

CASE STUDY

Boutique Hotels

Currently, there is no one definition of a boutique hotel; however, most people think of a boutique hotel as a small, upscale hotel with a hip environment where the customers feel connected to the staff.

The beauty of the boutique segment is that it provides a wide range of opportunity for developers. Unlike the name implies, boutique properties no longer have to be small to fit into the category; they can have hundreds of rooms. What hotels do need to have to enter into the expanding segment is panache, some roster of unique features, services, or amenities that set them apart and easily confirms that sense of exclusivity upon guests by association.

—*Stefani C. O'Connor, Executive News Editor, Hotel Business, 10/06*

Even though people seem to disagree on the definition of boutique hotels, most commentators agree that they have four major defining characteristics. First, as a general rule, boutique hotels put more emphasis on design and architecture than traditional chain hotels.² Incorporating cutting-edge design and décor and featuring celebrity architects and designers' work, boutique hotels look very distinctive inside and outside. These interior and exterior designs create the "personality" or "identity" of each hotel.³ For example, each guest room in Library Hotel in New York City has a different theme, such as romance and music. The goal of these hotels is to create a unique, intimate, and stylish environment that makes every single stay different, even for repeat guests. Boutique hotels try to entertain their guests by creating a theatrical atmosphere that attracts all the senses through the use of design, color, lighting, aroma, and music.⁴ The second common feature is superior personal service.⁵ Intimacy and familiarity between hotel staff

and guests are emphasized; for example, a warm, caring attitude on the part of management and staff is encouraged, and staff members acknowledge guests by name.⁶ Also, boutique hotels are known to provide a higher quality and wider range of guest amenities; such hotel properties surpass the standard amenity set by providing whimsical offerings such as stuffed goldfish, pillow menus, and complimentary candies and nuts. Technology is also widely used to enhance the cutting-edge design, fashionable image, and convenience. Every room has high-speed Internet access, a flat-screen TV, a DVD player, and other latest technological gadgets.⁷ The third feature is the number of rooms. Most commentators agree that boutique hotels should not exceed 150 rooms to maintain the intimacy between the guests and the hotel staff, and the personalized attention by the staff. Recently, however, there seems to be no upper limit on the maximum number of rooms; for example, among properties operated by Ian Schrager, Paramount Hotel has 594 rooms, and Hudson Hotel has 821 rooms.⁸

The last characteristic is the market that is attracted to boutique hotels. These hotels generally target customers who are in their early twenties to mid-fifties, in the mid- to upper-income brackets. Also, these hotels' corporate accounts include media, fashion, entertainment, and advertising companies that are attracted to the trendy design and lively atmosphere.⁹

Although boutique hotels might vary in many aspects, they can be grouped into two types based on their location.¹⁰

The first type is city destination hotels. These hotels are in urban edgy and chic neighborhoods in major cities like New York, London, San Francisco, and Miami. However, even though many boutique hotels are still located in major cities, more companies have recently been targeting less cosmopolitan

- ¹ Richard Miller and Kelli Washington, *Hotels and Reports 2007* (Georgia: Richard K. Miller & Associates, 2007).
- ² Lucienne Anhar, "The Definition of Boutique Hotels," HVS International, December 13, 2001, January 29, 2008; <http://www.hospitalitynet.org/news/4010409.print>.
- ³ Jones Lang Lasalle Report.
- ⁴ Anhar, "The Definition of Boutique Hotels."
- ⁵ Paula Drayton and Kristy Rodwell, "Boutique Hotels: An Australian Perspective," September 29, January 29, 2008; <http://www.hotel-online.com/Trends/Andersen/2001-BoutiquePerspective.html>.
- ⁶ Harry Nobles and Cheryl Thompson, "What Is a Boutique Hotel?" December 2001, January 30, 2008; http://www.hotel-online.com/News/PR2001_4th/Oct01-BoutiqueAttributes.html.
- ⁷ Peter Jones, "Boutique Hotels," October 18, 2004, March 2, 2008; <http://hotel-online.com/Views/1000.html>.
- ⁸ Ibid.
- ⁹ Jones Lang Lasalle report.
- ¹⁰ Anhar, "The Definition of Boutique Hotels."

cities. Unlike traditional hotels, proximity or convenience is irrelevant for boutique hotels, but they are often located in cities with vibrant economies that are media or big fashion capitals to best attract their target market.

