

9.4: Track and Trace Systems and Reverse Logistics

Learning Objectives

1. Understand why being able to trace products is important to organizations and their customers.
2. Explain what reverse logistics is and why firms utilize it.

As we have explained, shippers are highly anxious when their products are in transit because the merchandise is valuable and because it is exposed to more risks when it's traveling across the country than when it's sitting in a warehouse or store. Shippers want to know where the goods are, when they will arrive, and what kind of shape they are in. After all, they can end up in the wrong place, be damaged, or stolen. (Do you remember the 2008 incident in which when Somali pirates captured the *Maersk Alabama* and held its captain hostage? The cargo ship was carrying seventeen thousand metric tons of freight at the time.) The result can be unhappy customers and lost sales and profits.

Track and Trace Systems

In recent years, track and trace systems that electronically record the paths shipments take has become almost as important to businesses as shipping costs themselves. Being able to help trace products helps a company anticipate events that could disrupt the supply chain, including order shipping mistakes, bad weather, and accidents so they can be averted.

Today most product shipments can be traced. GPS devices are sometimes placed on containers, railcars, and trucks to track the movement of expensive shipments. Tracing individual products is harder, though. Systems that utilize electronic product codes and RFID tags are not yet in widespread use. Produce is a product that's hard to trace. You have probably noticed that the bananas, peaches, and other types of produce don't have barcodes slapped on them. Products that are combined to make other products are also hard to trace.

Being able to trace products is important not only to businesses but also to consumers. Consumers are more interested than ever in knowing where their products come from—particularly when there is a contamination problem with an offering. Products containing salmonella infested peanuts, tomatoes, and contaminated milk have sickened and caused the deaths of consumers and their pets across the globe. Even if the source of the contaminated product is known, consumers can't tell exactly where the products originated from, so they stop buying them altogether. This can devastate the livelihood of producers whose products aren't to blame.

Companies are working to develop systems that may one day make it possible to trace all products. The Chinese government is working toward that goal in conjunction with a Norwegian company called TraceTracker. TraceTracker is testing an online service that can identify and track each batch of every product that is merged together in the global food chain, from raw ingredients to products on supermarket shelves (Schenker, 2008).

Reverse Logistics

So what happens if products end up broken or unusable as they travel through their supply chains? And what do companies do with scrap materials and other "junk" produced, such as packaging? Increasingly, firms now run products and materials such as these backward through the supply chain to extract value from them. The process is known as reverse logistics.

Patagonia developed a reverse logistics systems for environmental reasons. After garments made by Patagonia are worn out, consumers can mail them to the company or return them to a Patagonia store. Patagonia then sends them to Japan to be recycled into usable fibers that are later made into new garments. The company has also convinced other clothing makers to do the same, even though it can add to the cost of products.



Figure 9.13: The first product collected and recycled by Patagonia was its polyester-spandex underwear. The underwear was chosen because it has no buttons or zippers that have to be removed¹.

