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## The Service-Quality Audit: A Hotel Case Study

### **Abstract**

A service audit that quantifies the cost of everyday errors can help a hotel manager pinpoint which quality problems to address first.

### **Keywords**

service quality, auditing, hotel management

### **Disciplines**

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### **Comments**

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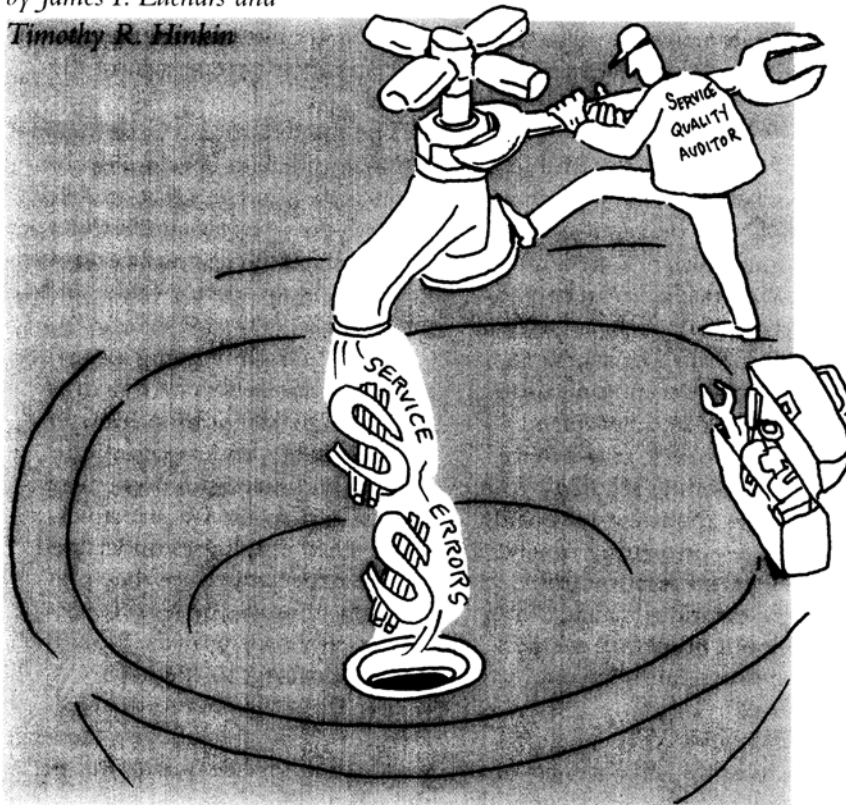
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# The Service-Quality Audit

A service audit that quantifies the cost of everyday errors can help a hotel manager pinpoint which quality problems to address first.

## A Hotel Case Study

by James Y. Luchars and  
Timothy R. Hinkin



Over the last several years the hotel industry has gone through major upheaval. In 1991, for example, 60 percent of all hotel companies were losing money.<sup>1</sup> The current outlook for the industry is promising and analysts expect 1995 to be the most profitable year in nearly a decade.<sup>2</sup> Much of the re-

<sup>1</sup> Robert A. Porreca, *Lodging: An Industry Overview* (New York: Dun and Bradstreet, 1991).

<sup>2</sup> M. Chase Burritt, *1995 National Lodging Forecast* (Coral Gables: Kenneth Leventhal & Company, 1995).

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cent profitability has resulted from a decline in capital charges due to reorganization and refinancing, however, with only a small percentage of improvements coming from increased operating efficiencies.<sup>3</sup> With much of the dust from restructuring settled, the industry will be seeking new ways to continue to increase profits in the face of ever-escalating customer demands and intense competition. To that end, service quality will define the competitive playing field, with front-line employees the most important players.

Guests expect high-quality service. The results of a 1990 survey of conference participants revealed that eight of the top ten (out of 54) factors rated most important for guest satisfaction were related to service quality rather than to the quality of facilities.<sup>4</sup> Research conducted with focus groups of corporate meeting planners supports this finding, revealing that service quality is at least as important as, if not more important than, facilities in the decision of where to book a conference or convention.<sup>5</sup> While the leisure and business markets will certainly have different specific demands for facilities and amenities, fulfilling guest expectations for quality service will be necessary for success across all market segments.

