

# **Electronic Data Interchange for Beer Distributors White Paper**

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## **FORWARD**

The following is a White Paper written and developed by members of the Beer Industry Electronic Commerce Coalition (BIECC). The BIECC is a working group of brewers and distributors created in 1994 to advance the issues of electronic commerce.

The purpose of this paper is to educate beer distributors and other supply chain participants about the fundamentals of Electronic Data Interchange (EDI). EDI, known more generally as electronic commerce or e-commerce, is a rapidly evolving business practice. While the marketplace presents challenges to those engaged in the very competitive activity of selling beer, technological innovations often present the most significant opportunity to increase efficiency.

This paper should be viewed as a work in progress and is not intended to serve as the “be all or end all” with regard to EDI. It is merely designed to be a starting point for those interested in further explanation of the opportunities presented by EDI.

The intention of the paper is not to say that EDI is the only methodology to exchange business information ---numerous other tools exist (Internet) will continue to be developed and put into practice.

Finally, when looking at the relationships between suppliers and distributors in the beer industry, it is important to note that every relationship is unique. This paper is not intended to relate directly to a specific brewer or distributor.

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## **INTRODUCTION**

As businesses look for ways to stay more competitive, electronic commerce provides numerous solutions. E-commerce has turned ordinary paper documents into paperless and cost-effective ways to improve competitiveness. It also automates clerical tasks, and eliminates many potential human errors in business transactions - these together usually translate into direct savings. E-Commerce capabilities deliver information quickly to virtually anyone anywhere. By providing your customers with a means to handle business electronically, you fulfill their needs while giving them the accuracy and immediacy they require, with the added benefit of relieving you of many of your day-to-day business chores. This is truly a “win-win” situation.

The Internet is an ideal environment for electronic commerce, offering an inexpensive, flexible and efficient way for businesses to complete transactions with each other. Despite these opportunities, many businesses are still reluctant to "go online" because they perceive e-commerce as either too complex or too costly to set up..

## **A BEGINNERS LOOK AT ELECTRONIC DATA INTERCHANGE**

Electronic Data Interchange (EDI) is the most visible and widely implemented e-commerce technology exchange in the retail industry. EDI is the computer-to-computer exchange of standardized business documents, such as purchase orders, product information (price book) and invoices. EDI trading partners exchange business data between their respective computer systems, rather than through other conventional communication means (e.g., mail, fax and overnight delivery). EDI is no longer optional for today’s beer distributor - many retailers are urging or even demanding that their suppliers use EDI.

An EDI standard specifies the format for the electronic information exchanged. This is automatically generated by one trading partner and processed by another.

In order for EDI to work properly, you and your trading partner must use the same data format. This is why national and international EDI standards have been developed. Use of the same standards among all trading partners makes the exchange of information significantly easier to implement.

Today, there are business solutions that allow easy access to EDI with minimal costs and organizational disruption, regardless of the size of your business. Readers are encouraged to discuss and promote EDI with their trading partners.

EDI involves the use of automation to exchange information. EDI is based on an open, voluntary, public message standard consisting of uniform formats, known as transaction sets, for business documents. These transaction sets replace many of the paper documents commonly used in business today. Each EDI format is tailored for particular business documents, such as purchase orders and invoices. Standard formats allow for integration with each trading partner’s system thereby providing the benefit of participating in the EDI process.

Some short-term benefits may be associated with the delivery or receipt of data in a proprietary, non-standard format. However multiple proprietary solutions become complicated and expensive, robbing the company of the efficiencies that could otherwise be achieved with standardization. For that reason, the use of standard EDI formats is recommended and is the only approach discussed in this paper.

The benefits from standardized EDI increase substantially with the automation of all business documents in the supply chain cycle. One of the major goals of EDI is to reduce the volume of business paperwork and the number of clerical tasks required to process documents, which results in substantial productivity improvements, including direct and indirect operational cost savings. Dramatic improvements in lead-time, cost and accuracy also result. With no data re-entry, EDI ensures greater accuracy of information, while reducing the likelihood of errors to near zero. The average company experiences a manual data entry error rate of five percent. So, five out of every 100 entries are incorrect. The cost of handling these mistakes is several times greater than the cost of handling the correct information. Consider an invoice erroneously authorized for \$100 instead of a \$1,000 payment or a new competitive price on a product that is not reflected in the retailer's system during a key selling timeframe, and you soon realize how EDI can benefit you and your trading partners. The accuracy of EDI can become an integral tool for increasing a company's market competitiveness.

