

Chapter 1: Operations and Supply Chain Strategy

End of Chapter Questions

1. **Examples of structural and infrastructural decisions a Days Inn would need to make.**

Structural Decisions:

Capacity: This deals with how many rooms to have in each hotel, the relative size of each room, and how closely to try to match capacity to demand. In general, a Days Inn is likely to try to keep much less capacity cushion than a Four Seasons since the cost of not serving a customer (i.e. having no rooms left) is much less than at a Four Seasons.

Facilities: The Days Inn needs to design each hotel to include a mix of rooms and public facilities (i.e. the lobby, breakfast area, gift shop etc.). A lower cost hotel like a Days Inn is much more likely to have very limited and very functional public spaces. In contrast, the Four Seasons will have very generous, expensively furnished lobby space and areas such as a restaurant (usually more than one), a gift/apparel shop and perhaps a spa. In all cases the Days Inn will either not have the same type of facility or will have a much more utilitarian version.

Infrastructural Decisions:

Workforce: This is one of the biggest differences between a Days Inn and a Four Seasons. The Days Inn will hire relatively few, general purpose workers. Usually one person will man the front desk and be responsible for checking customers in/out, answering the phone, giving directions to customers and fixing any problems. Often customers will have to wait when the desk clerk is busy. In comparison, the Four Seasons will have multiple people at the front desk and more excess capacity. There will be a dedicated concierge to answer questions about where to eat dinner, see shows, sightsee, etc. The Four Seasons will employ many more specialists, but these people will be less utilized on average so that there is more cushion.

Quality Systems: While both hotels care about quality, the approaches used will differ substantially. Days Inn will be concerned primarily with conformance quality. The quality system will be designed to periodically assess key measures but will not include high cost recovery mechanisms. In comparison, Four Seasons will take extra steps. For example, most high quality hotels employ an engineer or maintenance chief who is on call 24 hours a day. If there is a major problem such as a broken toilet in a customer's room, the hotel will get that fixed within an hour. In contrast, the Days Inn might just move the customer to another room and not rent the room with the broken toilet until a plumber can get there during normal business hours. This approach is lower cost but substantially less convenient for customers.

2. **Examples of structural and infrastructural decisions that a manufacturer of low cost computers would make.**

Structural Decisions:

Facilities: These are likely to be in low-cost, developing countries such as China or Mexico. The cost savings is traded off against a longer lead time to deliver computers to different countries. Dell builds its manufacturing plants in the markets it plans to sell computers in since it wants to be close to customers in order to minimize delivery lead time.

Vertical Integration: Typically the low cost manufacturer will seek to find the lowest cost supplier regardless of location and will change fairly often if a lower price is found. Dell typically will maintain a longer relationship with most suppliers and will highly value the reliability of delivery time instead of simply looking at the cost of parts.

Infrastructural Decisions:

Production Planning/Scheduling: This is one of the biggest differences. The low cost manufacturer operates a push system where it will plan large quantities of each computer model well in advance to a forecast. These computers will be manufactured and sent to a distribution center or retailer for sale. When the forecast is too high, the manufacturer will have to sell computers at a discount to get rid of models that are old or obsolete. When the forecast is too low, sales will be hurt because customers will be unable to get what they want. In contrast, Dell builds computers to order. It still needs to forecast the number of components (i.e. hard drives, RAM chips, CDs etc.) but it waits to get firm customer orders before assembling each computer. Dell uses quite a bit of yield or revenue management to encourage customers to change their orders. For example, if Dell is running low on 320 GB hard drives, it might offer an online discount where a customer can get a 500 GB hard drive for the same price.

Dell Competitive Priorities: While price and cost is certainly important to Dell, the ability to offer flexibility is probably more important. After all, Dell allows you to design the computer you want. Delivery is important, but the goal is not necessarily to be ultra-fast but instead to be reliable. A customer must already be willing to wait 3-5 days to get their computer as opposed to going to a store like Best Buy and getting one immediately. The important thing for Dell is getting the computer to the customer within a “reasonable” time frame – if the 3-5 day quote for delivery slips to 9 days that is quite bad!

