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PUTTING THE DOLLAR SIGNS ON QUALITY: THE COST OF EXPERIENCED PROBLEMS IN THE HOTEL INDUSTRY

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ABSTRACT

This work presents a calculation for the cost of problems experienced in the hotel industry. The calculation is then applied both to the cost of problems experienced and the cost of problems not reported. The calculation presents data at the brand level to illustrate the calculation. By using this formula, hotels, brands and companies can both identify and monitor the dollar cost of problems experienced to help in their cost/benefit analysis of service improvement efforts.

Key Words: hotels, service quality, reliability, problems experienced, cost of problems, problems reported.

INTRODUCTION

In Zeithaml, Parasuraman and Berry's (1990) initial work on the development of a service quality model, reliability (the ability to perform the promised service dependably and accurately) was cited as the most important dimension in each of the four industries studied. In fact, they state simply that, "the most important thing a service company can do is be reliable...do it right the first time" (p. 31). Knutson, Stevens, Wullaert, Patton & Yokoyama (1991) also found that reliability was the most important dimension in the lodging industry.

As defined by Getty & Getty (2003), reliability means performing the service right the first time. It is the extent to which the hotel product and employees can be depended on to perform services correctly and consistently. A failure in any aspect of reliability results in an experienced problem. It is intuitive to conclude that the experience of a problem, dependent on factors such as severity of the problem, will affect overall satisfaction and intent to return.

Yet, little research has been done on the specific effect of experienced problems on these outcome variables. This is most likely due to the fact that, given a sample, a longitudinal study would have to be completed tracking the behaviors of individual respondents. One solution to this is to examine aggregate data that studies the effect of experienced problems on intent to return. This research will utilize secondary data from hotel company guest satisfaction records to study the relationship between experienced problems and intent to return. This allows the ability, given additional statistics such as average daily rate, length of stay and occupancy to calculate a dollar cost to a hotel, brand or company of experienced problems, a failure of reliability.

The determination of problem cost is valuable to the hotel industry. The industry has long understood the value of preventive maintenance programs and inspection systems for housekeeping, to help ensure that the guest does not experience problems. These programs increase costs, but with little knowledge of the return on investment of such programs or the justification to begin such programs. Identifying the cost at the property or brand level will help the industry understand cost/benefit tradeoff of such programs.

LITERATURE REVIEW

Parasuraman et al. (1988) identify two primary types of dimensions operating when consumers evaluate a service encounter: outcome dimensions and process dimensions. Though both dimension types occur in both the original service encounter and the service recovery, the research of Berry and Parasuraman (1991) indicates that outcome is the primary driver of consumer evaluations of service during the initial service encounter, while process is the primary driver during service recovery: "A service failure is essentially a flawed outcome that reflects a breakdown in reliability" (46). Parasuraman links the outcome dimensions to more of the product, tangible experiences of an encounter and refers to a flawed outcome as a breakdown in reliability, and links the process dimensions to the organization's human, interactive response to the recovery process.

Borrowing from Herzberg, Mausner, & Snyderman's (1959) taxonomy, reliability can be seen as a "hygiene" factor or dissatisfier. There is no real upside on reliability. Guests don't leave the hotel raving about how their heater or television remote worked, or that their reservation was accurate. But, intuitively, there is a tremendous downside or dissatisfaction potential when that HVAC system doesn't work properly. As there is no real opportunity to WOW a guest on reliability issues, the hotel must make sure that systems exist that address reliability. Mount and Mattila (2009) found that there was a slightly stronger relationship between reliability and intent to return than there was between recovery and intent to return.