The second type is resort destination hotels. Located in well-hidden deserted corners of islands or mountains tucked away from the world, these hotels are smaller, more intimate, and less technology-focused. Unlike city destination hotels, the guest experience is based not on having cutting-edge technology, but on excluding it. Also, the more difficult it is to reach the destination, the more fashionable the location is considered. The goal of these hotels is to provide the ultimate "get away from it all."

QUESTIONS

1. What are the operational challenges associated with developing new boutique hotels?
2. What can we learn from the mass customization of tangible goods (e.g., Lands' End or Dell) that can be applied to the mass customization of services (e.g., boutique hotels)?
3. How can boutique hotels maintain a consistent/standard level of service without compromising their unique/personalized service mission?

Source: This case study was developed by Melissa Reich and Ho Jung Kim under the guidance of Rohit Verma.

SOLVED PROBLEM 3

P-System: Fixed Period

The demand for a given type of socks at a sporting goods store is 1,976 pair, the holding cost is \$0.50 per pair of socks per year, and the setup cost is \$20 per order. Lead time is 3 weeks, and $\sigma_1 = 4$. A cycle-service level of 88 percent is desired.

Determine the period (P) and the target inventory (T).

SOLUTION

We first calculate the economic order quantity as

$$EOQ = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 * 1,976 * \$20}{\$0.50}} = \sqrt{158,080} = 397.59$$

which we round up to 398.

Next, we calculate the period that best approximates this EOQ, using Equation 6.

$$P = \frac{EOQ}{\bar{D}_t}$$

$$\text{where } \bar{D}_t = \frac{1,967 \text{ pairs of socks/year}}{52 \text{ weeks/year}} = 38 \text{ pair of socks/week}$$

$$P = \frac{398}{38} = 10.46 \text{ weeks}$$

which we round to the nearest integer, or 10 weeks.

Next, we determine the target inventory level, T , by first looking up the number of standard deviations of demand that corresponds to 88 percent. From the Appendix, we look for the value closest to 0.8800; there is a value of 0.8790 ($z = 1.17$) and a value of 0.8810 ($z = 1.18$), so we use $z = 1.175$ as a rough interpolation between the two values. We also use $\sigma_{P+L} = \sigma_1\sqrt{P+L} = 4\sqrt{10+3} = 14.42$.

$$T = \bar{D}_{P+L} + z\sigma_{P+L} = 38 \text{ pair of socks/week} * (10 + 3) + 1.175 * 4 * \sqrt{10 + 3} = 494 + 16.95 = 510.95$$

which we round up to 511.

QUESTIONS

- The current order quantity for Paul's Pasta Pin-wheels is 200 boxes. The order cost is \$4 per order, the holding cost is \$0.40 per box per year, and the annual demand is 500 boxes per year.
 - Calculate the annual holding cost plus the annual ordering cost to get the total annual cost when using an order quantity of 200 boxes.
 - Calculate the EOQ and the total annual cost for this order quantity.
- The current order quantity for Electric Powerbars is 100 bars. The order cost is \$10 per order, the holding cost is \$0.25 per bar per year, and the annual demand is 2,000 bars per year.
 - Calculate the annual holding cost plus the annual ordering cost to get the total annual cost when using an order quantity of 100 bars.
 - Calculate the EOQ and the total annual cost for this order quantity.
 - How many orders per year are necessary when $Q = 100$? How many orders per year are necessary for the EOQ in part *b*?
 - Graph the annual inventory cost (IC) using MS Excel. Show the holding cost, ordering cost, and total inventory cost as a function of order size Q .