### Quality in the Hospitality Industry

During the last few years several hotel corporations have attempted to implement service-quality improvement programs with varying degrees of success. The failure of some programs has been due to a number of

reasons, including attempting to do too much too fast, lack of support from top management, lack of adequate measurement, and a lack of true understanding of the quality-improvement process. Many managers believe quality improvement is yet another management fad that will pass like so many previous fads.

We do not believe quality improvement is a fad. The various labels used to describe the quality-improvement processes may change and jargon may come and go, but the need for quality is here to stay. With the industry's recent turnaround the temptation may be to abandon attempts at implementing quality programs and to revert to the comfortable ways of the past. The upturn can, however, be viewed as an opportunity in a favorable environment to make the changes and improvements that will affect the organization's long-term success.

The hospitality industry's acceptance of quality-management techniques has been slow, as managers have viewed service quality as intangible and difficult to measure.<sup>6</sup> As a result, they believed that costs could not be accurately measured or associated with specific instances of good or bad service and focused their attention instead on financial data that, while measurable, may be unrelated to service quality. Indeed, it may not be possible to measure every aspect of a service encounter. Most of the steps involved in the encounter can, however, be quantified and measured. The information provided from such an analysis can supplement that provided by typical financial data and improve management's decision-making ability. This

article will demonstrate a service-quality audit that begins to measure service quality. The focus will be on conducting an audit of several front-desk processes and measuring their cost of quality (COQ) and the cost of error (COE).

### The Service-Quality Audit

A service-quality audit is the initial step in determining whether a quality-management program should be implemented. The audit provides managers with an estimate of the cost to the organization of common service errors. In conducting the audit, management should make clear that its purpose is not to punish anyone, but instead to identify specific service errors that cost the company money and to improve work processes that will benefit both internal and external customers. The audit helps to attract the attention of all management levels, and all employees should be aware of the audit and its results. Depending on the results of the audit, the data gathered may be used in a quality-management program to improve the overall level of service quality. Often an audit reveals little need for an extensive quality-management program or that simply a few quality-control steps are required. The following are the steps in the service-quality audit:

- (1) Identify each error and determine what exactly happens.
- (2) Determine the frequency with which each error occurs.
- (3) Assign the specific costs involved for correcting each error (recovery).
- (4) Establish the probability of the consequence of each error.
- (5) Determine the total daily and annual cost of each error.
- (6) Identify the specific steps of the prevention or recovery process.

The most effective method of conducting a service-quality audit is

<sup>3</sup> Pauline Yoshihashi, "Long, Restless Night Is Ending for Hotel Companies," *Wall Street Journal*, November 2, 1994, p. B4.

<sup>4</sup> Usha Oberoi and Colin Hales, "Assessing the Quality of the Conference Center Hotel Service Product: Toward an Empirically Based Model," *Services Industries Journal*, October 1990, pp. 700-721.

<sup>5</sup> In 1993 Cornell professors Bruce Tracey and Timothy Hinkin conducted focus groups with meeting planners in Atlanta and Houston.

<sup>6</sup> This issue is addressed in: Theodore Levitt, "Marketing Intangible Products and Product Intangibles," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 22, No. 2 (August 1981), pp. 37-44; and D. Daryl Wyckoff, "New Tools for Achieving Service Quality," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 25, No. 3 (November 1984), pp. 78-91.

**A service quality audit presents a particular way of looking at the business and provides useful information that is not available on typical financial statements.**

to form a task force that focuses on a specific department. At first, the process may seem tedious, but the more accurate the cost calculations are the more valid and reliable the results of the audit will be. The simplest errors typically are those that occur the most, and, due to their high frequency, they cost the most each year. The audit not only provides estimates of the cost of each error analyzed, but it also serves as an introduction to the COQ and COE concepts for the staff and management involved. Managers and line employees involved in the audit learn a new way of evaluating service quality.

#### **Cost of Error and Cost of Quality**

Every mistake costs money.<sup>7</sup> The mistake and its attendant costs may be preventable through increased employee training, market research, or improved product or service features. The cost of error refers to the cost associated with an error after it occurs, and falls into two categories: recovery cost and opportunity cost. Recovery costs, which include rework, scrap, and warranty, can comprise anything from the extra time employees spend fixing an error to a rebate given to mollify a guest. Recovery costs can be further broken down into hard costs and soft costs. Hard costs refer to expenses that are normally accounted for, such as a complimentary bottle of wine to appease an irate guest. Soft costs refer to costs that are incurred but are typically not measured—for instance, the time it takes for a server to return a dinner that was improperly prepared and deal with the unhappy customer, and the time it takes the chef to prepare a new meal.

