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Introduction:

When we hear of a Supply Chain for any product , a few basic questions arise in our mind. The following Questions and Answers present the basics of a Supply Chain and give an outlook towards Supply Chain Management.

What is a Supply Chain?

A Supply Chain is a Channel through which a demand for a product is satisfied by means of supply of products through various entities present. The Entities in a Supply Chain are Suppliers, Manufacturer, Middlemen(Wholesaler and Retailer) and finally the Customer.

So the demand of the Customer is satisfied by supply of value added goods that travel through the Supply Chain entities.

What is Supply Chain Management?

Supply Chain Management deals with the total flow of Materials through the various entities in the supply chain (i.e. from Suppliers to Customers) so as to maximize profits , minimize costs for the entities in the supply chain while providing maximum delight to the customer.

What is the Supply Chain Process?

A Supply Chain Process consists of various Orders like Procurement Order , Manufacturing Order , Factory order , Distribution Order, and Customer Orders. The main concern of Supply Chain Management is how and when and in what quantity are these orders to be placed by each entity of the supply chain to his adjacent entity so as to achieve the objectives mentioned in the definition of Supply Chain Management.

What is the Scope of Supply Chain Management?

The following diagram explains the Scope of Supply Chain Management. The arrow marks in the diagrams indicate orders placed by adjacent Supply Chain entity to his predecessor. The triangles indicate the Inventory of goods each entity has.

Case1: Timbuk2

Part 1: About Mass Customization[1]

1. What channels does Timbuk2 sell through and which one is the most profitable? [Hint: The information about unit revenue for each channel can be found from Table 1. Compare the revenue and cost differences between channels. You will find out which channel is most profitable. Please do not use the data in Table 4, which is for Part 2 only.]

Timbuk2 sells through five different channels. The first channel is domestically, within the United States. Second, the international retail channel reaches people all over the world. The Corporate channel customizes bags with logos of businesses or corporations. The e-commerce channel caters to customers that order via Timbuk2’s website. Finally the last channel is classified as “other” and is for speciality items that have relatively low priority and margin. Based on the information in Table 1, the most profitable channel in 2002 was e-commerce, with sales of \$115,000.

Channel	Domestic	International	eCommerce	Corporate	Other
Profit	\$76,191	\$79,862	\$115,903	\$16,516	\$8,516

2. Timbuk2 implements mass customization to produce products sold through its “Build Your Own Bag” channel, i.e., its e-commerce channel. Should Timbuk2 focus exclusively on the e-commerce channel? Why?

Timbuk2 sells its product through different channels, such as traditional domestic wholesalers and retailers, e-commerce, corporate and international channels. In 2000, Timbuk2 saw the opportunity to replicate the success of its pre-designed bags and launched a mass customizations program online called “Build Your Own Bag” where Customers could see the virtual bag they were configuring or designing on their convenient computers. The e-commerce channel turned out to be the most profitable and strongest channel with sales almost at \$1.6 million in 2002.

Timbuk2 should focus exclusively on its e-commerce channel because

- ❖ It enables them to communicate with a consumer in a collaborative manner .This approach seeks to help those who struggle to spot exactly what they want and find themselves confused between a huge variety of options. Through decreasing options for an individual customer, a collaborative customizer helps to understand the needs of the customers and strives to make it clear to them.
- ❖ With mass customizations program Timbuk2 realized that custom designed bags are more popular than pre-made ones.
- ❖ Customer integration which getting the customer involved in designing the product.

3. What criteria Timbuk2 should use for selecting which options to offer in the ecommerce channel? Please discuss the impacts of the following options on the order placement (i.e. how consumers order the option online), manufacturing processes, facility layout, and added value to customers:

a) an added handle

Manufacturing Process: The management team would need to configure the machines and processes and then train the sewers how to make a bag with this option. An added handle may increase the time the bag is shipped due to added design.

Facility Layout: The facility layout may change to add an additional sewer that whose job task will be to add the additional handle.

Added Value to Customers: Customers can add a handle for comfort and alternative ways to carry the bag. This feature will increase the purchasing through the e-commerce channel because this customization option is not offered in stores.

b) different color logos

Manufacturing Process: The machines would need to be configured to add a multiple color setting for the logo.

