What is EDI (Electronic Data Interchange)?



The Electronic Data Exchange or EDI is a technology that helps trading organizations and partners get more done faster by speeding up logistics timelines and eliminating manual errors through business to business communication automation.

EDI allows organizations that produce, ship, purchase, and sell goods or provide services such as retailers, manufacturers, insurers, health care providers, airlines and more.

EDI has been in use since the 1960s, though it is finding new use today by enabling supply chain automation and acting as a key part of the workflow for business process automation.

By the end of this blog post, you should have a fairly solid understanding of EDI and an introduction to the basics of EDI technology.

Computer-to-Computer Data Exchange

EDI is an automated computer-to-computer exchange of standard electronic business documents that occurs between business partners over a standardized

and secure connection.

With computer to computer communications, there is no need to rely on manual options such as email, facts, and postal mail.

Documents move directly from the sender's computer application to the receiver's computer application.

For example, a buyer can send over a purchase order and the supplier will automatically send over an invoice.

Thousands of standard business transaction documents can be spent automatically with EDI.

Common examples include purchase orders (EDI 850), shipping statuses (EDI 214), invoices customs information, payment confirmations (EDI 820), and inventory documents.

The standard EDI format allows computers to process EDI documents. Standards describe each piece of data and the format, such as the type of document, the parties involved, the date common and the actions to take.

The use of standards eliminates company to company variations so that each business partners computer system speaks a common language.

EDI systems use a variety of standards for various regions, use cages, and industries. The EDI standards have different versions, so EDI partners have to use the same standard and version for the data to flow properly.

Among the most popular standards are ANSI X12 used in the United States, UN/EDIFACT which is used globally, and industry specific standards, such as HIPAA.

EDI uses a range of secure protocols for document exchange. Partners have to agree upon the protocol to use and make sure they are using the same protocol before they can exchange EDI files.

If they do not, they must work with an intermediary to facilitate the exchange between the two protocols.

Certain EDI security protocols require more technology than others but using EDI

software such as ESSBUS Connect can facilitate a wide variety of exchanges without a major investment.

These protocols range from the long-established file transfer protocol (FTP) or secure FTP (STFP) that is used to upload content to a host server for a website, to API-based systems such as AS4, web-based via A2, and other options, including mobile EDI.

> *Though EDI itself can get highly technical, investing in it for your company will pay for itself in no time. The speed at which you'll be able to process orders and invoices will dramatically improve, allowing you to cut labor costs and focus labor efforts on other value-added tasks.*

EDI and Automation

EDI messages can be automated with pre-configured workflows. For instance, as soon as a purchase order is marked shipped, the supplier can send a shipment notification, followed by an invoice.

Generally, businesses use EDI translators, either through a service provider or software to translate the EDI documents for use with internal applications to enable automated processing.

Processes can be expanded to work with workflows and integrations within your company.

For instance, once a company receives a purchase order via EDI, the logistics system automatically generates a task for the warehouse staff to move the goods from inventory to shipping.

Once moved to shipping, a shipping label is automatically generated, and the shipment information is sent back to the client who placed the order.

Using EDI Compared to Traditional Manual Processes

With a traditional method such as paper or email, the buyer will receive a

notification to place an order or may determine they must place an order after checking inventory numbers.

The buyer enters information into a purchasing system to create the purchase order, and either prints and mails it to the seller, or emails it to them.

The vendor receives the PO, either days later or via email, alongside other communications.

Once received, the vendor manually enters it into their sales system.

The vendor prints an invoice and either includes it with the shipment or sends it separately, either by email or postal mail.

The buyer manually enters the invoice into the accounts payable system.

At this point, the paper system has added a week or more of back-and-forth shipping time to the process. Both paper and email are highly susceptible to error, which adds to the order time.

With an EDI process, the buyer's EDI-enabled procurement system automatically generates and sends an EDI-formatted PO when the inventory reaches the preset level to trigger the system.

Within minutes the vendor's sales order system, equipped with EDI software, receives the PO.

The supplier's system automatically alerts the warehouse staff to pack and ship the goods.

Once they are packed and ready to ship, the shipping system generates the Advanced Ship Notice (ASN) and sends it to the buyer's receiving department. From there, the vendor's ERP system creates an EDI invoice that goes into the buyer's accounts payable system.

This entire process takes about an hour, rather than a week or more.

Benefits of EDI

EDI offers a variety of benefits to all organizations who use it.

EDI can speed up your business cycles by 61%. The technology allows transactions to occur in minutes rather than days or weeks.

By automating paper-based tasks, your staff is freed up for higher value tasks allowing them to be more productive.

Automating data exchange across your supply chains ensures that critical data is sent on time and tracked in real time.

Shortening your order processing and delivery times allows you to reduce inventory.

Using EDI reduces the transaction costs because there is no longer a need to pay for paper, ink, copies, filing and storage, postage, and document retrieval.

This can help your business save more than 35% on transaction costs alone. If you're handling a high volume of transactions, this can also help you save millions of dollars annually as a result of early payment discounts.

Using EDI technology also eliminates errors that can cost a great deal of money such as lost orders, incorrectly taken phone orders, data entry errors, or illegible faxes.

EDI helps improve supplier relationships because sellers benefit from reduced order to cash cycles and improved cash flow reducing errors saves your partner's time and frustration in handling data disputes.

EDI also provides a number of strategic benefits for your company because you have real-time visibility into transaction status which makes it easier to make data-driven decisions faster.

EDI also streamlines the process of entering new territories because of the common worldwide business language it uses.

EDI technology promotes sustainability and reduces carbon dioxide emissions by replacing paper-based processes with digital alternatives.

Because of the increase in operational efficiencies, there is also less energy waste.

How EDI Works

EDI requires three steps:

- Prepare the documents.
- Translate them to an EDI format.
- Transmit them to a partner.

Using purchase orders as an example, the buyer prepares their purchase order by collecting and organizing all the data, so it works with EDI.

Rather than printing a purchase order, the system creates an electronic file with all the information required to build an EDI document.

Once the document is created, it must be fed through the EDI translation software to convert your internal data into the EDI standard format.

If you don't have EDI software in-house, you can send the data to an EDI service provider to translate the document into the correct EDI format for you.

After the PO is translated to the standard EDI purchase order format, it is transmitted to the supplier.

The supplier uses EDI with different documents, the advanced shipping notice and invoice, for instance, to notify the buyer the order has been shipped and to ask the buyer for payment.

Implementing EDI in Your Organization

To ensure EDI compliance, you'll need to set up your EDI infrastructure, align your EDI setup with that of your trading partners, and adhere to common standards.

To get started with EDI, you must have:

- EDI software for communication
- Internet communications, VAN, as required by your various partners
- The necessary on-premise hardware including a server or PC, communication devices, and peripherals,

- Secured office space with monitored security data backups and redundant power so that the system can run reliably
- Software to integrate any of the EDI transactions with your back-office systems for easy EDI integration
- Maps for each EDI document type that is exchanged with partners to map EDI records into usable business documents.

Your EDI is only as valuable as your integrations with your partner systems. You must determine which IDI protocols you will use to send and receive the documents.

You'll select and implement exchanges for the correct documents or transaction.

You'll also want to nail down the use cases where you will send and receive each EDI document.

Communicate with vendors and your IT team to determine the necessary steps to take for EDI implementation in your organization.

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