There has been significant research on the relationship of recovery to satisfaction and intent to return. Excelling at recovery can have a positive impact on post-recovery satisfaction (Boshoff, 2005; Spreng, Harrell, & Mackoy, 1995; Tax, Brown & Chandrashekar, 1998). Goodwin and Ross (1992) found that excelling at recovery can have a positive impact on customer perceptions of fairness and Levesque and McDougall (2000) found that recovery has a positive impact on customer loyalty to the firm. Additional recovery research has further defined factors that impact customer's perception of the recovery process. For example, there is a large body of work on justice theory fairness and how companies should respond in the recovery process. (Davidow, 2000; Mattila, 1999; Tax & Brown, 2000)

While it has been proposed that achieving a "full" recovery can lead to an increase in satisfaction that exceeds pre-problem levels (Hocutt, Bowers, & Donovan, 2006), it has not been proven in a large sample study. Susskind (2005) found that 64.1% of restaurant customers reported a "low degree of correction" regarding their complaint. 41% indicated that the complaint redress negatively influenced their desire to return to the restaurant. The likelihood of customers not returning to the restaurant following a dissatisfying complaint remedy was 72%. An early study revealed that only 30-53% of customers who experienced problems with one of seven services they purchased were satisfied with the resolution (Andreasen, & Best, 1977). In more recent research, only 50-67% of customers who experienced difficulties with one of five service companies were satisfied with the outcome (Berry & Parasuraman, 1991). Therefore, McCollough, Berry, and Yadav (2000) suggest that lodging operations are better off by avoiding service failures than by responding to service failures with superior recovery efforts.

The research on the number of problems that are reported is equally scant, though the numbers are frequently tracked. We are all aware of the old adage, "96% of your customers don't complain, they just don't come back," implying that only 4% of customers complain. The United States Office of Consumer Affairs, in their extensive Technical Assistance Research Project (TARP) (1986), stated that 30% of customers report experienced problems. Johnston (1998) found the number to be much greater, from 50-90% of problems were reported, depending on the intensity of the problem. Goodman and Newman (2003) citing several recent TARP studies concluded that brand loyalty can be retained by encouraging customers to complain. The number appears to vary greatly, quite likely affected by other factors such as intensity, severity, industry and nature of the problem.

No research has been identified that presents the financial impact of a decline in intent to return resulting from a problem experience or failure to report a problem. The recovery research is aided either through studies using experimental design or by using by studying samples where customers have made their problems known

through a complaint process. These types of studies are difficult when exploring the simple experience of a problem. The availability of aggregate data at the hotel/brand level, with accompanying operating statistics makes it possible to determine the effect of problems experienced on intent to return, and the effect on non-reported problems in financial terms, providing a dollar figure for what a diminished intent to return means to a hotel or brand.

METHODOLOGY

Reliability is defined in this study as a problem-free stay. Many companies have added problem experience and problem resolution questions to guest satisfaction surveys/questionnaires to track their performance on these key issues. Three hotel companies with multiple brands supplied the data for this research by providing access to their guest satisfaction databases. The companies have asked that they not be identified in this work so brand specific information cannot be provided. The purpose of this research is to identify the effect of a problem on intent to return and then apply a methodology to calculate the dollar costs of experienced problems, so one brand from one company was used to avoid any cross-brand or cross-company confounding effects. The brand used for this study is an upscale full-service brand with a large number of hotels nationwide that generated over 300,000 responses on their guest survey for the 2008 period.

For the brand used in this study, the guest contact information is provided to an independent research company each evening. The information is “cleaned and filtered” to verify that emails addresses are valid (cleaned) and that surveys do not go to predetermined groups such as corporate employee rates and distressed airline passengers (filtered). The research company then generates random surveys in amounts sufficient to meet predetermined quotas based on a historical response rate.

The hotel brand, as most brands now do, asks the problem experience question, “Did you experience any problems with the hotel during your stay?” in a yes-no format. The intent to return question was asked on a ten-point Likert type scale with 10 representing “definitely will” and 1 representing “definitely will not.” To translate the intent to return rating to lost guests, it was assumed that guests who marked a “10 – definitely will” had a 100% return rate, and any score less than that had an appropriate return percentage. For the aggregate date, an intent to return measure of 8.21 translates to a return rate of 82.1%. Certain scale measures have been modified to maintain confidentiality of the participating company; these modifications do not impact the statistical results of this study.