Facility Layout: Remain the same as long as the same machines can be set up to produce multiple color options.

Added Value to Customers: Customers can see the color options available and see when a color is out of stock. This option gives the customer an incentive to order online instead of purchasing the standard bag with the traditional colored logo.

c) different size panels—means customers can specify panel sizes, which may be non-standard.

Manufacturing Process: The equipment needed to cut customized pieces of fabric with little setup time would be expensive.

Facility Layout: More machinery would be required, along with more sewers who will be responsible for the customization of the different size panels.

Added Value to Customers: Customers can customize the panel size to meet their specific needs. This added feature would encourage customers to order online so that they can customize their bag rather than buying a standard bag at a retail location.

Part 2: About Outsourcing to China

4. Estimate the cost of manufacturing a bag in San Francisco and the cost of manufacturing a bag in China (use Table 4).

	San Francisco	China	Difference
Direct labor cost	\$7.29 per unit	\$0.94 per unit	\$6.35 per unit
Manufacturing overhead	\$2.92 per unit	\$0.38 per unit	\$2.54 per unit
Materials	\$13	\$13	\$0
Other expenses	\$1.50	\$0.75	\$0.75
Shipping to SFO	\$0	\$0.10	-\$0.10

Shipping to customers	\$3	\$3	\$0
Total Cost	\$27.71	\$18.17	\$9.54

* Labor content is the sum of labor time to produce one product. For example, labor content of 35 minutes means that it requires 35 minutes of labor time to produce a bag.

5. Should Timbuk2 pursue the option of manufacturing in China? If so, what challenges/risks are they likely to face and how should they deal with these?

Based on the total cost of manufacturing in San Francisco (\$27.71) is greater than the total cost of manufacturing in China (\$18.17), Timbuk2 should pursue the option of manufacturing in China in order to lower cost and make more profit. However, Timbukuks will face many challenges and risks, such as losing customization strategy, increasing inventory and transportation costs, dealing with trading laws and regulation of Chinese government. Therefore, Timbuk2 should find a reliable partner and establish long-term partnership to ensure quality standard and production schedules, have a well understand of Chinese government's regulations, redefine company's strategy, and develop an effective supply chain network.

[1] Mass customization is a term used to describe the ability of a company to deliver highly customized products and services to different customers quickly and efficiently at low cost.

Case2:7-11

1. A convenience store chain attempts to be responsive and provide customers what they need, when they need it, where they need it. What are some different ways that a convenience store supply chain can be responsive? What are some risks in each case?

Apparently, in the convenient store industry, responsiveness is a key factor of the supply chain. convenience store can be more responsive by following seven eleven steps which are:

1- **Many locations:** the convenience store should designed to support a high level of responsiveness in terms of location. Locating stores extremely close to the customers to be responsive.

Risks: high cost and shift of demand.

2- **Rapid replenishment:** this allows for low levels of inventory by following JIT.

Risk: high replenishment cost.

3- **High inventory level:** large amount of inventory close to customers allow a supply chain to lower the cost and satisfied customers demand.

Risks: Holding a large volume of items on hand means you need a large amount of space to store your inventory. Keeping a large amount of perishable inventory on hand risks the possibility that you will be unable to sell some of the inventory in time before it goes bad, which can force you to throw away product. Another disadvantage of keeping a large amount inventory on hand is that certain goods might not sell due to shifts in market demand.

4- **Technology:** The most important driver of performance in supply chain. Good information can help improve the utilization of coordination of supply chain flow to increase responsiveness and reduced cost and improve product availability while decreasing inventory.

Risks: high costs to implementing IT system and also high maintenances costs plus if it breaks down the whole system will breaks down.

2. What is Seven-Eleven Japan's supply chain strategy (responsive vs. efficient)? What has Seven-Eleven Japan done in its choice of facility location, inventory management, transportation, and information infrastructure to develop capabilities that support its supply chain strategy?

To ensure efficiency, they based their fundamental network expansion policy on a market dominance strategy. Having a high-density market presence allowed it to operate an efficient distribution system.

· Facility location: cluster of 50 to 60 stores supported by a distribution center. They kept a limited geographic presence in Japan. In 2009, they had stores in 80% of the prefectures of

Japan. Instead of filling in all of Japan, they look for demand where Seven-Eleven stores already exist.