## **THE EDI PROCESS**

EDI is a multi-directional, electronic transmission of information, using standardized formats, and typically involves the following processes:

- The sender (retailer/manufacturer/distributor) creates from internal information a data file for transmission.
- The data file then is entered into a software program called an EDI translator, which transforms the message into an EDI standard message, known as an EDI document.
- The resulting document is then transmitted by the sender to the receiver over the internet or private network. The process is reversed at the receiving end. The EDI document is inputted into the EDI translator that translates the data from its current EDI format into a file that can be assembled or mapped into the receiver's computer system. It also creates a functional acknowledgment, which is transmitted back to the sender. A functional acknowledgement only represents the receipt of an EDI document.

For more than two decades, organizations have conducted business electronically by employing a variety of e-commerce solutions. In the traditional scenario, an organization enters the electronic market by establishing Trading Partner Agreements<sup>1</sup> (TPA) with retailers or distributors of their choosing. After establishing the proper business relationships, an organization must choose the components of its e-commerce system. Although these systems differ substantially in terms of features and complexity, the core components typically include the following:

- Workflow application — an interface that aids the user in creating outgoing requests or viewing incoming requests. Information that appears in these forms may also be stored in a local database.
- Electronic Data Interchange (EDI) translator — a mapping between the local format and a global format.
- Value-Added Network (VAN) or Internet Solution - mechanisms for exchanging business messages.

## **WHERE TO BEGIN**

Initially, EDI implementation is focused on you, the distributor. Although EDI has been simplified due to changes in technology, it is still important to perform your own due diligence to determine your options. Having a working knowledge of the EDI process will help you in discussions with your trading partners; otherwise, you risk establishing a one-sided final solution for your technology that may limit your future options to work with additional trading partners.

EDI implementation involves communicating with partners: discussing software and communication opportunities with them, understanding their capabilities and requirements and learning from whatever EDI experience they may have. Your brewer partner should probably be your first point of contact. Some brewers already have an e-commerce system in place and can help the distributor understand its options.

There are a number of decisions that will need to be made by the distributor when considering how to establish EDI. The implementation of EDI will alter the distributor's relationship with its current vendors and suppliers. The distributor will likely need to sign additional contracts with retailers, route accounting system (RAS) vendors, EDI vendors and possibly his or her bank. However, as discussed frequently in this document, remember to check with your attorney, state association, or state regulatory agency to ensure that your EDI solution complies with relevant state law.

Issues to consider and discuss when choosing among third-party e-commerce options include the following:

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<sup>1</sup> The Trading Partner Agreement is a legal contract between the retailer and the distributor committing both parties to move forward with an EDI implementation. These agreements may contain any items that cannot be reconciled electronically, such as terms of transfer, payment mechanisms, implementation conventions, standards to be used, who pays for what and what confidentiality measures will be taken.

## **A. EDI Documents**

**Invoice (810):** This transaction set provides the format and establishes the data content of an electronic invoice. It is used to provide the customary and established business practices relative to the billing for goods and services provided.

**Payment Order / Remittance Advice (820):** This transaction set is the equivalent of the paper check and remittance advice process. It can be a request to a financial institution to make a payment to a trading partner. It can also be a remittance advice identifying the detail needed to perform a cash application to the recipient's accounts receivable system (or to a third party for processing). A retailer would use the Payment Order/Remittance Advice to: 1) tell its bank to make a payment from the retailer's bank account to the distributor's bank account; 2) advise the distributor that the retailer's bank will transfer a payment to the distributor's bank account; and 3) simultaneously advise the retailer's bank to make a payment to the distributor's bank account, and to tell the distributor that the retailer's bank will transfer a payment to the distributor's bank account on a particular date.