ANALYSIS

Problems encountered

The proposed formula for determining the total dollar cost is:

$$C = p*(ni-pi)*(a*365*o)*r \text{ where;}$$

C = total dollar cost of problems experienced

p = problems experienced expressed as a percentage

ni = no-problems experienced intent to return expressed as a percentage

pi = problems experienced intent to return expressed as a percentage

a = total available rooms

o = occupancy expressed as a percentage

r = average daily rate

The total number surveys received for the brand in 2008 was 336,832. Since this is a large enough sample to represent the population, all numbers can be presented at the brand level. All variables in the proposed formula were taken from the sample except for total available rooms and occupancy percentage. For guests in the sample, 27.9% indicated that there was a problem experience therefore $p = .279$. Guests who did not experience a problem had an intent to return measure of 8.62, translated to an 86.2% intent to return so $ni = .862$. Guests who did experience a problem, regardless of the recovery efforts, had an intent to return measure of 7.10, translated to 71.0%, so $pi = .71$. The results at this point can be summarized by saying that the brand loses 15.2% (86.2-71.0) of guests who experience problems. Since 27.9% of guests experience problems, the brand is losing 4.2% of all guests (27.9% * 15.2%) due to problem experience.

The total available rooms for the brand, a , is equal to 140,331. The reported occupancy percentage was 68.0, $o = .68$ and the average daily rate was \$158.22, $r = 158.22$.

The formula now reads:

$$C = .279 * (.862 - .710) * (140,331 * 365 * .68) * 158.22$$

Simplifying the formula:

$$C = .042 * 34,830,154 * 158.22$$

It is important to note that the .042 represents the percentage of all guests lost due to problems experienced. The part of the formula, $(a * 365 * o) * r$, is the calculation of total revenue given the data provided in the survey and through other sources (34,830,154 occupied rooms * \$158.22 = \$5,510,826,997). If the rooms revenue, or total revenue is provided, that could simply be substituted into the formula.

So:

$$C = \$231,452,697$$

This number is put into a more understandable context by presenting it in different forms. The cost per occupied room is \$6.65 (\$231,452,697/34,830,154 occupied rooms). The cost for each guest is \$14.30 (\$6.65*2.15 nights per guest). The total number of guests experiencing a problem is 4,519,820 (16,200,072 total guests * 27.9% problem experience) so the cost for every guest that experiences a problem \$51.21 (\$231,452,697/4,519,820). The cost per available room for the year is \$1,649.35 (\$231,452,697/140,331).

Problems not reported

To determine the cost of the problems not reported, the revenue that walks out the door, a similar calculation is made. It is not as simple as applying the percentage of problems not reported to the total revenue

calculation as the intent to return is not the same for the two groups of problems not reported and problems reported. The formula for this calculation is:

$$pnr = (pn_{nr}) * (pri_{max} - pri_{nr}) * (a * 365 * o) * r$$

where:

pnr = problems not reported revenue

pn_{nr} = number of respondents that did not report problem expressed as a percentage of total guests

pri_{max} = the intent to return of the highest rated recovery category

pri_{nr} = the intent to return of the non-report category

a = available rooms

r = average daily rate

The formula first calculates the number of non-report guests lost based on change in intent to return $(pn_{nr}) * (pri_{max} - pri_{nr})$ and then multiplies that by total revenue $(a * 365 * o) * r$. Of the 27.9% of guests who experienced a problem, 29.1% did not report the problem so $pn_{nr} = .081$ (8.1% of all guests experience a problem and do not report the problem). Using the total revenue determined previously and applying the data provided:

$$pnr = .081 * (.868 * .742) * 5,510,826,997$$

$$pnr = \$56,243,500$$

The 70.9% of guests who reported problems is consistent with Johnston's (1998) finding that 50%-90% of guests reported problems. It is likely that the duration of stay and economic investment made by the guest results in a higher percentage of problems reported. Of the \$231,452,697 calculated for the dollar cost of problems, \$56,243,500, or 24.3% of the "at risk revenue", is walking out the door without giving the hotel the opportunity to respond to problems experienced.