3. Hottenstein, Giffith, and Hult, attorneys at law, do a great deal of printing. The firm uses a single type of printer with annual demand for print cartridges of 480 per year. The order cost is \$15 per order, and the carrying cost is 20 percent per cartridge per year of the purchase cost of \$35 per cartridge.
- a. How many print cartridges should the firm order at one time?
- b. What is the time between orders?
4. Burgerama requires all employees who handle food to wear latex gloves for sanitary reasons. The annual demand for gloves is 250 boxes of 200 per year. The order cost is \$11 per order, and the carrying cost is 25 percent per box per year of the purchase cost of \$20 per box.
- a. How many boxes of gloves should Burgerama order at one time?
- b. What is the time between orders?
- c. What would be the change in annual cost if Burgerama had storage space for only 15 boxes per order and thus was forced to use an order quantity of 15?
5. Office Express sells office suppliers to businesses on a membership basis—i.e., walk-in customers without a membership are not allowed. The company delivers supplies directly to the purchaser as long as a minimum purchase of \$100 is made. In order to encourage bulk orders, Office Express offers the following discount schedule on purchased quantities of boxes of paper. Larry's Lumber has an annual demand of 5,000 boxes of paper, a setup cost of \$10 per order, and a holding cost of 22 percent of the purchase price. Calculate the optimal order quantity.
- | | |
|-------------------|----------------|
| 1–100 boxes | \$5 per box |
| 100–249 boxes | \$4.75 per box |
| 250–499 boxes | \$4.50 per box |
| 500 or more boxes | \$4.25 per box |
6. A watch repair shop buys batteries for a variety of products. The most frequent battery purchase is for a Y300, with demand of 3,000 per year. The order cost is \$15 per order, and the holding cost is \$0.50 per battery. Given the following price schedule, calculate the optimal order quantity.
- | Number of Batteries | Price |
|---------------------|--------|
| 1–250 | \$6.00 |
| 250–499 | \$5.50 |
| 500–999 | \$5.00 |
| 1,000 or more | \$4.75 |
7. An appliance manufacturer purchases the tub portion of washing machines from a supplier with these prices: less than 500, \$20 each; 500–999, \$19 each; 1,000–1,399, \$18 each; 1,400–1,999, \$17 each; and 2,000 or more, \$16 each. Order costs are \$30 per order, annual demand is 10,000 tubs, and holding costs are 30 percent of purchase cost. Determine the order quantity that will minimize total cost.
8. A1 Kitchens, Inc., installs kitchen cabinets, countertops, and floors. A1 uses 30,000 tubes of caulk per year (assume 50 weeks per year) in the installation process. The order cost is \$24 per order, and the holding cost is \$0.25 per tube of caulk. The lead time for an order is 1 week, and the standard deviation of demand is 25 tubes per week.
- a. What is A1's optimal order quantity?
- b. What is the optimal number of orders per year?
- c. What is the reorder point if A1 desires a cycle-service level of 50 percent?
- d. What value of z should be used if A1 wishes to achieve a cycle-service level of 94 percent?
- e. What should the reorder point be?

