

# EDI and Bar Codes: A Marriage made for Business!

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By itself, electronic data interchange (EDI) can help businesses speed order taking and order fulfillment. However, a growing number of companies are finding that combining EDI with bar codes can improve customer service, augment cash flow and decrease turn-around time. This 'need for speed and efficiency' is a major concern in today's society. The cycle time of expecting and providing a product or service is shorter than ever. The urgency of meeting and/or beating the competition in providing goods and services is very high.

Once data has been acquired through bar coding in a fast and accurate method, EDI can then be used to communicate the data to a trading partner. EDI allows companies to 'close the automation loop' on many applications by eliminating the physical handling or processing of paperwork associated with ordering, shipping, receiving, invoicing and payment.

In addition, leading users have implemented EDI-based technologies not just to cut document management costs and add value to customer services, but to radically shorten basic cycle times and make their trading partners into extensions of their enterprises.

The following sections represent the general steps which occur during the inventory replenishment cycle. The focus of this paper will be to discuss how the combination of EDI and Bar-coding can help suppliers speed the processing of orders during this process as well as help the customers farther down the supply chain in speeding their processes.

## Request for Quotation

The process begins with the customer's computer system automatically recognizing the need for a product. The customer will send an EDI Request for Quotation (840). Once received, the supplier will price the item with availability and send the information back via EDI to the customer using an EDI Response to Request for Quotation (843).

In some cases the customer system can be smart enough to determine which vendor to place the order with based on price and delivery without manual intervention, or the customer will take this information and manually choose the supplier to place the order for the goods.

In many cases today, relationships have been established in which the customer does not request a quotation, but rather submits a purchase order via EDI (either manually or system-generated) based on previously developed and agreed-to pricing schedules.

## **Pricing Catalogs**

For those suppliers who wish to send new pricing catalogs or changes in pricing to customers, EDI can make this exercise very easy. By using the EDI Price Catalog (832) transaction type, the supplier can provide the customer with up-to-date price changes whenever they occur. The customer can also benefit from this electronic price catalog by uploading this information into their system, therefore eliminating the need for sales personnel to call the supplier for new pricing schedules.

## **Automatic Ordering**

Customers send EDI Purchase Orders (850) via EDI. Mailboxes residing on a Value Added Network will accumulate orders from all trading partners. The orders can be batched or forwarded real time to the supplier's translation system to create Sales orders. EDI acknowledgments (855) are automatically transmitted back to the customer for verification that the purchase order was received.

## **Order Status Inquiry**

There are many times in which the customer needs to get an update as to the status of a particular order. With EDI they will be able to submit an EDI Order Status Inquiry (869) to automatically request order status eliminating the need for someone to call or fax to receive this information.

If the delivery date has changed, then automatic notification using EDI can occur for those customers whose orders will be affected.

## **Automatic Picking**

Pick instructions are automatically sent to pickers. The pickers go to the destination as instructed and scan the bar code on the box as well as the location to verify it is the correct item to be picked. The items are then taken to a staging bin in the warehouse.

## **Automatic Notification**

As products are packed and readied for shipment, each item is again scanned at the shipping dock. A very important process takes place at this point. Every item bound to a particular customer against a specific purchase order, is now in the computer with complete detail. The computer assigns a shipment ID number that correlates to that specific shipment. A bar code label, with this encoded shipment ID number, is then placed on the outer pack of the shipment prior to being loaded on an outbound truck.

This bar code is scanned and is used to create shipping records as well as prepare a bill of lading. The system will also create an EDI Advance Shipping Notice (856) to those customers which are flagged to receive them. The information in the Advance Shipping Notice can indicate everything the customer will be receiving including a date when he should expect to receive them. The customer

will also know enough details about the shipment so he can properly allocate storage space, warehouse personnel and material handling equipment.

Many of the automotive distributors actually control inventory records and make payments to suppliers based on the Advance Shipping Notice.

## Waybill Tracking

The waybill is prepared by the shipper and transmitted to the carrier. To the shipper, the primary benefit of the EDI waybill is that it provides very accurate shipment information. Manual data handling and re-handling is minimized. The electronic waybill also saves time and money in getting the best rates and delivery schedule.

Using EDI for shipment inquiry and shipment status is also widely used. When implemented properly, an incoming inquiry will directly poll the shipment status data for immediate response.

## Automatic Invoicing

At the point the invoice is produced, an EDI Invoice Transaction (810) is generated and transmitted to those customers flagged within the system to receive them. This is usually the point at which the system relieves inventory and updates the accounts receivable records.

These EDI transactions are sent to the customer's mailbox located on the Value Added Network.

## Goods Arriving at Customer Site

If the customer wishes, they can take the EDI Advance Shipping Notice and prepare for receipt of the goods. When the items arrive at the customer's receiving dock, the bar code shipment ID is the only required label to be scanned and matched to its EDI counterpart sent via the Advance Shipping Notice. With one scan, the receipt of the entire shipment, including quantities, is verified. The Advance Shipping Notice data can be used to support the customer's inventory stocking and accounts payable systems.

The entire receiving process is now complete. This process assumes the supplier has been validated as a quality performer, thus eliminating the need for checking in and counting every single item in the shipment.

## Payment For Goods

On receipt of the EDI invoice, the customer, confident (because of EDI and bar coding) that all shipment and receivable information is accurate, sends an EDI Payment Order/Remittance (820) to the supplier, indicating payment is being made, and to his bank instructing it to pay the supplier via electronic funds transfer (EFT).

The payment order/remittance advance transaction allows the supplier to set up his accounts receivable system as to what amounts to apply when his bank indicates the EFT transfer is complete.

## **Shorter Ordering Intervals**

With shorter ordering intervals, the customer will be able to significantly reduce its warehousing costs and amount of stocking inventory required. 'Just-In-Time' shipping has arrived.

## **Conclusion**

As you can see, a distribution system can use the combination of EDI and Bar Coding quite extensively to make things more timely as well as accurate. The bar code scanning process improves the accuracy of shipments tremendously. In addition, with mechanized purchase order generation and mechanized invoicing, staffing requirements for those functions can be significantly reduced. The large staff of personnel who once processed these transactions manually will be reduced to a handful.

In conclusion, it must be recognized that all facets of distribution are constantly undergoing rapid and significant changes. EDI and bar coding are a means to benefit from those changes and re-engineer the 'business process'. This combination will have a major impact on a company's relationship with its customers, suppliers, freight carriers and ultimately on its bottom line.

Companies have adopted EDI and bar coding as a major part of their company's strategic plan. EDI and bar coding are working together for these companies to dramatically improve the relationship between trading partners. It is not a question of whether a company wants to implement EDI and bar coding, but rather if it is prepared to face the consequences if it does not!