<sup>7</sup> This section is based on the writings of: J. M. Juran, *Juran on Quality by Design* (New York: The Free Press, 1992); Stephen Hall, *Quality Assurance in the Hospitality Industry* (White Plains: ASQC Quality Press, 1990); and L. P. Carr, "Applying Cost of Quality to a Service Business," *Sloan Management Review*, Summer 1992, pp. 72–76.

A cost that is frequently not recognized stems from the fact that while employees are recovering an error their normal jobs are unattended. That may result in other dissatisfied customers or possibly even a need for increased staff. Both hard and soft recovery costs can be measured and assigned a dollar value.

In most instances, the recovery cost of an error is substantially more than the amount required for an appropriate error-prevention program. One study has shown that most organizations could save up to \$100 lost due to errors for every additional \$1 invested in prevention.<sup>8</sup>

The second type of cost associated with an error is opportunity cost, which is the value of future sales or profits lost as a direct result of the error. The opportunity cost is perhaps the most significant and the most overlooked type of cost incurred from errors. It is also the most difficult to measure. In many instances, the opportunity cost can lead to considerable market damage, not only in terms of the individual customer's being lost but also in terms of having a negative effect on a company's reputation. It has been reported that 90 percent of dissatisfied customers will not do business with a company again, and the average unhappy customer tells nine people about the experience.<sup>9</sup>

While the cost of correcting errors is usually greater than that of maintaining or improving quality, there are measurable costs for quality maintenance. Management incurs preventive costs to avoid the occurrence of specific errors and to maintain a certain level of service

<sup>8</sup> G.P. Bohan and N. Horney, "Pinpointing the Real Cost of Quality in a Service Company," *National Productivity Review*, Summer 1991, pp. 309–317.

<sup>9</sup> K. Rondeau, "Getting a Second Chance to Make a First Impression," *Medical Laboratory Observer*, January 1994, p. 22.

quality. The costs of preventing errors are termed the cost of quality. To ensure customer satisfaction the organization must provide the benefits that customers consider critical (must-haves) to meet their expectations. Additional features add to the cost and will differentiate a product or permit premium pricing only if perceived as desirable by the customer, but if the must-have benefits are not present, the customer will not be satisfied, regardless of the extras that are provided.

### Case Study: The Service-Quality Audit

The principles of cost of error are demonstrated in a service-quality audit of a large first-class hotel located in New York City. The focus was on transactions at the front desk, primarily check-in and check-out procedures. The hotel caters mostly to business travelers and, on average, it processes 220 check-ins and 220 check-outs per day. The average length of stay is three days.

This audit was based on employees' observations, an approach that has heretofore been the most common in service-quality audits. Another methodology involves customers' assessment of service processes and errors, on the theory that the ultimate gauge of service quality is the customer's view. Examples of how to survey customers are given by Jonathan Barsky in the accompanying article, "Building a Program for World-Class Service" (pp. 17-27).

The data were collected by conducting 30-minute interviews with seven front-desk clerks, two front-desk supervisors, and the front-desk manager. The size of the sample increased the reliability of the data in that the frequencies of certain responses indicated common errors. For instance, if clerk one stated that it took five minutes to make up for an error, while clerks two and three stated that it took seven and nine minutes, respectively, then a conser-

vative mean correction time was calculated.

The six errors presented below will be analyzed in depth. They were recognized by the interviewees as the most frequently occurring errors at the front desk.

- (1) The guest checks into a room only to find it was not the requested room type.
- (2) The guest is checking out and extra charges are incorrect on the bill.
- (3) Specific information about a reservation has not been entered into the computer.
- (4) The guest is checking out and the clerk cannot find the registration card.
- (5) The reservation for an arriving guest cannot be found in the computer.
- (6) The guest is checking out and tax-exempt status has not been previously checked.

