

**The Debate Regarding Profitability:  
Hotel Unit and Hotel Brand Revenue  
and Profit Relationships**

John W. O'Neill  
Anna S. Mattila

**ABSTRACT.** Our research note explores a debate in the hotel industry regarding the relationship between hotel RevPAR and profitability, a debate around which there is a great degree of “noise.” Using a sample of 1,954 actual hotels for which both top line and bottom line indicators were available for the same year, we conclude through our statistical analyses that while hotels with higher revenue, and particularly higher room revenue, have a higher NOI in dollars, they do not necessarily have a more profitable business model in terms of NOI percentage. Also, we present brand level analyses. doi:10.1300/J073v21n02\_10 [Article copies available for a fee from *The Haworth Document Delivery Service*: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by *The Haworth Press, Inc.* All rights reserved.]

**KEYWORDS.** Hotel, RevPAR, profit, brand

***INTRODUCTION***

As hotel management and development organizations formulate strategies and programs regarding hotel facilities and services, a question that naturally arises is what level of profitability the different types of hotels that conceivably could be developed generate.

Clearly, hotel managers and developers prefer more profitable concepts over less profitable ones, as the recent trend towards the development of midscale hotels without food & beverage (restaurant and lounge operations) over midscale hotels with f&b suggests (O'Neill, 2003). Though the profitability goal of hotels is fairly clear, the relationship between hotel rev-

---

John W. O'Neill is Assistant Professor in the School of Hospitality Management at The Pennsylvania State University, 233 Mateer Building, University Park, PA 16802 (E-mail: jwo3@psu.edu). Anna S. Mattila is Associate Professor in the School of Hospitality Management at The Pennsylvania State University, 233 Mateer Building, University Park, PA 16802 (E-mail: asm6@psu.edu).

enue indicators and profitability remains a debated topic in the industry.

### THE DEBATE

One side of the debate we explore is exemplified by the Chairman and Chief Executive Officer of Strategic Hotel Capital, LLC, Laurence S. Geller, who has been quoted as saying, "higher RevPAR doesn't always, in fact, it seldom does translate into higher profits because of the necessary costs to induce higher levels of RevPAR" (Watkins, 2002, para. 2).

On the other hand, the President and Chief Operating Officer of Marriott International, Inc., William J. Shaw, was quoted as saying, "I wouldn't necessarily agree with the Chairman of Strategic that the highest RevPARs don't have the highest profits" (Shaw, 2002). Since this question regarding the actual relationship between revenue indicators on profit is an empirical one, we explore it using the best available empirical data.

Research in marketing shows that customer satisfaction is strongly linked to financial performance. In fact, marketing and neoclassical economics suggest that consumer utility or satisfaction is a real driver for economic growth (Fornell, Mithas, Morgenson, & Krishnan, 2006). Customer satisfaction has a positive impact on loyalty (Bolton, 1998; Bolton, Lemon, & Verhoef, 2004), thus reducing the cost of future transactions (Reichheld & Sasser, 1990) and the likelihood of customer defections (Anderson & Sullivan, 1993; Mithas, Jones, & Mitchell, 2004). Having a highly marketable brand also enhances customers' quality perceptions—another factor linked to higher economic returns (e.g., Aaker & Jacobson, 1994; Fornell, 1992). Satisfaction is a necessary prerequisite for demand in a competitive marketplace, and therefore, revenue indicators should be linked to the firm's profitability.

Top-line financial indicators, such as ADR and RevPAR, provide invaluable information to hospitality executives and managers. In fact, these two ratios were ranked as the two most crucial operating indicators among lodging executives (Singh & Schmidgall, 2002). Moreover, recent research suggests that a hotel's

ADR is a better predictor of a hotel's market value, i.e., property value, than its net operating income, or NOI (O'Neill, 2003). In sum, previous research shows that a hotel's top line is closely tied to its potential as well as its actual bottom line.