3. Compare two restaurants:

	Taco Bell	Hyde Park Steakhouse
Competitive Priorities:	<p>Cost: 40 points Delivery: 30 points Quality: 15 Flexibility: 15</p> <p>People go to Taco Bell because of their low cost and fast delivery. Quality is important in the sense that the food must be edible and not have any health problems, but not much more is expected. Flexibility is limited to different combinations of the same 8 – 10 ingredients.</p>	<p>Cost: 10 Delivery: 15 Quality: 40 Flexibility: 35</p> <p>The most important thing is high quality and high choice. Customers are willing to pay more money and wait a bit longer for a meal (but not spend <i>too</i> much money or wait <i>too</i> long.)</p>
Facilities:	<p>Very functional, limited space for dining, designed for productivity</p>	<p>Very nicely decorated, much more “elbow room”, designed for customer comfort while productivity is a secondary concern. For example, having the bar in the front and kitchen in the back is definitely NOT the first choice of the waitstaff. This is done to appeal to customers and to get them to spend more money.</p>
Workforce:	<p>Very general and low skilled.</p>	<p>More specialized and higher skilled – particularly in the kitchen.</p>
Quality Systems:	<p>Quality starts with conformance. Strict, standardized systems used to train all workers the same way to get the most out of low-cost, low skilled workers.</p>	<p>Quality starts with the highly skilled workforce. More individualized training. Cooks go to specialized culinary schools.</p>
Technology:	<p>Very specialized. Example: cash registers with pictures and buttons for value meals to increase low skilled cashiers’ accuracy and speed.</p>	<p>Very general purpose, primarily used to improve customer experience.</p>

End of Chapter Case Questions

Natural Designs, Inc.

1. **What types of decisions must Jim McMaster make on a daily basis for Natural Designs to run smoothly? What kind of decisions must he make on a long-term basis?**
 - a. Structural decisions tend to be long-term.
 - i. Capacity—Purchase additional equipment for customizing bird feeders (painting and carving)? Outsource production of custom bird feeders during busy times (fall and spring, in the case)?
 - ii. Technology—Automate the customization process using an industrial robot, especially carving?
 - iii. Facilities—Build new facility?
 - iv. Vertical integration/sourcing—Buy a stake in a company that manufactures bird feeders?
 - b. Infrastructural decisions tend to be shorter-term.
 - i. Workforce—Increase full-time staff? Use temporary labor during busy season?
 - ii. Production planning and scheduling (This is a bit beyond students' knowledge base at this point.)
 - iii. Quality systems—Survey customers itself (instead of relying on anecdotal evidence from retailers)? Hire a product inspector?
 - iv. Organization—Create employee problem-solving teams?
2. **Describe the operations strategy for Natural Designs. Has this strategy changed as a result of the custom bird feeder operation? If yes, how?**
 - a. This is somewhat quality based. Because McMaster was a science teacher and birding expert, customers can expect his feeders to have the right features. As they are made in a small domestic facility, customers can expect good levels of quality. However, because the processes do not appear to be highly automated, product consistency may not be paramount.
 - b. With the carved and custom-painted products, the strategy has shifted toward product flexibility.
3. **What might have been done differently to facilitate the offering of custom bird feeders?**
 - a. These could have been subcontracted to a company that can do custom carving and painting (or one company for each operation). Carving, in particular, is probably not a capability that the company has historically been good at.
 - b. They could have offered fewer colors or quoted longer lead time.
4. **How should McMaster analyze the alternative expansion options? Which would you recommend: a second facility or a move to a single larger facility?**
 - a. Note: Some good opportunities present to discuss operations' alignment with other functional strategies.
 - b. McMaster needs to think about how much demand will grow in the future and how certain he is about his estimate (Marketing–Operations interface).
 - c. How much does he have to invest (Finance–Operations interface)?
 - d. Is there another market, such as west coast or east coast, to which he would like to be closer (Marketing–Operations interface)?
 - e. Can he, and does he, want to handle the management complexities that two locations create (HR–Operations interface)?