### Cost Calculations

The challenge for this hotel's management is to determine which work processes experience the highest failure rate, how much these failures cost the company, and what the most effective and feasible solutions are. As shown below, all of the errors examined entail relatively low per-occurrence costs, ranging from \$3.66 to \$9.64. However, when an error occurs frequently, its total annual cost is high. The recovery-cost calculations are relatively clear and concise. In most cases they are primarily the soft cost of extra time spent fixing the error multiplied by the desk clerk's average hourly compensation. In some cases, an additional hard cost involving extra materials used is included in the overall recovery cost.

We used conservative averages in every recovery-cost calculation, because it is important that the COE not be overestimated or exaggerated in any service-quality audit.

**The audit allows those who are actually doing the work to capitalize on their experience and expertise and provides them with ownership of the important task of improving service quality.**

## Equations for calculating costs

### Recovery cost

*Per occurrence—*  
 (Hourly wage) × (Time spent fixing error [in hours]) = Time cost  
 (Time cost) + (Materials cost) = Total recovery cost

*Per annum—*  
 (Total recovery cost) × (Frequency in a 24-hour day) × (365 days) = Total cost per annum

### Opportunity cost

*Per occurrence—*  
 (Frequency-of-error percentage) × (Discontinuance percentage) × (ADR) × (ALS) =  
 Opportunity cost

*Per annum—*  
 (Opportunity cost per occurrence) × (Frequency in a 24-hour day) × (365) =  
 Opportunity cost per annum

The formula for recovery cost per occurrence is the sum of staff time cost and the cost of any hard goods. The staff-time-cost formula is:

Time cost = (Hourly wage) ×  
 (Time spent fixing error [in hours])

and the formula for cost of hard goods (e.g., amenities) is:

Amenities cost = (Amenities cost per room) × (Percentage of amenities used) × (Probability that amenities are used)

To calculate the annual recovery cost of an error, the per-occurrence costs are summed to give total recovery cost. If no hard goods are involved, the total recovery cost is equal to the time cost. That amount is used in the following formula:

Total cost per annum = (Total recovery cost) × (Frequency in a 24-hour day) × (365)

The opportunity costs of each error are more difficult to calculate, as many intangible factors can affect the accuracy of the estimates. Any estimate of opportunity cost should be based on reliable research and should be calculated conservatively. Studies conducted by Stephen Hall Associates, AH&MA, and Diners Club/Carte Blanche provide results that are used as a benchmark in calculating the opportunity costs of each error reported in this study.<sup>111</sup>

The opportunity-cost estimates are effectively educated guesses, based on employees' judgments of how customers react to given service errors. An audit that includes customer views would give more precise discontinuance percentages, figures that refer to the percentage of time the customer would not return to the property after the error has occurred. The employees' estimates applied to this audit are less accurate than actual customer data, but the estimates used here give a reasonable indication of the most troublesome service errors.

In these formulas, the frequency percentage refers to the frequency at which the error occurs. Applying low discontinuance percentages for all opportunity-cost calculations provides relatively conservative cost estimates. Average daily rate (ADR) and average length of a stay (ALS) can then be used to make the final opportunity-cost calculation. The opportunity-cost-percentage calculation can be applied to the potential revenue that would be forgone if the customer does not return due to a service error.

The opportunity cost per occurrence can be calculated as follows:

Opportunity cost =  
 (Frequency-of-error percentage) ×  
 (Discontinuance percentage) ×  
 (ADR) × (ALS)

Likewise the opportunity cost per annum is a summation of the opportunity cost per occurrence:

Opportunity cost per annum =  
 (Opportunity cost per occurrence) ×  
 (Frequency in a 24-hour day) × (365)

For example, if the error frequency is 15 percent and the discontinuance percentage is 20, the opportunity-cost percentage is 3.0 (.15 × .20). If ADR is \$150 and ALS is two days, potential revenue is \$300 (2 × \$150) and the opportunity cost of an error every time it occurs is \$9.00 (.03 × \$300).

The cost calculations for each of the previously noted errors will now be presented, including possible recommendations for action.

For this hotel, the average hourly rate for front-desk employees is \$12; housekeepers earned a mean of \$8 per hour, and the cost of amenities for a room is \$5. In the event that the guest is checked into the wrong room, the length of time needed to reclean the room is 20 minutes (.33 hours) and the probability that the room will be used (and therefore needs recleaning) is 30 percent. Therefore, the housekeeping cost for checking a guest into the wrong room is the product of the housekeeper's hourly rate, the housekeeper's time, and the probability that the room will be used.