Although occupancy, ADR and RevPAR should explain a large amount of variation in a hotel's bottom-line, brand affiliation is another important factor in that equation. The branding literature suggests that consumers use brand name as an important quality cue (Jacoby, Szybillo, & Busato-Schach, 1977) and that they tend to be willing to pay a price premium for quality brands (Johnson & Selnes, 2004). Given the importance of branding in driving hotel revenues, we control for the effects of branding to fully understand the relationships between occupancy, ADR, RevPAR and profitability.

### METHOD

Smith Travel Research provided to us occupancy percentage, average daily rate (ADR), rooms revenues per available room (RevPAR), and net operating income (NOI) regarding a total of 1,954 actual hotels for which all of these data were available for the same 12-month time period (2003). Characteristics of this sample of hotels are presented in Table 1 (means, minimums and maximums) and Table 2 (frequencies).

Using linear regression analysis, we found that taken together, a hotel's occupancy percentage and ADR are significant predictors of a hotel's net operating income, or NOI ( $R^2 = 0.22$ ,  $p < .001$ ). Specifically, hotels with higher occupancies and ADRs have higher NOIs, with each additional point in occupancy resulting in an additional \$61,864 in NOI, and each additional dollar in ADR resulting in an additional \$42,509 in NOI. Similarly, we found RevPAR to be a significant predictor of NOI, with each additional dollar in RevPAR resulting in an additional \$66,877 in NOI ( $R^2 = 0.25$ ,  $p < .001$ ). Also, individually, occupancy ( $R^2 = 0.03$ ,  $p < .001$ ) and ADR ( $R^2 = 0.20$ ,  $p < .001$ ) (the two components of RevPAR) are each significant predictors of a hotel's NOI, though the effect

TABLE 1. Hotel Sample Characteristics

Characteristic	Mean	Minimum	Maximum	Std. deviation
Number of rooms	236	15	2,860	223
Occupancy	66.7%	23.5%	97.3%	10.5%
ADR	\$93.82	\$27.95	\$577.06	\$43.15
RevPAR	\$62.77	\$12.42	\$341.37	\$31.46
Room revenues	\$6,536,711	\$363,919	\$131,371,602	\$10,622,372
Total revenues	\$9,789,960	\$385,751	\$215,894,640	\$17,904,046
NOI (\$)	\$1,705,280	(\$11,273,498)	\$57,273,088	\$4,190,383
NOI (%)	19.2%	(85.3%)	87.5%	20.6%

TABLE 2. Hotel Sample Frequencies

N	1,954
Scale	2.4%
Luxury chains	29.7%
Upper upscale chains	31.2%
Upscale chains	8.2%
Midscale w/ f&b chains	15.4%
Midscale w/out f&b chains	8.6%
Economy chains	4.5%
Independents	
Location	
Urban	16.7%
Suburban	39.7%
Airport	18.9%
Highway	18.0%
Resort	6.7%
Region	
New England	5.3%
Middle Atlantic	9.2%
South Atlantic	26.5%
East North Central	12.2%
East South Central	5.8%
West North Central	5.3%
West South Central	11.8%
Mountain	8.1%
Pacific	15.4%
All Suite	38.0%
Not All Suite	62.0%
Extended Stay	21.5%
Not Extended Stay	78.5%
1 or more Restaurants	60.1%
No Restaurants	39.9%

size for occupancy, as a predictor of NOI, is relatively low.

When we considered total room revenues, the relationships between top and bottom line were even stronger from a statistical standpoint

( $R^2 = 0.72, p < .001$ ). In this analysis, each additional dollar in room revenues resulted in an additional 34 cents in NOI. Interestingly, when we considered total revenues rather than room revenues as a predictor variable, the relationship was also statistically significant ( $R^2 = 0.72, p < .001$ ), but each additional dollar in total revenues resulted in only an additional 20 cents in NOI. We conclude that while a hotel's NOI is driven by revenues, it is primarily driven by room revenues, not food & beverage or ancillary revenues. In other words, while higher revenues do result in higher profit, all revenues are not equally profitable.