PROBLEMS

1. A hospital emergency room averages 50 patients per shift. A shift is 8 hours long, and the average patient requires 20 minutes in the exam room.
 - a. How many exam rooms should the hospital have if it wishes to maintain a 30 percent capacity cushion?
 - b. Discuss whether you think a 30 percent capacity cushion is appropriate for a hospital emergency room. What factors would you consider when setting this cushion?
2. A fast-food restaurant averages 150 customers per hour. The average processing time per customer is 90 seconds.
 - a. Determine how many cash registers the restaurant should have if it wishes to maintain a 10 percent capacity cushion.
 - b. Discuss whether you think a 10 percent capacity cushion is appropriate for a fast-food restaurant. What factors would you consider when setting this cushion?
3. A university has demand for 10,000 classroom seats per day (one student in one class is a classroom seat). All classrooms have 50 seats, and the day is considered to be 10 hours long for scheduling purposes. Each class takes 1 hour. Determine the number of classrooms required if the university seeks to maintain a 20 percent capacity cushion.
4. MondoCycle manufactures three different types of bikes: the Tiny Tike, the Adult Aero, and the Mountain Monger. Given the production schedule in Table 10.11, including setup and processing times and lot sizes, calculate the required capacity for this year's production. Note that the times are given for individual production lines, so capacity calculations should be in terms of the number of lines necessary. Assume that MondoCycle operates two shifts, each with 2,000 hours per year, and wishes to maintain a 15 percent capacity cushion.

TABLE 10.11

	Tiny Tike	Adult Aero	Mountain Monger
Annual demand	12,000	18,000	19,000
Processing time (minutes)	6.0	12.0	10.0
Average lot size	120	450	200
Setup time (minutes)	50	40	70

5. A local bakery, Main Street Bakery, produces and sells to a national grocery chain five varieties of pastry: Muffin Tops, Doughnut Slices, Cookies, Cream Puffs, and Fritters. Assuming that Main Street operates a single shift for 1,800 hours per year, calculate the required capacity. The processing time per unit, setup time per lot, annual demand, and lot size are given in Table 10.12. Assume that the times given are for a production cell of four workers each, so the required capacity should be in terms of the number of production cells needed. Main Street would like to maintain a 10 percent capacity cushion.
6. Two machines (a grinding machine and a rolling machine) are required to make each of five products with the processing time, average lot size, and setup time given in Table 10.13. Each machine is notorious for breaking down frequently; thus, the company wants to maintain a 30 percent capacity cushion. Each machine is available for 12 hours per day, 260 days per year. Determine how many machines of each type are required.

CASE STUDY

Southtown Medical Center

Dave Cash is the new CFO at Southtown Medical Center (SMC). Southtown provides dermatology services to an average of 90 patients each day. Dave's approach to management includes spending a day with each staff member in his department to understand that person's duties. After two days with the two billing clerks, he realized that nearly 50 percent of their typical day is consumed by reworking payment denials from insurance companies resulting from billing errors and resubmitting the charges to the insurance company. The rest of their day is spent handling patient telephone calls regarding their accounts. Dave noted that a large number of patient calls are from irate customers asking for an explanation of why the services provided by SMC were denied by their insurance payer. The remaining patient calls are requests for balances due or for explanations of outstanding charges on their accounts. Dave is quickly coming to the conclusion that thousands of dollars in insurance payments are being denied or delayed each week because of erroneous bills. He believes that in some cases, the insurance payment is never recovered, and either the patient or SMC is stuck with the bill. He is also very unhappy that a significant amount of his staff time is consumed with reworking billing errors. Something has to be done about this situation, and he is determined to investigate and find a remedy.

Federal laws require that "clean," or correct, electronically submitted bills be processed by the insurance company within 10 working days. Whether the bill is paid in full, partially paid, or denied, the reason for the action is stated on the explanation of benefits (EOB) from the insurance company. EOBs are mailed to both the patient and the provider of services, in this case, SMC.

Dave begins asking questions of everyone involved in SMC's billing process. Figure 11.21 shows flowcharts of the billing process. When a patient checks in to see a physician, a form is generated with the patient's demographic and insurance information. This form, known as an evaluation form, is placed on top of the patient's medical chart. When the medical visit is completed, the physician notes the patient's diagnosis and any procedures that are performed. The nursing staff then assigns a four- or five-digit International Classification of Diseases (ICD) code to the diagnosis and a five-digit Current Procedural Terminology (CPT) code to the procedure(s) performed. ICD and CPT are universal coding systems used by

service providers and payers to describe, in detail, the procedure performed and the diagnosis that necessitated the procedure. The CPT code determines the fee, and it may be modified and additional charges added for more extensive procedures. The ICD code must support the need for the procedure, or the bill will be denied by the payer. An incorrect or missing digit in either code can result in a lower payment or complete denial of the bill.