### Error 1: Wrong Room Type

**What happens:** Guest checks in and is not given the requested room type (e.g., smoking or nonsmoking, double or single), three times per day.

#### Recovery cost

*Per occurrence—*

Front-desk time: (\$12) × (.2 hours) =	\$2.40
Housekeeping time: (\$8) × (.33 hours) × (.3) =	.79
Amenities cost: (\$5) × (.50) × (.20) =	.50
Total recovery cost per occurrence =	\$3.69

<sup>111</sup> Hall, p. 94.

Per annum—  
 $(\$3.69) \times (3) \times (365) = \$4,040.55$

**Opportunity cost**

Per occurrence—  
 $(1.4\%) \times (20\%) \times (\$180) \times (3) = \$1.51$   
 Per annum—  
 $(\$1.51) \times (3) \times (365) = \$1,653.45$

**Total cost per occurrence**

Recovery cost	\$3.69
Opportunity cost	1.51
<b>Total</b>	<b>\$5.20</b>

**Total cost per annum**

Recovery cost	\$4,040.55
Opportunity cost	1,653.45
<b>Total</b>	<b>\$5,694.00</b>

This error has a relatively low frequency (three times per day), and depending on the particular situation, the time and costs involved vary greatly.

In a property this size an error cost of \$5,694 is not overly significant, so a large dollar amount probably should not be invested in this error's quality management (e.g., implementing a new training program). Improving the flow of information among the front-desk, housekeeping, and reservations departments may limit this error.

**Action steps**

(1) Confirm that reservations and the front desk share the same reservation information prior to arrival. This involves a constant process of updating information.

(2) Have clerks reconfirm the room type and request upon guest's arrival.

(3) Have an updated list of available rooms which are VCI-ready (vacant, clean, and inspected) and which can be used for emergency room changes.

**Error 2: Unposted Charges**

**What happens:** When guest checks out extra charges on the bill are

incorrect (e.g., minibar or phone charges from the night before have not been added), 70 times per day.

**Recovery cost**

Per occurrence—  
 $(\$12) \times (.083 \text{ hours}) = \$1.00$   
 Per annum—  
 $(\$1.00) \times (70) \times (365) = \$25,550.00$

**Opportunity cost**

Per occurrence—  
 $(32\%) \times (5\%) \times (\$180) \times (3) = \$8.64$   
 Per annum—  
 $(\$8.64) \times (70) \times (365) = \$220,752.00$

**Total cost per occurrence**

Recovery cost	\$1.00
Opportunity cost	8.64
<b>Total</b>	<b>\$9.64</b>

**Total cost per annum**

Recovery cost	\$25,550.00
Opportunity cost	220,752.00
<b>Total</b>	<b>\$246,302.00</b>

Of all of the errors analyzed, this one had the highest cost. In this particular case, the cost was a direct function of an extremely high frequency (70 times per day). It should also be noted that a conservative discontinuance percentage of 5 percent was used to calculate the opportunity cost of this error. Clearly, a quality-management system should be implemented to identify the root cause of the problem. It may be necessary to invest in the COQ to reduce this error's high frequency.

**Action steps**

(1) Investigate the costs and benefits of connecting the minibar system with the property-management system at the front desk. Such an interface would most likely reduce the frequency of the error and save the hotel money in the long run.

(2) Have the night audit double-check all phone and minibar charges of those guests checking out the next morning.

(3) Attach to the guest folio a list of the phone, minibar, and other extra charges, together with the times the charges were incurred, so that they can be immediately verified upon check-out.

(4) During check-in, verify whether guests in the same room are to be on separate folios.

(5) At the beginning of each morning shift, have a master list of the minibar, phone, and other extra charges for guests who are checking out that day. This master list can be used as an immediate source of reference whenever a mistake is identified, and thus the extra time spent dealing with the guest will be reduced.

**Error 3: Omission of Priority-Club Information**

**What happens:** The specifics of a priority-club membership have not been added to the guest's account on the property-management system (15 times per day). This includes frequent-stay points, newspaper, breakfast, and access to the room's minibar.

