B2B and You

Six Degrees of Separation

Wikipedia defines six degrees of separation as *"The idea that, if a person is one step away from each person they know and two steps away from each person who is known by one of the people they know, then everyone is at most six steps away from any other person on Earth."*

It's a Small World

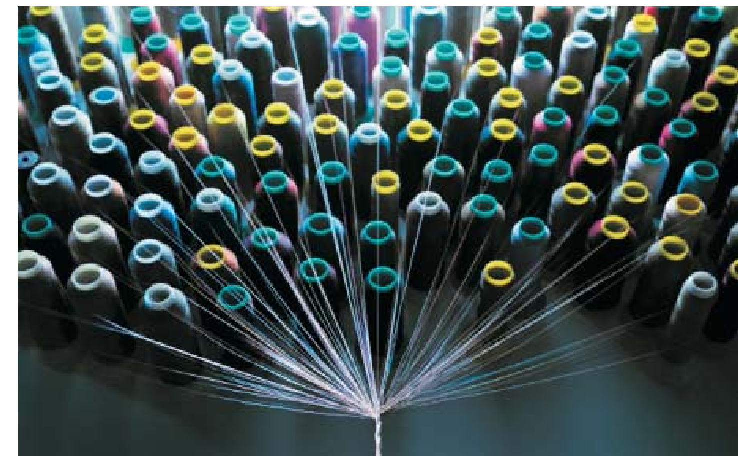
You've probably heard of six degrees of separation—a concept originating from a 1990 play of the same name, and often referred to in pop culture as the Six Degrees of Kevin Bacon theory. Many people are familiar with the Kevin Bacon game—a trivia game based on the concept of the "small world" phenomenon, resting on the assumption that any actor can be linked through his or her film roles to actor Kevin Bacon within six steps. However, many people don't realize that **the six degrees theory is based on proven studies about such links between human relationships**.

Six Degrees of Separation from B2B e-Commerce

This theory can easily be applied to B2B e-commerce in the retail supply chains as well. Say you went online to buy a sweater. **B2B technologies are a critical factor in the delivery of the product from the factory in which it was created to the distribution center which ships it to your home.** For instance, the apparel retailer utilized EDI to coordinate with a parcel carrier such as FedEx to ship the item to your home address. FedEx, in conjunction with the apparel retailer, then enabled you to track your package online and see it on every step along the supply chain. Prior to placing your order, the store's buyer in New York City had used B2B e-commerce to electronically purchase the sweater from a designer in Paris who worked with an overseas textile contract manufacturer to have 20,000 of that item produced.

You get the idea.

Six degrees is a key principle of EDInomics, which studies relationships between everyday activities and B2B integration. There are even more examples of the six degrees concept that illustrate relationships you may not know exist. You can see examples by checking out this blog.



B2B and Your Recent Retail Purchase

Have you purchased a toy for one of your children recently? Or perhaps some clothing for yourself? Or maybe even a lawn mower from a home improvement retailer?

Increasingly, products such as toys and games; apparel and footwear; and hardware and appliances are being sourced by department stores and the "big-box" retailers from lower-cost overseas suppliers. While China has dominated the low-cost manufacturing sector for the past decade, retailers are increasingly sourcing from a diverse range of geographic locations throughout Southeast Asia and Latin America. Most retailers maintain relationships directly with their overseas suppliers, but there are many actions that take place before the items hit store shelves.

Let's take the Kevin Bacon concept a step further by going on a brief journey through the various steps it takes to get products to retail locations in your neighborhood. To simplify matters, we'll use the example of a US-based retailer importing goods produced by an overseas manufacturer.

1.) Ordering

We begin our process with a large department store. Before an order is ever placed, these stores have teams of buyers who perform demand forecasting and planning to determine which types and what quantities of merchandise to purchase. Once a decision is made, the retailer will issue a purchase order (PO). In turn, the supplier will then assess the quantities, timing and terms of the retailer's PO to determine if they have the capacity and resources to fulfill the request. If so, the supplier will acknowledge the order. Buyers may adjust the order quantities or compositions later based on changes to their demand forecasts or merchandising strategies. All of these transactions, such as the PO, PO acknowledgement and PO changes, are typically conducted electronically between the retailer and supplier through the exchange of EDI documents or the use of supplier portals.

