

## Module 1: What is Supply Chain Management?

Let's take a simple product like a bottle of water, clean water a **plastic bottle** a **plastic cap**, and a **label**. Buying them at the store or **vending machine** might cost you about a dollar fifty. How much of that do you think is **profit**?

A plastic bottle and a label that couldn't cost more than 50 cents and if you **buy them in bulk**, how could each bottle not give you at least a dollar in profit? Seriously, if you think you can make one dollar per bottle you should drop out of college right now and get into the **bottled water** business. You see, this right here illustrates one of the most common **consumer misconceptions**. Product cost is not **equal to material cost** and in business, you don't have the luxury of thinking only as a consumer. You need to think like a **business executive**, or better yet, an **entrepreneur**.

So in order to figure out where all that profit went, we need to imagine what it took for that bottle of water to **get into your hands**. First, you need to **negotiate** the **purchase** of **empty** bottles and caps. Those bottles will be much easier to **transport** if they're in boxes. We'll need to **shrink-wrap** those bottles so they don't fall out of the box. We can move a whole lot of boxes quickly if they're all **put on pallets**. In order to move the pallets, you'll need a **forklift** which means you'll need a forklift **driver**. That forklift will then take the pallet and put it into a truck which will require a truck, driver, **fuel**, and **insurance**.

Also, you'll need a label for that bottle of water. Therefore, you need to **design** the label, **print** the label and get the label **shipped to the plant**. Another truck, driver, more fuel, and insurance. Our water bottling plant won't be free and neither will the **energy** it uses. In our bottling plant, we'll have **employees** and bottling **machines**, and let's not forget the **day-to-day items** like lightbulbs, garbage bags, machine parts, **janitorial supplies**, toilet paper, and anything else that will be used at the plant by the employees.

We'll also need **access to** the drinking water. Machines will then **purify** the water. Other machines will **bottle** the water and **affix the labels to** the bottles. And still, another set of machines will **box**, **shrink wrap**, and then **palletize** the bottles. In order to move those pallets again, you'll need a forklift which means we'll need another forklift driver that forklift will then take the pallets and put them into trucks headed to the **distribution centers**. And as we've seen, those trucks will **require** drivers, fuel, and insurance. Those distribution centers will also require employees, forklifts, and energy. From the distribution center, they'll head out to **retail stores**, and still, another truck which will require a driver, fuel, and insurance. That store will need employees to **unload the truck**, **stock the bottles of** water on the **shelf** or **refrigerator**. If you have a refrigerator, you'll of course need energy. If we want to **secure our stock**, we may get a **security guard** or a **security system**. And of course, the store will **likely** get insurance.

Also, imagine the costs associated with **returning** and **replacing** bottles that are **damaged**. And for some reason, even bottles of water sometimes have 1-800-numbers which means you'll need a **staff call center** to answer the customer's questions about your bottle of water.

All those **materials**, boxes, people, machines, buildings, energy, fuel, and vehicles, they **cost money**. Those things weren't free and they probably weren't used **efficiently**. And it's likely that several bottles didn't **survive the journey** to the consumer.

By the way, the employees at the water company, you know the ones that work in **finance, accounting, marketing, human resources**, and IT, they want a **paycheck** too. So through that simple example of a super simple product, we're beginning to see that companies **face challenges** when they buy things, make things, move things, sell things, and service things which include **repair and maintenance**. And let's not forget companies need to do all these things using **sustainable materials energy and methods**. Guess whose job it is to make sure that all these things happen **flawlessly with minimal effort** and of course at a **minimal cost**.

The supply chain manager needs to be able to do all of these things. They need to give the customer the product they want when they want it, **as often as** they want it for a **reasonable price** while still **managing to make a profit**. This requires world-class skills and knowledge in the study of supply chain management. There's that scary term again "supply chain management". Let me try to make it friendlier by shuffling around the words, there you go, the management of the **chain of supplies**. For some reason, that just seems a whole lot easier to understand, doesn't it? But it also helps us understand the complex nature of supply chain management, I mean the management of the chain of supplies.

Now let's think of other products and what their supply chains might **encompass**, hamburgers, sweaters, coffee, tables, cars, and airplanes. Now I know what many of you are saying, but I live in a **service economy** so I won't be **manufacturing** anything, wrong again. As of 2008, the U.S. was still the number one **exporter of manufactured goods**.

So let's talk about service economy supply chains. Let's think of something you're probably familiar with, the **hotel industry**. What do hotels manufacture? **Lodging experiences, dining experiences, and spa experiences** which all together make up **vacation and conference experiences**. In order to do all these things **effectively and efficiently**, what's required? Hotels need to buy things like beds, **furniture**, televisions, **cable**, food, soaps, and **towels**. They also make things, or in this case, manufacture services like **housekeeping, meals, massages, and special events**. Hotels also move things like transporting clean towels and food **to and from the rooms** as well as transporting guests and their luggage **to and from the airport**. They even sell things like **in-room movies, internet services, and tickets to events**. And finally, they also provide services such as making **reservations**, organizing events, making **wake-up calls**, and even cleaning and **pressing** clothes.

Once again, we see that the **fundamental** skills learned in supply chain management can be used to manufacture **service experiences** as much as they aid in **manufacturing products**.