- **Inventory Management:** offered their stores a choice from a set of 5,000 SKUs. On average, each store carried about 3,000 SKUs depending on local customer demand. They emphasized regional merchandising to cater to local preferences.

- **Transportation:** Distribution system was flexible enough to alter delivery schedules depending on demand. There were 4 categories of temperature controlled trucks – frozen, chilled, room temperature processed, and warm foods. Each truck made deliveries to multiple stores during off peak hours and were received using scanner terminals.

- **Information Infrastructure:** major objective is to carefully track sales of items and offer short replenishment cycle times. This allows the store manager to forecast sales corresponding to each order accurately. The store manager uses a graphic order terminal to place orders within the given cutoff times for breakfast, lunch, and dinner. When the trucks arrive at their store, they then scan the delivery using the scanner terminals.

3. Seven-Eleven does not allow direct store delivery (by manufacturers) in Japan but has all products flow through its distribution center. What benefit does Seven-Eleven derive from this policy? When is direct store delivery more appropriate?

Seven-Eleven benefits from using distribution centers because this enables them to transport a variety of products in each truckload. Having a distribution center increases accessibility to products because all your products are centralized in one location. Having all your products in one central location will facilitate keeping track of where products are and making sure what is available.

Direct store delivery is more appropriate with time sensitive products, such as perishable food items. Items that require certain methods of storage and handling would benefit from direct store delivery. This form of distribution is also appropriate for small shipments that can be delivered directly to a store.

4. The 7dream concept allows e-commerce sites (not just Seven-Eleven online store) to use Seven-Eleven stores as drop-off and collection points for Japanese e-commerce customers. What do you think about the 7dream concept for Seven-Eleven in Japan? From a supply chain perspective, is it likely to be more successful in Japan or the United States? Why?

I think the 7dream is a great concept for Seven-Eleven in Japan because customers can avoid the shipping cost and cut unnecessary time in stores such as choosing items and waiting in the checkout line. Similarly, the company can also reduce shipping and handling cost to customer houses.

From a supply chain perspective, it is likely to be more successful in Japan because the stores density is higher.

5. Seven-Eleven manages its own distribution function. In contrast, some convenience stores are replenished by the third party distributors. What are the pros and cons to having a third party distributor replenish convenience stores?

Convenience stores that use third party distributors outsource one area of their supply chain to another party. This tactic can be very useful in that it provides more convenience; outsourcing to a third party will leave the owner of the store to focus on other important areas, as well as only having to pay one company every month for the outsourcing. Another pro would be flexibility; being able to choose among different third party distributors to find the best price and match with the company. Along with these professionalism is a major pro of third party distributors. Most third party companies are experienced in what they do, so it should be assured that all of the merchandize will be properly packaged, shipped, and delivered. However, no system is perfect, there are a few cons to third party distributors as well. Cost would be the major one, as well as a loss of control. When you pass your goods to the third party you are putting it entirely in their control, and so if an order is late or wrong, you have less power over what will happen. At the same time, third party companies are liable for one of the most critical functions of the business, so a mistake made by them directly reflects on the convenience store, and consumers will blame you, not your third party.

Case3:Blue Nile

1. Think about the customer service factors and cost factors learned in Chapter 4 (listed in the table), what are some key success factors in diamond retailing? How do Blue Nile, Zale's, and Tiffany compare on those dimensions? (Please see Tables 4.1-4.6 for examples.)