Discussion

The total dollar loss for experienced problems at the brand level is substantial. The loss represents 15.2% of all revenue for guests who experience a problem, 4.2% of total revenue (\$6.65/\$158.22). It is important to note at this point that this calculation only includes room revenue. Other revenue numbers up to and including total revenue per guest can be input into the formula in place of the r number in this calculation. It is also important to note at this point that this calculation does not take into account the lifetime value of the lost guest or the impact from negative word-of-mouth of the lost guest. A variety of relationships have been noted regarding the "lifetime value" concept and the user can modify the calculation as they see fit by incorporating a lifetime value multiplier. The same can be said for the impact of negative word-of-mouth.

It is unrealistic to suggest that the brand could save \$231,454,730 on an annual basis by eliminating the problems experienced by guests because, with all due respects to Six Sigma philosophy, problems are unavoidable. The focus should be on what level of improvement can be obtained and what that would represent in dollar savings.

There are a number of ways to look at the improvement efforts. First, the brand could look at benchmarking to higher performing hotels. The problems experienced at the hotel level ranged from 16% to 40%. Although the dollar loss number for each hotel was not calculated in the model, certain hotels were studied. The dollar loss impact number ranged from \$100,000 (a low problem experience, smaller hotel) to over \$3 million (a larger, high average rate hotel). By knowing the dollar loss through experienced problems, the individual property can then analyze their preventive efforts, from maintenance programs to housekeeping to product enhancements or improvements. Problem type is important in the experience. While this brand did not ask about type of problem encountered, many brands now include this type of question on the surveys. With that type of information, this calculation can then be performed on each problem type to determine the dollar loss for each problem type. This can help focus improvement efforts.

Second, the improvement efforts can be evaluated at the brand level. A ten percent reduction in problems experienced, reducing the number from 27.9% to 25.1% would reduce the total dollar impact by 10%, or \$23,145,473. Whatever the improvement target, the number can be calculated to assist in a cost/benefit analysis. In this example, if the brand created an initiative to reduce problems experienced, and felt that the efforts could reduce problems experienced by 10%, then the \$23,145,473 becomes the breakeven point of the improvement efforts. If the brandwide initiative costs less than \$23,145,473, the initiative would be justified.

The non-report figures can be utilized in a similar manner. It is widely accepted that all organizations, including hotels, encourage a guest feedback system or solicit guest feedback in some way to encourage guests to bring their problems to the attention of hotel management. Hotels have tried to make this easier by utilizing one-touch phone service to a central number for both requests and problems. Encouraging feedback at check-out is often overlooked as a key interaction point to gain this feedback. All too often, the simple question of, "How was everything?" is not asked or is not asked with the sincerity to encourage the guest to share their problem experience. Guests who are on the cusp of reporting the problem may decide to share the experience if they feel that the person (representing the hotel) asking the question truly cares and wants to know the answer as opposed to the feeling that the question is just being asked because they have to ask it by a required standard. One hotel executive shared with me that he referred to this as the "one-question guest survey" and trained his employees to ask the question with empathy and look for non-verbal cues that the guest may be hesitating in sharing the information so that they can further encourage the guest to share the experience. There is very little investment in this specific solution but the calculations can be used to provide additional insight/analysis to solutions that may be more extensive or part of a customer relations management system.

These calculations are global measures that provide insight into the dollar impact of problems experienced by hotel guests. Even greater insight can be gained by stratified calculations of various underlying variables. The most important of these is problem type. It would of great interest to hotel companies to see the dollar impact of problems regarding HVAC systems (assumed to be relatively high) versus problems regarding TV remotes (assumed to be relatively low). Asking the guest to respond to a severity of problem issue sometimes confounds the response as the guest perception tends to exaggerate the severity of the problem while the actual intent to return many provide a more accurate behavioral response. Additional studies could also include the cost of problems experienced by various demographic variables such as gender, market segment type, loyalty club membership, etc.

It is important to note that these calculations consider the loss of business as indicated by the behavioral response to an intent to return question. It is difficult to determine the actual behavior demonstrated by individuals who respond to this question. The effect of recovery is not included in this work but can be the basis of a similar calculation since various level of recovery efforts can also be related to intent to return with a large enough sample. Excluding the guests who had reported their problems, and including only guests who had experience a problem but had not reported the problem, thereby eliminating the recovery effort effect, was considered but it was felt that the sample would then only be dealing with less severe problems.