The evaluation form is then given to the receptionist, who enters the codes into the patient's account on the computer system. The computer system does not have the capability to check the accuracy of the codes; it simply accepts whatever is entered. Bills are electronically submitted overnight to the appropriate insurance carrier. The process appears to be fast, yet it is not very effective because of the lack of quality checks in the process. Dave knows that he needs to dig further to determine exactly where breakdowns occur in the system.

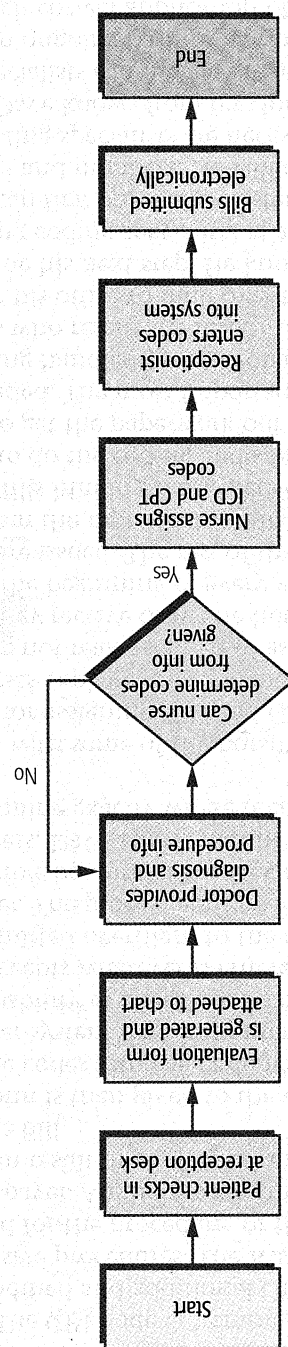
Next, Dave meets with some of the nursing staff to learn their process for assigning ICD and CPT codes. One of the nurses explains that the members of the nursing staff are not really trained to assign ICD and CPT codes; they receive only one hour of formal instruction at the beginning of every year when the new codes are issued. The rest of their coding training comes from the more senior nurses in the department. She also fills him in on a secret: The nurses resent having to do the coding and sometimes just assign any code to get the paperwork out of their hands. Dave is astounded. The most important source of SMC revenue is being handled by inadequately trained staff members who resent the responsibility.

Dave goes back to his office to mull over this situation and determine his next step. He knows that he cannot justify hiring coding specialists at an additional cost unless he can first prove the existence of the problem with facts and numbers. He will also have to prove that coding specialists are necessary to correct the problem. Dave knows from previous experience that coding specialists can increase revenue by 10 to 20 percent on an ongoing basis by optimizing reimbursement through correct application of coding rules. Dave decides to call in Karen Coder, a coding consultant he has worked with previously, to conduct an initial study. She starts by sampling 20 bills each day over a 20-day period and comparing the billing information to the information in the medical chart. Figure 11.22 (on page 445) shows the results of

this study. The revelations from this study are startling, and Karen and Dave immediately develop a plan to study all of the bills over a 20-day period and

determine the number of incorrect bills for each doctor's office. Table 11.12 (on page 446) shows the results of this study.