2.) Insuring

Of course, with international trade, there are **additional complexities that both buyers and suppliers must consider**. For example, what happens if the supplier produces and ships the goods to the retailer, but never gets paid? In today's economy, so many retailers are declaring bankruptcy that you just can't take the risk of a non-payment. In the past, suppliers could prevent this by issuing a letter of credit and guaranteeing payment, provided the terms of the PO are met. Letters of credit have become less popular in the past decade due to the extensive paperwork and banking fees required. Instead, many large US companies are buying on open account terms, forcing suppliers to find other ways to reduce their risk. Trade credit insurance, which protects the supplier in the event of a buyer non-payment, is a popular alternative to letters of credit. Both of these **methods depend upon the exchange of electronic documents in either EDI or SWIFT formats**.

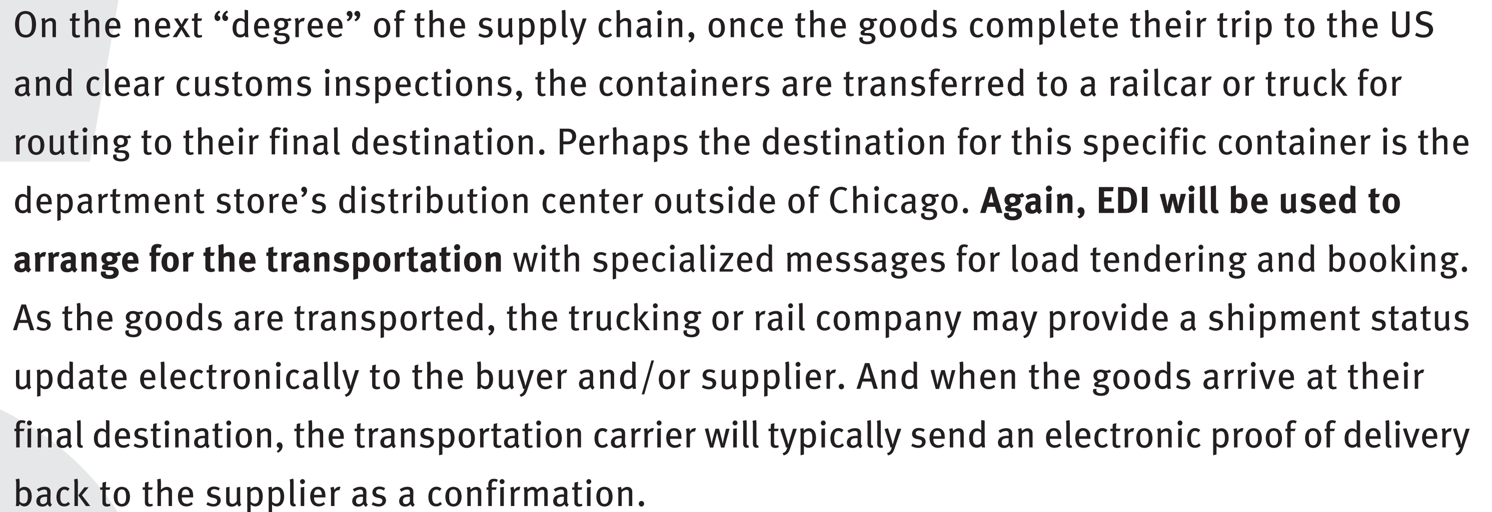
3.) Manufacturing and Financing

The next step in our six degrees example is the manufacturing process, which begins as soon as an order is confirmed. Depending on the products they're building (e.g., toys, clothing, appliances), **the manufacturer needs to order a different mix of raw materials for manufacturing—aluminum, rubber, plastic, cotton or leather, for example—from their suppliers.** The manufacturer must, therefore, determine the necessary materials to place an order with their supplier. To build the products, suppliers will need to purchase the raw materials, pay their workforce and operate energy-intensive manufacturing equipment. As a result, the suppliers may need to invest several million dollars prior to receiving payment from their customers, the retailers. Smaller suppliers will need a short-term loan to provide the working capital necessary to fund their up-front investment. Financing is much easier to obtain when a PO is backed by a letter of credit from the retailer's bank. With such a strong guarantee, most suppliers can obtain an advance of funds from their bank to finance their manufacturing operations. Most financing-related transactions are orchestrated using B2B e-commerce integration. Communications between product manufacturers and their suppliers, however, are often less automated—particularly in overseas markets—and are generally conducted via fax, email or over the phone.