The most critical assumption made in the calculation is that the percentage of lost business is directly related to the corresponding intent to return average. While the actual future behavior of responding guests is not measured in this study, the assumption was reasonable based on the response scale used in the survey.

REFERENCES

- Babakus, E., & Boller, G. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business Research*, 24(3), 253-267.
- Best, A., & Andreasen, A. (1977). Consumer responses to unsatisfactory purchases: A survey of perceived defects, voicing complaints, and obtaining redress. *Law and Society Review*, 11(4), 701-742.
- Berry, L. & Parasuraman, A. (1991). *Marketing services: Competing through quality*. New York: Free Press.
- Boshoff, C. (2005). A re-assessment and refinement of RECOVSAT: An instrument to measure satisfaction with transaction-specific service recovery. *Managing Service Quality*, 15(5), 410-425.
- Davidow, M. (2000). The bottom line impact of organizational responses to customer complaints. *Journal of Hospitality and Tourism Research*, 24(4), 473-490.
- Ekinci, Y. (2002). A review of theoretical debates on the measurement of service quality: Implications for hospitality research. *Journal of Hospitality and Tourism Research*, 24(3), 199-216.
- Getty, J., & Getty, R. (2003). Lodging quality index: Assessing customers' perceptions of quality delivery. *International Journal of Contemporary Hospitality Management*, 15(2), 94-105.
- Goodman, J., & Newman, S. (2003). Understand customer behavior and complaints. *Quality Progress*, 36(1), 51-55.
- Goodwin, C., & Ross, I. (1992). Consumer responses to service failures: Influence of procedural and interactional fairness perceptions. *Journal of Business Research*, 25(2), 149-163.
- Herzberg, F., Mausner, B. & Snyderman, B. (1959) *The motivation to work*. New York, NY: Wiley.
- Hocutt M., Bowers M., & Donovan, D. (2006). The art of service recovery: fact or fiction? *The Journal of Services Marketing*, 20(3), 199-207.
- Knutson, B., Stevens, P., Wullaert, C., Patton, M., & Yokoyama, F. (1990) Lodgserv: A service quality index for the lodging industry. *Hospitality Research Journal*, 14(2), 277-284.
- Johnston, R. (1998) The effect of intensity of dissatisfaction on complaining behaviours. *Journal of Satisfaction, Dissatisfaction and Complaining Behavior*, 11, 69-77
- Levesque & MacDougall 2000
- McCollough, M., Berry, L., & Yadav, M. (2000). An empirical investigation of customer satisfaction after service failure and recovery. *Journal of Service Research*, 3(2), 121-137.
- Mattila, A. Mattila, A. (1999). An examination of factors affecting service recovery in a restaurant setting. *Journal of Hospitality & Tourism Research*, 23(3), 284-98.
- Mount, D., & Mattila, A. (2009). The relationship of reliability and recovery to satisfaction and return intent at the hotel unit level. *Journal of Quality Assurance in Hospitality and Tourism*, 10(4), 301-310.
- Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Speng, R, Harrell, G., & Mackoy, R. (1995). Service recovery: Impact on satisfaction and intentions. *The Journal of Services Marketing*, 9(1), 15-23.
- Susskind, A. (2005). A content analysis of consumer complaints, remedies, and repatronage intentions regarding dissatisfying service experiences. *The Journal of Hospitality and Tourism Research*, 29(2), 150-169.
- Tax, S., & Brown, S. (1998). Recovering and learning from service failure. *Sloan Management Review*, 40(1), 75-88.
- US Office of Consumer Affairs. (1986). Consumer complaint handling in America: An updated study, Part II.
- Tax, S., Brown, S. & Chandrashekar, M. (1998). Customer evaluations of service complaint experiences: Implications for relationship marketing. *Journal of Marketing*, 62(2), 60-76.
- Zeithaml, V., Parasuraman, A. & Berry, L. (1990). *Delivering service quality: Balancing customer perceptions and expectations*, New York, NY: The Free Press.