Flowchart for SMC Billing Process



Flowchart for Billing Re-Work

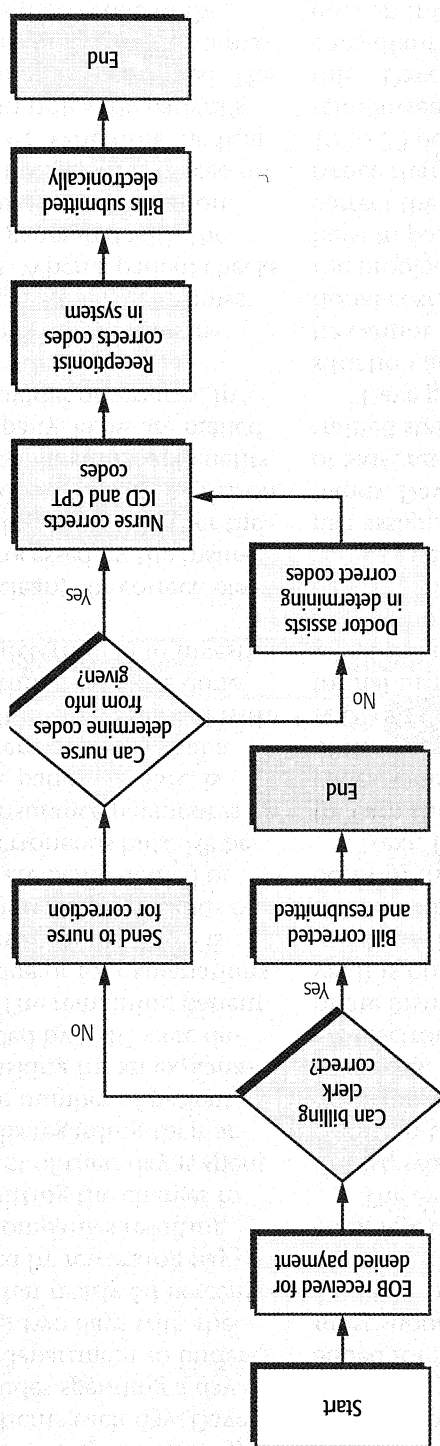
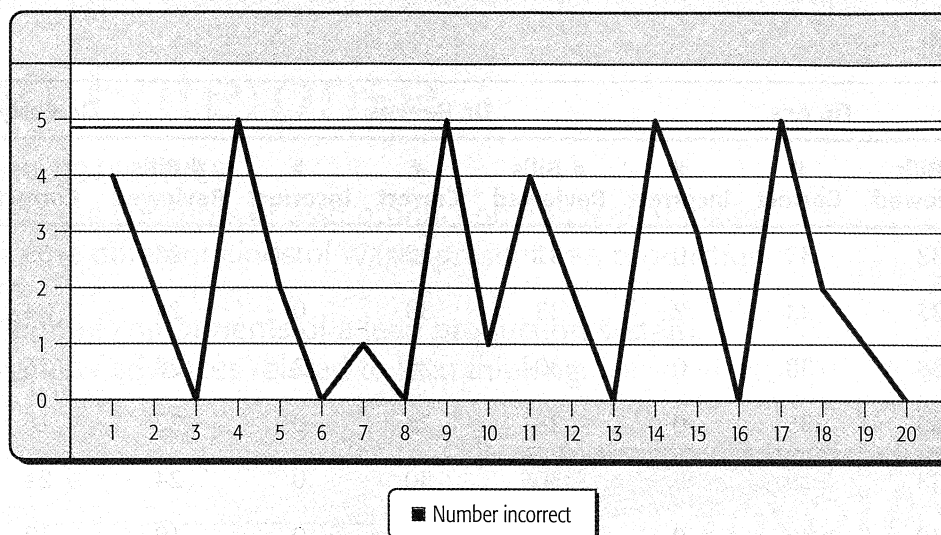


FIGURE 11.12

**FIGURE 11.22****QUESTIONS**

1. Analyze the data in Figure 11.22 and, using the appropriate control chart, determine whether the system is in control.
2. Using the data in Table 11.12, develop appropriate control charts to determine whether the coding process is under control for each doctor.
3. Suggest recommendations to reduce billing errors.