4.) Shipping, Exporting and Importing

Of course, goods can't get to their final destination without an essential part of our Kevin Bacon theory example—shipping. Products created overseas are transported by truck from the supplier's plant to the nearest ocean port, prior to being loaded onto a carrier ship for travel to their final destination. The supplier may arrange for their own transportation or they might outsource the function to a specialized freight forwarder. **Communications between freight forwarders, exporting suppliers and ocean freight carriers for booking requests and invoicing are often automated via EDI**.

Prior to the ship's departure, export declarations need to be filed with local customs agencies. For goods destined for the US, import declarations and customs filings must be completed at least 24 hours before the ocean vessel departs. As you can imagine, **submitting these documents is becoming increasingly complex, as homeland security regulations are extended and free trade agreements between nations are expanded**. Consequently, many buyers and suppliers are hiring specialized customs brokers to manage the highly-digitized declaration process. For a number of shipping hubs, such as Singapore and Hong Kong, the speed at which these processes are performed can be a significant advantage or disadvantage to the country's logistics providers. This again reminds us of **the importance of EDI in speeding the trade process**.



5.) Receiving and Invoicing

On the next “degree” of the supply chain, once the goods complete their trip to the US and clear customs inspections, the containers are transferred to a railcar or truck for routing to their final destination. Perhaps the destination for this specific container is the department store’s distribution center outside of Chicago. **Again, EDI will be used to arrange for the transportation** with specialized messages for load tendering and booking. As the goods are transported, the trucking or rail company may provide a shipment status update electronically to the buyer and/or supplier. And when the goods arrive at their final destination, the transportation carrier will typically send an electronic proof of delivery back to the supplier as a confirmation.

Once that delivery is confirmed, the supplier sends an electronic invoice to the department store requesting payment. The retailer’s accounts payable group will validate the invoice to ensure accuracy and compare it to the PO and actual goods received. In some cases, the products may have been damaged while in transit. In other cases, the supplier may have shipped the wrong quantity or type of product. If this occurs, a deduction or debit is posted against the invoice. Suppliers are again notified of these issues through an EDI transaction and offered the opportunity to dispute the retailer’s deduction. Upon resolution of any disputes, the invoice is approved. However, approval does not equate to a payment.

6.) The Final Degree—Payment

Here is where we connect **the final link of the process—the Kevin Bacon theory connection**, if you will—the payment. There are many factors that contribute to how and when payment is received—extended payment terms, expedited payments, invoice bundling/outsourcing to a third party, or finance programs for payment upon receipt are just a few of the common contributors. In the latter two models, the supplier is paid immediately in exchange for a 1%-2% discount against the value of their invoice. **The use of electronic invoicing is critical to ensure the approval and payment processes can be expedited**.

Assume that the supplier did not elect to receive an early payment for the invoice. In that case, the retailer will wait until a few days before the invoice matures and then send a payment instruction to their bank to transfer funds to the supplier. The electronic funds transfer may be performed immediately using a wire transfer system or in one to two days using an Automated Clearing House (ACH).

All of the electronic funds transfers leverage B2B integration technologies. The retailer sends the payment instruction to the bank in a specialized EDI or XML document. The banks use electronic transactions standardized by the National Automated Clearinghouse Association (NACHA) to affect the funds transfer. In addition, the retailer will also send the supplier a remittance advice in EDI format with a detailed explanation of the payment made as well as any credits or debits issued against the invoice.

So, we've traveled around the world and through an entire supply chain to demonstrate how **a shipment is never more than six degrees of separation from B2B e-commerce technologies**. And just how much EDI can affect what products you see at your local retailer and how soon you see them. Now, that's pretty amazing.