In states where a third-party intermediary is required to do electronic funds transfers (EFTs), the intermediary would use the 820 to inform both the retailer and the distributor about a payment. NOTE: The Payment Order/Remittance Advice is not itself the payment, just the notice, showing the parties the amount being paid and the date the EFT payment will be made from the payer's bank account. The actual payment, the EFT, is handled through the network of Automated Clearinghouses of the Federal Reserve Bank.

**Purchase Order (850):** There are two methods for initiating the 850 Purchase Order. 1) The supplier enters the purchase order into its internal system. This generates an 850 Purchase Order, which is transmitted to the retailer for approval. 2) The buyer enters the purchase order into its internal system, which generates an 850 Purchase Order to the supplier. The supplier reviews the order request and enters any missing data (e.g. shipping location, pricing changes, extra charges, etc.).

**Product Activity Data (852):** A distributor or retailer who needs to advise a trading partner of an update in inventory, sales and other product movement information can use this transaction set. It enables a trading partner to plan, ship or propose inventory replenishment quantities for distribution centers, warehouses or retail outlets. Retailers mostly use the 852 to transmit scan data to a supplier for product movement analysis.

**Product Authorization (878):** The distributor and the retailer both use this transaction set to inform each other of the products they will sell or buy. The distributor sends the product authorization to the retailer to inform the retailer what the distributor will sell to the retailer. The retailer sends the product authorization to the distributor to inform the distributor what the retailer will buy from the distributor. Either party may originate a product authorization.

**Price Information / Change (879):** The distributor uses this transaction set to send new pricing information to the retailer. The new information can be caused by, among other things, changes in base pricing, changes due to promotions and once-only changes for specific customers.

**Item Maintenance (888):** The distributor uses this transaction set to send information about new products, or new information about existing products to retailers. It can be used to automatically synchronize product codes between distributor and retailer computer systems. The 888 is not used to send price information to the retailer, that is a function of the 879.

**Promotion Announcement (889):** The Distributor uses this transaction set to send to the retailer promotion dates, allowance amounts and performance conditions to announce a new promotion, replace an existing promotion, cancel an existing promotion and change the dates of the promotion.

The Retailer uses the same message to send back its acceptance of the promotion, to make counter proposals, or to reject promotions. The key is that each promotion must have an ID number. The Promotion Announcement can overlap with the Price Change (879).

## **B. Technology Options**

There are several technology options available for distributors, but your selection may depend upon your current route accounting software vendor, as well as your abilities to implement the necessary software interfaces and your ability to populate your route accounting software with the needed information in a timely manner. Reviewing technology options with your major supplier is a good way to start.

Some RAS vendors offer their own EDI solutions – we suggest you investigate their capabilities thoroughly and consult with your brewer partners when making a decision.

### **Standard EDI Option:**

- This method requires that a distributor purchase a software interface from a route accounting software vendor. This requires that the software vendor develop a software interface. Additionally, this option may require the distributor to purchase EDI translation software depending on which EDI solution provider is selected.

### **Web-Based Forms Option:**

- It requires a distributor enter the information into a browser interface.
- Current processes for gathering necessary information for the retailer will likely remain the same.
- A third party should be capable of building a form that is unique to the distributor, so that it will contain only the products and stores that pertain to that distributor. Such a specified form will make it simpler to enter the data and will improve the accuracy of the data. This Web form will have all the information that a distributor currently provides to retailers via a spreadsheet.
- A disadvantage to this method is that it may not be as accurate as other methods since it involves the manual input of information by a store employee. There might also be

a difference in the information that is entered into the distributor's RAS system due to keying errors and changes.

### **Customized File Option:**

- This method requires that the distributor purchase a software interface from his or her route accounting software vendor. This also requires that the software vendor develop a software interface. A third-party vendor should be willing to use the Universal File Formats.
- This method provides the distributor with an automated method of extracting information needed by the retailer directly from their business system and then transmitting the information.