**Recovery cost**

Per occurrence—  
 $(\$12) \times (.1 \text{ hours}) = \$1.20$   
 Per annum—  
 $(\$1.20) \times (15) \times (365) = \$6,570.00$

**Opportunity cost**

Per occurrence—  
 $(6.8\%) \times (20\%) \times (\$180) \times (3) = \$7.34$   
 Per annum—  
 $(\$7.34) \times (15) \times (365) = \$40,187.00$

**Total cost per occurrence**

Recovery cost	\$1.20
Opportunity cost	7.34
<b>Total</b>	<b>\$8.54</b>

**Total cost per annum**

Recovery cost	\$6,570.00
Opportunity cost	40,187.00
<b>Total</b>	<b>\$46,757.00</b>



The high cost of this error is a direct function of its frequency (15 times per day) and a high estimated opportunity cost. Losing \$46,757 on Priority Club procedures alone is serious, especially with these important guests. The source of the problem needs to be identified and some basic changes need to be made.

*Action steps*

- (1) Develop a centralized station(s) for Priority Club check-in and check-out at the front desk.
- (2) Have the night audit create a master list of all Priority Club arrivals and departures for the next day.
- (3) At the beginning of each shift, double-check all Priority Club check-ins and check-outs on the property-management system against the master list.
- (4) If the front desk becomes too congested, direct all unexpected Priority Club check-ins to the separate Priority Club desk.
- (5) Have a master list of all Priority Club members available at the front desk to use as a reference.
- (6) Train and educate all front-desk clerks on Priority Club procedures.

**Error 4: Lost Folio at Check-Out**

**What happens:** When a guest arrives at the front desk to check out, the clerk cannot find his or her registration card, which often includes a voucher. The card has been lost or misfiled (three times per day).

*Recovery cost*

Per occurrence—	
Front-desk time:	
(\$12) × (.167 hours) =	\$2.00
Material cost per card:	.15
Total recovery cost	<hr/>
per occurrence =	\$2.15
Per annum—	
(\$2.15) × (3) × (365) =	\$2,354.25

*Opportunity cost*

Per occurrence—	
(1.4%) × (20%) × (\$180) × (3) =	\$1.51

Per annum—	
(\$1.51) × (3) × (365) =	\$1,653.45
<i>Total cost per occurrence</i>	
Recovery cost	\$2.15
Opportunity cost	1.51
Total	<hr/>
	\$3.66
<i>Total cost per annum</i>	
Recovery cost	\$2,354.25
Opportunity cost	1,653.45
Total	<hr/>
	\$4,007.70

Due to this error's simplicity, it seems that the appropriate action steps are clear. In addition, the error's relative low cost does not merit an extensive, costly solution.

*Action steps*

- (1) Formulate an organized system by which a clerk can file a registration card that can later be easily retrieved by another clerk. This may involve eliminating the registration-card bucket. The purpose of the system is to reduce the probability of the card's being lost.
- (2) Ensure that each clerk understands the importance of the system and uses it on the job.
- (3) Always make two copies of a voucher (one for the guest and one for the records), and file both copies with the registration card in the system.

**Error 5: Lost Registration**

**What happens:** Guest checks in and the reservation cannot be found in the computer system (15 times per day).

*Recovery cost*

Per occurrence—	
(\$12) × (.13hrs) =	\$1.56
Per annum—	
(\$1.56) × (15) × (365) =	\$8,541.00

*Opportunity cost*

Per occurrence—	
(6.8%) × (20%) × (\$180) × (3) =	\$7.34
Per annum—	
(\$7.34) × (15) × (365) =	\$40,186.50

*Total cost per occurrence*

Recovery cost	\$1.56
Opportunity cost	7.34
Total	<hr/>
	\$8.90

*Total cost per annum*

Recovery cost	\$8,541.00
Opportunity cost	40,186.50
Total	<hr/>
	\$48,727.50

The process and time involved with this error vary greatly. In some cases, it can take a front-desk clerk 20 minutes or more to find a reservation. Because of this variance and the associated high frequency (15 times per day), this error is quite costly.

However, with a complicated error that often involves many different steps in the solution, it is difficult to identify only one action plan. In this situation, the most appropriate solution involves further analysis to determine the cause of the problem and to develop preventive steps.

*Action steps*

- (1) Each night, the night audit should verify the next day's check-ins with the reservation system.
- (2) As with error 4, an improved system for filing registration cards should be implemented.
- (3) Front-desk training should include learning a procedure that everyone follows when a reservation can't be found. This will facilitate the "finding process" when the error occurs, and other desk clerks will be more informed and more helpful during the "finding process."
- (4) A direct interface between the front desk and reservations should be considered. This would eliminate the time-consuming process of calling the reservations desk.

