

Manhattan, and Brooklyn, but was forced to shut down in the fall of 2000 owing to a lack of funding; Kozmo, which raised more than \$280 million in funding and operated in eleven cities, folded in early 2001.

Opinions were clearly divided about the potential for success with same-day delivery. One writer opined that “this move [by Amazon] will shake up the retail industry,”⁵ whereas a *New York Times* article countered that “some retail analysts are questioning whether the expense and difficulty of same-day delivery would be worth it.”⁶

Study Questions

1. Why has same-day delivery of pizza been successful, whereas the practice has failed in other settings (e.g., Kozmo.com)?
2. Under what conditions can same day delivery be offered at low cost?
3. What are the characteristics of businesses that can succeed with same-day delivery? Can Amazon, Walmart, or Instacart succeed with same-day delivery? Which model is likely to do better? Why?

⁵ Farhad Manjoo, “I Want It Today: How Amazon’s Ambitious New Push for Same-Day Delivery Will Destroy Local Retail,” *Slate*, July 11, 2012.

⁶ Stephanie Clifford, “Same-Day Delivery Test at Wal-Mart,” *New York Times*, October 9, 2012.

CASE STUDY

Selecting Transportation Modes for China Imports

Jackie Chen, vice president of China Imports, was looking to design a framework to select transportation modes for various products imported from China to the United States. His basic options were to either use air freight or ocean shipping in 20-foot containers. Air freight was faster and more reliable, but ocean shipping was much cheaper. He decided to evaluate the shipping decision for two very different product categories—consumer electronics, such as smartphones, and decorative hardware, such as door handles and hinges.

China Imports provided a variety of products to its customers from a warehouse near the port of Long Beach, California. The company incurred an annual holding cost of 25 percent on all inventory held and aimed to provide a 98 percent cycle service level on its products. The high level of service aligned with the high quality of products that the company imported.

Transportation Options from China

Air freight and ocean shipping were the two options available to move product from China to the United States. Air freight charged \$10 per kilogram shipped and required a minimum shipment of 50 kg. Besides being fast, air freight was also quite reliable. The average lead time on air freight was one week, with a standard deviation of lead time of 0.2 weeks. Ocean shipping was much cheaper and cost \$1,200 per 20-foot container. Given that each container could hold up to 15,000 kg, the shipping cost per kilo by ocean was more than a

hundred times cheaper than air freight. Ocean shipping, however, took longer and was less reliable. The average lead time using ocean shipping was nine weeks, with a standard deviation of three weeks.

Product Characteristics

Weekly demand for smartphones averaged 1,000 and had a standard deviation of 400. Each smartphone cost \$300 and weighed 0.1 kg. The typical life cycle for a smartphone was about one year; it was critical to not lose demand early in the life cycle because of a lack of product availability. Weekly demand for decorative hardware averaged 5,000, with a standard deviation of 1,000. Each unit of decorative hardware cost \$20 and weighed 1 kg. Decorative hardware tended to have a long life cycle—the company was still selling door handles and hinges that were introduced more than a decade earlier.

Study Questions

1. What is the annual cost of using air freight to import smartphones? What is the annual cost of using ocean shipping to import smartphones?
2. What is the annual cost of using air freight to import decorative hardware? What is the annual cost of using ocean shipping to import decorative hardware?
3. What other factors should be considered in the choice of transportation mode? What mode would you recommend for each product? Suggest a general framework that Jackie can use across all product categories.

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