified by the receiving agent, the terminal is directly connected to the store's computer and the information is downloaded without the need of other networks. The data is transmitted to the retailer's accounting department for reconciliation and payment. (See NEX)

Direct Store Delivery (DSD): A method of delivering product from the manufacturer plant directly to the retail store, bypassing warehouse facilities. Shelf inventory (initial stock and replenishment) can be managed by the brand owner/distributor with varying degrees of retailer oversight, although product check-in is done by both the supplier and store receiver. Major DSD categories include soft drinks, beer, bread and fresh baked goods and fragile items that require special handling, such as salted snacks and some gourmet items.

Distributor: In this publication, the entity that has the responsibility of getting product from the brand owner to the retail store. This entity can be the same as the brand owner, or can be a third party company. A third party for soft drink brand owner is typically referred to as a bottler, and a third party for alcoholic beverages is often referred to as a wholesaler. In the two-tier DSD model, the brand owner and distributor are typically the same entity.

DSD Supplier: Umbrella term for DSD brand owner and/or DSD distributor.

Electronic Data Exchange (EDI): A system of industry-standard transaction sets that form the basis for supplier-retailer telecommunications. Also the computer-to-computer transmission of business information between trading partners via an industrywide, standard format.

Electronic Product Code (ePC): A code being developed through MIT's Auto-ID Center and its several affiliates worldwide with the support of a wide variety of food and consumer packaged goods companies. This new product numbering standard goes beyond product identification, which the U.P.C. and its European cousins EAN do. By attaching the unique ePC to a product via a "smart tag," the product can be tracked throughout the entire supply chain.

Global Location Numbers (GLN): The industry term for the 13-digit number used to uniquely identify any legal, functional or physical location within a business or organizational entity. Its components include: an EAN.UCC company prefix, a location reference and a check digit.

Global Trade Item Numbers (GTIN): The industry term for the 14-digit data structure to uniquely identify trade items (products and services) within the EAN.UCC system. The GTIN provides information on the type, manufacturer, size, weight and price of the product.

Merchandiser: A representative of the brand owner/distributor who works at the store level to set-up and replenish shelves, build displays and in general be responsible for that product in that store.

MIT Auto-ID Center: See Auto-ID Center.

Network EXchange (NEX/UCS): UCS provides two communications links between store and supplier: DEX and NEX. NEX supports communications between office-based computer systems over public communications networks while DEX provides direct linkage between trading partners at the store backdoor without the need for other (or public) networks. NEX/UCS is used by both the grocery and the mass merchandise industries. It provides additional benefits when used with DEX: automates post-delivery accounts payable and receivable; maintains data files on products, costs, promotions and delivery authorization. Additionally, it minimizes payment discrepancies and the time needed to correct them.

Planogram: A department, shelf or display schematic for allocating products by the number of facings and/or the depth of the display.

Point-of-Sale (POS): The place where the purchase is made at the checkstand or scanning terminals at the front of a retail store. The acronym POS frequently is used to describe the sales data generated at the check-out scanners. On another level, POS can also refer to the in-store promotional, merchandising and marketing materials, such as stand ups, displays, etc.

Pre-Sell: A type of direct store delivery selling in which order placement occurs by the brand owner prior to the date of delivery. Orders are either generated by a DSD brand owner/distributor sale representative or initiated by the retailer via telephone, fax or Internet (P.O./EDI). Typically the order is delivered within a few days of order placement.

Radio Frequency Identification (RFID): Embedded microchip technology sometimes called "smart tags" being developed by the Auto-ID Center. (See electronic product code and Auto-ID Center.

Store/Outlet: Individual store location

Scan Based Trading: A business process between brand owners – typically DSD suppliers – and retailers. Scan based trading is a partnership that incorporates daily point-of-sale data to pay for product, full use of database synchronization, electronic funds transfer and various store-level operating efficiencies – such as open windows and elimination of product check-in.

Schematics: See planogram.

Shrink: The amount of product delivered to the store that cannot be accounted for. Shrink is equal to the residual of beginning physical inventory, plus deliveries, minus returns, minus scanned quantity, minus ending physical inventory.

Spot/Route Sell: A form of direct store delivery selling in which order placement is performed at the same time as product delivery. In route sell, the sales person, typically referred to as the route driver, has the product on the truck and replenishes what is needed immediately in the store.

Synchronization: The alignment of supplier and retailer information systems and databases primarily in the areas of item authorization, price and promotional programs.

Three-tier DSD Model: (See page 4.)

Two-tier DSD Model: (See page 4.)

UCC-128 pallet bar coding is a numbering and bar coding system that identifies the items and quantities of a specific pallet or complement of pallets being delivered to a store or warehouse location. This technology has historically been used in warehouse-direct delivery systems, but it is now being considered by several DSD suppliers as a method to expedite backdoor check-in for both trading partners.

Universal Product Code (U.P.C.): A numbering and bar-coding system for product identification of consumer items that is scanned at the retail point-of-sale. The U,P,C, was developed by the grocery industry 25 years ago and revolutionized retail sales worldwide.

GROCERY MANUFACTURERS OF AMERICA

1010 Wisconsin Avenue, NW
Washington, DC 20007
Phone 202.337-9400 Fax 202.337-4508
www.gmabrands.com