**Error 6: Tax-Exempt Status Not Checked**

**What happens:** Guest is checking out and his or her tax-exempt status has not been checked. The guest inquires about his or her status (15 times per day).

*Recovery cost*

Per occurrence—	
(\$12) × (.13hrs) =	\$1.56
Per annum—	
(\$1.56) × (15) × (365) =	\$8,541.00

*Opportunity cost*

Per occurrence—	
(6.8%) × (20%) × (\$180) × (3) =	\$7.34
Per annum—	
(\$7.34) × (15) × (365) =	\$40,186.50

*Total cost per occurrence*

Recovery cost	\$1.56
Opportunity cost	7.34
Total	\$8.90

*Total cost per annum*

Recovery cost	\$8,541.00
Opportunity cost	40,186.50
Total	\$48,727.50

The associated cost of this error is high considering how specific the error is. However, it can be addressed more effectively than some of the more general errors already discussed. The error involves a basic fault in training and procedure.

*Action steps*

- (1) At the beginning of each shift, have each clerk double-check the tax-exempt status of each guest checking out that day.
- (2) Have the front-desk supervisor consistently emphasize the importance of this procedure.
- (3) Ensure that each clerk is familiar with the steps involved with recording a guest's tax-exempt status. This includes which forms to use, where to find them, and how to fill them out.
- (4) Create a procedure that everyone follows when checking and recording tax-exempt status. Following a set procedure facilitates teamwork at the front desk. When the error occurs, each front-desk clerk is aware of what is going on and how to help.

**Audit Summary**

When evaluating the results of this audit, it should be noted that the cost calculations are merely flash estimates. Every calculation and estimate was made conservatively, and it is probable that many of the costs were underestimated. The most important aspect of this analysis is that it provides management with useful information with which to make decisions. The estimates can be refined with data from customers.

From a pragmatic point of view, the audit reveals that errors 1, 4, and 6 are relatively minor in comparison to errors 2, 3, and 5, which have the most substantial annual costs and merit immediate attention. A direct function of these high costs are the associated high frequencies of the errors. For instance, error 2 (unposted charges) occurs 70 times per day, in almost one-third of check-out transactions, and thus it may be costing the hotel approximately \$250,000 per year.

In addition, the cost of this error was calculated using a conservative discontinuance rate of 5 percent. Everyone interviewed felt that this was a serious problem, but they had little idea of how serious until the error was analyzed in the audit. Further analysis should discover the primary cause of the error. That analysis may involve other departments, such as room service, gift shop, or restaurant outlets. Construction of a flow chart that describes all steps of the posting of charges could be useful to identify specific types of errors and breakdowns in the system. The Pareto principle, which states that most errors result from few actions, would suggest that the majority of the billing problems result from one or two circumstances that are repeated.<sup>11</sup> Once the root causes

of the problem have been identified, alternative programs for managing and reducing the occurrence of these errors must be considered.

**Step One**

Managers should recognize that a service-quality audit is merely the first step in service-quality analysis. It presents a particular way of looking at the business and provides useful information that is not available on typical financial statements. The analysis can help managers identify the source and magnitude of service-quality deficiencies and assist them in deciding where to invest in service-quality improvements. In many cases, every aspect of the process in which the error occurs must be understood before a feasible long-term solution can be reached. Of course, the time and effort involved in a detailed analysis must be weighed against the error's severity and bottom-line impact.

It is also important that managers view their organizations as an interdependent system of work processes that are not bound by departmental lines. This interdependency creates internal customer relationships and an error in one department may have unknown or unanticipated impacts on other departments. For example, a simple room change may involve the front desk, reservations, the hotel operator, the bell staff, and housekeeping—resulting in extra time and materials that contribute to the COE. As the situation gets more complex there is also the increased possibility of further errors. Finally, a positive side effect of the audit is that it can allow those who are actually doing the work to capitalize not only on their experience and expertise but also to provide them with ownership of the important task of improving service quality. **CQ**

<sup>11</sup> First articulated by Vilfredo Pareto, the 19th-century economist and social scientist, the Pareto principle is also referred to as the "80-20 rule." The principle proposes that in a normal population, roughly 80 percent of failures come from 20 percent of causes.