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THE PRINCIPLE AND PROMISE OF EDI

A discussion on evolved and integrated EDI systems and when it makes sense to consider the switch.

By Russell White

The evolution of Electronic Data Interchange (EDI) within a company is, for better or worse, a fact. The continual pressure on ourselves and on our business systems to do the job better, is a part of the modern workplace and guarantees that systems will adapt to the current situation. Uncoordinated evolution seldom results in optimum system performance. Take the data management aspect of the shipping process, for example.



A Kapco Welder

Shipping involves releases (usually received via EDI), data transfer to some form of manufacturing system, delivery scheduling, bar code labeling, shipping papers, and some form of shipment advice. Often these aspects of the shipping process are controlled by different people and even different departments. The natural evolution is rarely coordinated for the maximum efficiency of the whole system. The principle and promise of EDI is that you will receive electronically from your customer just about all of the information needed to plan, produce, and deliver the required goods and services without having to reenter data. This promise is the principle of an integrated EDI system. The advantages are efficiency and accuracy.

Consider the case of KAPCO, Inc., a Wisconsin metal fabricator, which has experienced a significant cost reduction by replacing an evolved EDI system with an integrated EDI system. Continuous improvement evolved individual automated EDI processes, and as none were "broken," little attention was given to coordinating the various processes into an integrated system.

The new integrated EDI system was installed primarily to automate the EDI information feed to the MRP system. After installing the first two trading partners, Kapco experienced an efficiency boost, saving nearly 1,600 work hours per year by coordinating EDI communications, bar code printing (84 percent), and MRP updating (16 percent). These trading partners use traditional EDI.

After installing the integrated EDI system, Kapco realized an annual savings of more than $79,000.

"We have received no DTRs since the new system was installed," notes Brian Mack, inventory control specialist for Kapco. "We took human error right out of the equation."

The third trading partner, still in progress, does not use EDI. Rather, the company sends a 5 MB, comma separated value file, containing more than a year's worth of orders and forecasts each week. This file is printed and anually reviewed by Kapco staff to find changes from the previous week, and the MRP is then updated manually. Under the new integrated EDI system, this file will be reformatted into an EDI release and imported into the new integrated system. Then, it will follow the same workflow as the other EDI trading partners. The time currently spent on just this MRP update activity is approximately 16 hours per week, or 800 hours per year. When the integrated processes are installed, most of these hours will be repurposed to more productive activities.

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As a result of installing the integrated EDI system, Kapco has realized an annual savings of over $79,000, with the potential to save an additional $26,000 as the next trading partner is added. The new integrated system works like this:

1. Receiving Data. Inbound EDI in the form of forecasts,releases, and purchase orders contain just about all ofthe information needed to complete the processes listed below. Kapco does not have to reenter any of this information. Even the EDI receiving process can be easily automated.
2. Transfer to MRP. Inbound forecasts and releases are automatically transferred to Kapco's manufacturing system. This is possible whether the MRP is a spreadsheet or a more sophisticated system such as Kapco currently runs.
3. Bar Code Labeling. The information Kapco needs for the barcode label is already contained in the inbound release from the simplest Part-Quantity-Serial, to labels with 2-D barcodes. No data re-entry is needed. Trading partnerspecific label formats are populated from the inbound data. Labels are produced in the correct format and quantity for the shipment.
4. ASN Creation. With the exception of carrier codes and the trailer number, the EDI system is able to create the outbound shipment advice by transferring the data from the inbound release.
5. Shipping Papers. Once the ASN is created, the shipping papers are generated from this same ASN data structure. Bills of lading, packing lists, and other trading partnerspecific required reports are printed and reprinted as required.
6. Scanning the Shipment. From the barcode labels already printed, the shipment scan of the serial number only validates the correct parts and quantities for the shipment, and creates the pallet structure within the ASN.
7. Sending the ASN. Sending the ASN is done by the press of a "Send Now" button. Connection to the desired communication portal is completely automated and does not require human intervention.
8. Update the MRP. The step of generating and sending the ASN also updates the MRP for invoicing and inventory relief.



Kapco's Komatsu 200-ton Press

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EDI Advantages

The principle and promise of EDI go beyond the obvious time saved. Shipment accuracy and its resulting goodwill are less tangible, but none the less real. The money saved from accurate shipments not requiring expedited shipping, the time saved not replying to trouble reports (DTR, PRR, etc.) — and explaining to managers and customers what actions have been taken to mitigate this situation in the future — and the results of improved supplier ratings are real and measurable.

Surprise Ending

So there on your shipping dock, unnoticed because it is not blatantly broken, is an evolved EDI system. It works because your shipping department makes it work. This evolved system may also be an outstanding opportunity for improvement. How can you tell? What should you do? The potential has been identified, so the next step in the process improvement program is measurement. For each shipment, how much time is spent at the various EDI shipping processes described above? How many shipments do you make in a year? What is the average loaded labor rate for the people doing this work? Next, do the math:

(Shipments/Year) x (Hours/ Shipment) x (Loaded Labor Rate) = (Operating Cost of EDI)

Add to the operating cost (above) the cost of inaccurate shipments including annual expedited shipment costs and labor hours spent responding to trouble reports. Then add in any annual system costs such as support and maintenance. The sum of your operating costs, the premiums paid for inaccurate shipments, and any annual system costs (support and maintenance) is the total operating cost of your existing EDI system.

Now, what savings can be expected?

You now have an idea of where improvements can be made, and the magnitude of the potential benefit. Your actual savings can only be estimated before the actual installation. To refine your estimate, watch live demos of the integrated system, ask for the vendor to run an actual day's worth of your own EDI transactions through the system and produce the average number of ASNs: print labels, scan the labels, and create the ASNs following the recommended work flow of the vendor. Estimate the potential time savings, and then compare that to the cost of purchasing and implementing the new system. How many years (months) of estimated savings will it take to recover the cost of the new system? Is this rate of return acceptable?

You will discover that integrated EDI fulfills the promise and principle of EDI. The rewards can be significant.

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