### **C. EDI, VANs and the Internet**

EDI has traditionally addressed fixed relationships that enjoy sufficient volume to support the investment that an EDI solution requires. The lack of flexibility and speed became impediments in the adoption of EDI-based solutions. Cost has also been an issue since EDI was initially relegated to expensive and proprietary, albeit secure and reliable, VANs (Value Added Networks). VANs are now building their capabilities on top of the Internet and, as a result, VAN costs have been dropping.

A VAN is a private third-party network that offers control and security for any transmission that is sent through it. In the case of EDI, with the documents having considerable economic value, there is an added value of being able to trace a transaction and to audit the entire transmission process to check on accuracy and timeliness. For EDI, the VAN provides a local connection point and an electronic mailbox to store and retrieve electronic documents. Each trading partner has one or more mailboxes. The mailbox can be set up to limit who can transmit information and even the type of transaction it will accept. Services offered by different VANs vary, so you will want to review available options carefully.

A VAN providing electronic mailbox services can help distributors in many ways through: (1) data storage and retrieval; (2) security and auditing; (3) technical support and problem resolution; and (4) other EDI services. In EDI, mailbox services can be especially valuable as opposed to a direct connection (dial-up non-Internet connection) to a retailer because it places fewer constraints upon the distributor. For direct connections, a distributor is required to keep to the retailer's schedule to dial in at a precise time. With mailbox services, the distributor is required only to dial in to a retailer's mailbox and leave the EDI transaction sets by a certain time.

Internet EDI represents a newer set of technologies, tools and services that enable electronic transactions to be conducted securely over the Internet. Companies often turn to the options available on the Internet in the hope of lowering the communication costs of VAN services. Another advantage of this approach is the promise of a consistent, browser-based user interface that can reduce training and integration costs relative to proprietary interfaces.

Compared to traditional VAN-based solutions, an Internet-based solution offers a number of advantages for businesses:

- Internet access can save a company approximately 78% over a private, wired network.
- *The Internet solution is more flexible.* Changing a proprietary system that does not use open standards often requires a massive re-engineering of that network. The Internet models are designed for change and don't need to be rewired whenever a new party comes online. Unlike traditional e-commerce solutions, the Internet model encourages the adding of new business partners.
- *Information flow is open.* In an Internet-based network, the system is open and standards-based, and the information can be read by a number of different applications.

#### **D. EDI Translators**

Since EDI is widespread in the retail industry, software packages are available that convert data from a business system format into an EDI format or vice versa. This is done with EDI translation software (often referred to as the translator). This software can import data, entering it into an EDI format and exporting it from an EDI format. The process may be manual or automated. A manual method of importing data uses a manual data entry screen generated by EDI translation software. It exports the data in the form of printed hard-copy reports. This is not the recommended long-term method because it does not allow the retailer or trading partner to attain the major benefits of EDI, which are achieved through system integration. An automated interface imports data to and from the business application to the EDI translation software. This is the method that should be implemented to achieve the greatest benefits. Automating the system generally pays off in the long run by reducing errors and labor costs.

#### **E. Price Book Synchronization / Electronic Pricing**

Price book disputes are an issue for distributors and retailers. For distributors, who may deal with different brewers, the pricing picture is often complicated by brewer discounts, promotional allowances, combination deals and rebates, all of which make pricing discrepancies a common occurrence. To avoid such issues permitting trading partners access to an electronic price book may solve such problems. The electronic price book will replace paper price books, which are commonly faxed or mailed to retailers.

A retailer may need to access his or her supplier's electronic price book to confirm the price of an item - including discounts or promotions - as a check is issued to the distributor. All of the distributor's cost information, including deductions and discounts, could be archived in a database that retailers access to resolve price disputes after the fact. Sharing of a distributor price book between trading partners, helps ensure that the data is the same.

Price book synchronization also involves the correct authorized product, in the correct retail store, with the retailer paying the correct price for the product. The benefits of price book synchronization between Direct Store Delivery (DSD) trading partners include eliminating most data entry errors and reducing the discrepancies and deductions that take up valuable clerical time and requires much paperwork to correct. Traditional pricing methods have required

administrative support and result in data entry errors. An accurate price book means both parties can focus on running their business rather than resolving invoice adjustments and deductions. Some companies will choose to develop data synchronization with retailers on their own, while others will go through third parties.