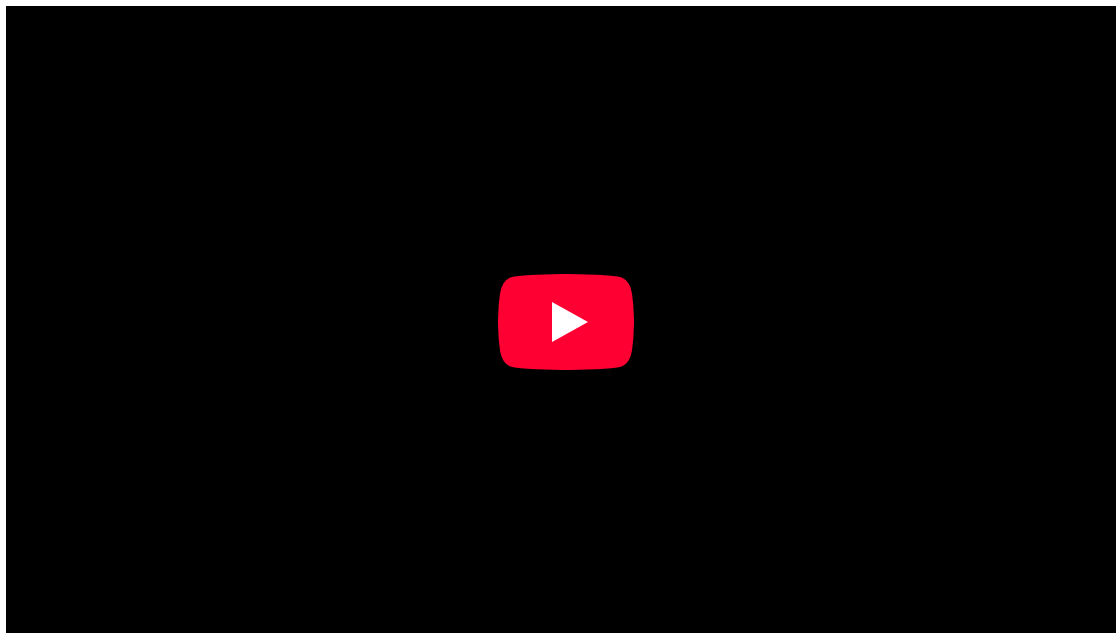
Travis – [Panties](#) – CC BY-NC 2.0.

Most companies set up reverse logistics systems to “turn trash into cash.” Pittsburgh-based Genco is firm that specializes in reverse logistics. Companies like Best Buy, Sears, and Target hire Genco to find buyers for defective or broken products. A recent study suggests companies can recover up to 0.3 percent of their annual sales this way, which for Best Buy would amount to \$100 million a year².

TerraCycle, which we mentioned in Chapter 5, is a company dedicated to extracting value from waste and using it to create new products—a process that’s being called “upcycling.” In addition to selling fertilizer in used (but relabeled) plastic bottles, TerraCycle makes backpacks and pencil cases out of the metallic juice pouches used in drink boxes. The company also creates tote bags out of plastic bags, and contracted with Target to make clocks out of old vinyl records.

[Video Clip](#)

TerraCycle Turns Garbage into Gold



TerraCycle founder Tom Szaky explains how his company makes money while saving the planet, too.

Key Takeaway

Being able to trace products helps a company anticipate events that could disrupt the supply chain, including shipping mistakes, bad weather, and accidents so they can be averted. Most shippers have track and trace systems that can track product loads. Tracking individual products, especially after they are combined to make other products, is more difficult.

Consumers are more interested than ever in knowing where their products come from—particularly when there is a contamination problem with an offering. Reverse logistics is the process of running damaged and defective products and scrap materials backward through the supply chain to extract value from them. Companies are increasingly employing reverse logistics not only to save money but for environmental reasons.

Review Questions

1. Why is being able to track products important to companies? Why is it important to consumers? How can it add value to products?
2. What place does reverse logistics have in a company's supply chain?

¹“Patagonia’s Clothing Recycling Program: Lessons Learned, Challenges Ahead,” *GreenerDesign*, March 9, 2009, <https://www.greenbiz.com/article/patagonias-clothing-recycling-program-lessons-learned-challenges-ahead> (accessed December 2, 2009).

²“Reverse Logistics: From Trash to Cash,” *BusinessWeek*, July 24, 2008, <https://www.bloomberg.com/news/articles/2008-07-23/reverse-logistics-from-trash-to-cash> (accessed December 2, 2009).

References

Schenker, J. L., “TraceTracker Tracks Food Safety on the Net,” December 4, 2008, <https://www.bloomberg.com/news/articles/2008-12-04/tracetracker-tracks-food-safety-on-the-netbusinessweek-business-news-stock-market-and-financial-advice> (accessed December 2, 2009).

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