		Blue Nile	Zale's	Tiffany
Customer Service	Response time	Longer to fulfill a customer request because of shipping time involved	Same-day (immediate) Pick up possible for items located at store	Same-day (immediate) Pick up possible for items located at store
	Product variety	Advantage over product variety because it provides a "build your own ring" option the customers can choose Starts with 4 Cs Cut, Color, Clarity, and Carat Can have larger selection (70,000 options)	Does not provide the product variety and availability that Blue Nile does Low	Tiffany's high end products include diamond rings, wedding bands, gemstone jewelry, and gemstone bands with diamonds as the primary gemstone Also included items such as watches and high end items for the home such as crystal and sterling silver serving trays
	Product availability	Online sales only United States, Canada and United Kingdom Aggregating inventory improves product availability. Better information on customer preferences also improves	Stores located around the world. Kiosks. Piercing Pagoda Higher: the increase in handling cost at the pickup site can be significant for online and phone orders	Catalog/Websites no engagement jewelry Stores/boutiques located around the world Higher: the increase in handling cost at the pickup site can be significant for online and phone orders
	Customer experience	Internet sales – some do not want to buy a ring they haven't touched Place order at any convenient time. Allow firm access to customers who are	Related to whether shopping is viewed as a positive or negative experience by the customer	Positive – blue Tiffany's box is signature Upscale store Brand became so strong that it helped set diamond and platinum purity

		geographically distant Create a personalized buying experience Increase ease in which one does business		standards all over the world The Tiffany brand's association with quality, luxury, and exclusivity was an important part of its success
	Time to market	Faster: introduce new product quicker	Highest among distribution options	Highest among distribution options
	Order visibility	Provide visibility of order status crucial because an online order has no physical equivalent to a customer shopping for an item at a retail store	Trivial for in-store orders. Difficult, but essential for online and phone orders	Trivial for in-store orders. Difficult, but essential for online and phone orders
	Returnability	Harder to return Proportion of returns likely to be higher because customers cannot touch and feel before they purchase	Easier because retail store can provide a substitute	Easier because retail store can provide a substitute
Cost	Inventories	Single warehouse in the US where it stocked entire inventory = low costs Lower inventory levels by aggregating inventories far from customers if most customers are willing to wait for delivery	Increases inventory costs because of the lack of aggregation.	Increases inventory costs because of the lack of aggregation.

Transportation	Aggregating inventories increases outbound transportation relative to inbound transportation Aggregated inventories tend to have higher costs per unit because of the increased outbound costs	Much lower than with other solutions because inexpensive modes of transport can be used to replenish product at the retail store.	Much lower than with other solutions because inexpensive modes of transport can be used to replenish product at the retail store
Facilities and handling	One warehouse in U.S. costs associated with operations that take place here.	Facility costs are high because many facilities are required	Facility costs are high because many facilities are required
Information	Can share demand information through its supply chain to improve visibility Share planning and forecasting information within the supply chain. Further improving coordination Information is an enabler of many benefits of online sales	Minimal information infrastructure is need if customers walk into the stores and place orders.	Minimal information infrastructure is need if customers walk into the stores and place orders.

2. Blue Nile sells about 30,000 stones priced at \$2,500 or higher online, while almost 60 percent of the products sold from the Tiffany website are priced around \$200. Which of the two product categories (high-value items with relatively low demand and high demand uncertainty vs. low-value items with relatively high demand and low demand uncertainty) is better suited to the online channel? What do you think of Tiffany’s decision to not sell diamonds online?

Based on the fact that “Blue Nile sells about 30,000 stones priced at \$2,500 or higher online,” I think the **high-value items with relatively low demand and high demand**

uncertainty is better suited to the online channel because the company can reduce inventory holding cost and operating costs while still be able to offer customers a broad product variety and product availability.

I think Tiffany's decision to not sell diamonds online is to **maintain its traditional brand strategy by associating it with the store experience**. Tiffany focuses on offering customers the face-to-face service, and giving them luxury and quality experience that customers can perceive when visiting a Tiffany store. In addition, Tiffany's target market are customers who want to purchase luxury items and ignore the cost differences in exchange for better service and direct personal consultancy. Furthermore, Tiffany can also utilize the limited facility space to highlight luxury items and customer service and offer the variety of low price items online; then, avoid the direct competition with Blue Nile as well.

3. Given that Tiffany stores have thrived with their focus on selling high-end jewelry, what do you think caused the failure of Zales with its upscale strategy in 2006?

Zales was competing with department store chains such as Wal-Mart and JCPenney that sold fine jewelry at a low cost. **In order to compete with a changing jewelry market they changed their business model to cater to customers who were in the market for quality and fashionable jewelry**. Unfortunately for Zales potential customers were reluctant to this change and continued to buy at discount stores. Zales drastically changed their business model without gradually preparing their customers for this change.