Depending upon your trading partner, there will be an initial set of EDI transactions that will be delivered between the trading partners that contains information on the product data and the store characteristics. From time to time, after the initial transfer of information, there will be business decisions that will require changes to be made at the retailer or the distributor regarding product information, product mix, prices and store “patterns.” Once a change is discussed between the parties, the party making the change to their business system needs to use EDI to officially notify the other of the change.

Price book synchronization will also make it easier for trading partners to advance into other areas of cooperation. Since both parties will be looking at the same processes and data in the same way at the same time, the benefits of other applications such as purchase orders, invoices and automated replenishment become motivators for expansion of the relationship.

#### **F. SKU Identifiers**

Stock Keeping Unit (SKU) control of inventory, where records are maintained at the individual item level, is a tool that provides the speed and versatility necessary to handle the large quantities of data involved. But like any other inventory, a periodic physical count is required to keep records up-to-date and account for shrinkage.

Taking a physical inventory at the SKU level also involves large quantities of data. Even the simplest SKU counts involve recording the SKU number, quantity and price of each item. Often, location or department codes are required, and many SKU inventories also dictate recording additional information that can include style, date purchased, manufacturer and other similar information.

Questions to ask:

- Do you use UPC as your primary tracking number?
- How many digits are in your UPC?
- Will your system be able to use GTIN's - 14-digit code?
- How many different UPCs for the same product do you carry (unit, case, carrier [consumer unit])?
- How do you handle 3.2 and full strength in the same market?
- What other information do you carry (description, pack size, etc.)? What are the size fields?
- How do you display return or deposit information?

## **G. Legal**

There are several legal issues you need to consider before you implement EDI with a retailer. It is imperative that you find out if the proposed EDI transactions conform to your state's Alcohol Beverage Commission (ABC) and tax record requirements. In some states, there is a perception that EDI is illegal; however, the reality may be that EDI is permitted under specific circumstances. For legal and tax reasons some EDI documents may be allowed while others may not be allowed. Some examples of this are:

- The broad interpretation of providing “something of value” to a retailer may be considered by some state ABCs to include paying for network transmission charges.
- Some states have yet to form an opinion of EDI, so they forbid it until they decide otherwise.
- Some states have yet to form an opinion of EDI, so they will allow it until they decide otherwise.
- Tax record requirements may require a hard-copy signature at the time of delivery. The Delivery Record is not allowed.
- Price promotions may be illegal, but post-offs may be legal. The Promotion Information transaction set is not allowed, while the Price Information transaction set is allowed.
- In some credit prohibition states (states that prohibit the extension of credit from a distributor to a retailer), electronic funds transfer (EFT) is considered an extension of credit, so EFT is not allowed.
- In some cash states, EFT is considered the same as cash if the funds are transferred within a specified time period, so EFT is allowed.

Conforming to your particular state's legal requirements is your responsibility. Please consult your state association, as well as your legal counsel to ensure that the process you eventually implement will comply with the state and local laws and tax authorities.

## **CONCLUSION**

The benefits of your EDI system may not be evident right away. It takes a commitment by you in both time and effort before you are able to realize its full potential. Therefore, like a seed, your EDI system must take root before it can grow. Of course, once this happens, watch out. As your company's comfort level and knowledge of EDI increases, you will be able to realize a swift return on your investment. More and more of your daily business processes will be EDI-based, making it possible to experience more and more of the benefits that have been discussed above.



Beer Industry Electronic  
Commerce Coalition

Members of the Beer Industry Electronic Commerce Coalition (BIECC) have prepared this document. The BIECC, established in 1994, is a working group that is managed by NBWA. Coalition participants are active members and meet on a regular basis. The mission of the BIECC is to maximize the beer industry's role and common interest pertaining to the implementation and utilization of electronic commerce within the three-tier system. The coalition educates brewers, distributors and retailers about the benefits of electronic commerce, promotes standards and monitors regulatory concerns as they affect the three-tier system.

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