Zales was **not an established high-end jewelry company like Tiffany's**. So for them to compete with Tiffany's by implementing high end products caused them to increase their cost in inventory while also having low profit margins. Even if Zales executed their strategy differently it would have been difficult to compete against a stronger brand name.

4. Which of the three companies do you think is best structured to deal with weak economic times?

Tiffany is best structured to deal with weak economic times. When looking at cost factors as well as the customer service factors, Tiffany outranks the other two companies in most factors. They offer **immediate same-day pickup, a wide variety of products, as well as many ways to get the products**. They are a well-known brand name and have positive customer views including their signature Tiffany blue box, upscale stores, and quality, luxurious, and exclusive products. They get their products out fast and can provide options when a customer wants to do a return. They do have **higher inventory costs** because of a lack of

aggregation and **facility costs are high** due to many facilities being required, but they have **lower costs when it comes to transportation** because they just have to deliver to the stores and **lower information costs** because the customers come in for information. Overall, Tiffany seems to have the best structure and would prevail over the other companies in weak economic times.

5. What advice would you give to each of the three companies regarding their strategy and structure?

BLUE NILE: Currently Blue Nile is operating within the U.S, Canada and United Kingdom but in order to be very successful in the e-commerce market, the company needs to **reach out to foreign markets. International exposure would increase the use of marketing to attract more customers.**

Blue Nile has a concentrated supplier base. The company's top three suppliers accounted for approximately 21%, 21% and 25% of the company's total purchases. By **having such a large percent of purchases come from one supplier it really puts pressure on the company because they rely so heavily on one supplier and any trouble with this supplier could result in major losses of Blue Nile. Relying too heavily on select suppliers gives the suppliers the advantage of dictating their prices.** Lack of brand recognition in the marketplace. **(expand to other suppliers)**

Blue Nile's supply chain structure is geared toward a pure centralized e-business. Blue Nile can be accessed by millions of people through their websites. **It is great that they focus so much on the customer experience and building long-term relationships, but for future growth one cannot simply rely on those two things. To keep up with the present, and even stay ahead of the competition, Blue Nile has to come up with new strategies.** When searching online for jewelry and diamonds in particular, the company has done well in establishing their address in the different search engines. However, even though these things have taken the company to where they are today, there is a need for developing and increasing the customer base.

· What could be done:

- **Improve the collection of jewels**
- **3-D view of diamonds**
- **Create a mechanism to identify the ring size**
- **Auction sales**
- **Invest more in advertising to attract more customers and receive more publicity.**

- **Focusing on the customer experience.**
- **Emails about sales, new offers and new products should be sent out to existing customers.**
- **Increase the brand awareness could be TV commercials**

ZALES: It is apparent the problem of decision making about their supply chain strategies and inconsistency of positioning reflected customer experience and made them unsatisfied. In addition to this, they could not manage their inventories. Zale's needs to **get control of its inventories. One way to do this is to centralize more of its expensive diamond inventory, making it available to stores as needed.** They should **serve product variety and availability**, and that is what leads to customer experience; returnability options that Blue Nile served successfully. International markets offer Zale Corporation new opportunities to expand the business and increase sales. **Greater innovation can help International markets** offer Zale Corporation new opportunities to expand the business and increase sales. **New technology** helps Zale Corporation to better meet their customer's needs with new and improved products and services. Technology also builds competitive barriers against rivals plus New Technology will have a long-term positive impact on this entity, which adds to its value

TIFFANY: Tiffany is one of the leading brand names in the fine jewelry market. It is one of the world's premier jewelry designers and retailer. Tiffany & Co. is known for being innovative, and this would be a good opportunity to differentiate themselves from their high-end discounting competitors. Discounting a price is never an option for Tiffany's, these lower priced products are likely to alienate the jewelry firm's older, wealthier, and more conservative clients. In the end, it could possibly forever damage Tiffany's timeless reputation and image for luxury. Tiffany should **devote a high amount of time and effort to its marketing and advertising strategies.** Tiffany's could **introduce more high quality, yet appropriately priced, lines of jewelry to accommodate this volatile time period.** This option focuses on stimulating short-term sales to stabilize the company during the recession. Tiffany should **continue emphasizing internet shopping, target demographics, and store growth.**