Since the previous analysis focused on percentages and dollars at the top line compared to dollars at the bottom line, we believe it would also be beneficial to compare percentage and dollars at the top line to percentages, i.e., profitability, at the bottom line. In this analysis, we found that a hotel's occupancy percentage is a significant predictor of a hotel's NOI percentage, with higher occupancy resulting in higher NOI ( $R^2 = 0.14, p < .001$ ). However, we found that ADR is not a significant predictor of NOI percent ( $R^2 = 0.00, p = .05$ ). Similarly, we found room revenue to be an insignificant predictor of NOI percent ( $R^2 = 0.00, p > .05$ ). We found RevPAR to be a significant predictor of NOI percent, but with a relatively small effect size ( $R^2 = 0.00, p < .01$ ). Similarly, we found total revenue to be a significant predictor of NOI percent, but with a relatively small effect size ( $R^2 = 0.00, p < .05$ ). To the extent statistically significant (though perhaps not practically significant) relationships were found in these analyses, we believe that such results are at

least somewhat attributable to our relatively large sample size of 1,954 hotels.

### **BRAND LEVEL RESULTS**

We conducted brand-level analyses to better understand the relationships between hotel top-line and bottom-line indicators. Our data set included a total of 1,548 hotels in 18 brands with financial data regarding at least 30 hotels each. The 406 additional hotels used in our earlier analysis were either independent properties or members of brands with fewer than 30 hotels. We found there to be significant differences in occupancy, ADR, and RevPAR by brand ( $p < .001$ ).

Hierarchical regression analyses were then used to test the effects of ADR and occupancy on NOI percentage while taking into consideration the effects of the brand. A two-step procedure was used in which the control variable (brand) was entered in the first step followed by the two performance indicator variables (ADR and occupancy). Both occupancy percentage and ADR accounted for a significant increase in R-square (Change in  $R^2 = 0.143$ ,  $F(2,1544) = 135.43$ ,  $p < .001$ ), indicating that these variables explained a significant amount of the variation in NOI percentage beyond that explained by brand affiliation. Occupancy was positively linked to NOI percentage ( $t = 16.33$ ,  $p < .001$ ), while the coefficient for ADR was negative ( $t = -2.5$ ,  $p < .05$ ). These results with occupancy are congruent with our aggregate data, yet the inverse relationship between ADR and the hotel's bottom-line requires some explanation. It seems that the control variable (i.e., brand) accounted for a relatively large proportion of the variance in NOI percentage ( $t = 9.03$ ,  $p < .001$ ), thus potentially contributing to the negative regression coefficient for ADR. When we removed the effects of branding, hotels with higher ADRs had lower bottom-line percentages.

### **DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH**

Given these statistical analyses, we conclude that while hotels with higher revenue,

and particularly room revenue, have a higher NOI in dollars, they do not necessarily have a more profitable business model in terms of NOI percentage. This conclusion provides some support for Laurence S. Geller's contention (Watkins, 2002). However, we also believe that ultimately, the hotel profitability volume, e.g., dollars, is of utmost importance to hotel operators, so we conclude that the most profitable hotel business model is one that generates the greatest room revenue. To the extent that food, beverage, or ancillary facilities and revenue generate additional room revenue (not merely additional total revenue), through the attraction and accommodation of new, additional segments of lodging demand, such as groups desiring these ancillary facilities, it supports this profitable business model. This conclusion provides support for William J. Shaw's contention (Shaw, 2002), and is not meant to undermine the importance of cost structure, cost management, working capital, and asset management.

Our findings also clearly demonstrate the impact of branding on the bottom-line. In our sub-sample, hotel brand was strongly linked to NOI percentage, i.e., all brands are not equally profitable. Previous work in branding has shown that brands create financial value due to their ability to generate cash flows via relatively higher margins (Aaker & Jacobson, 1994). Consequently, it is not surprising that prior research reports significant variation among U.S. hotel brands in occupancy, ADR, RevPAR, and annual growth in RevPAR (O'Neill & Mattila, 2004). Yet, it is clear that hotel companies differ in their choice of branding strategies, and hence, potential franchisees need to carefully examine the parent firm's brand portfolio. This issue is an important one because prior research in marketing suggests that the brand's contribution to the bottom-line might depend on the parent firm's branding strategy (Rao, Agarwal, & Dalhoff, 2004). Some companies, such as Marriott, include the corporate name in most of their brands while others (e.g., Accor) employ a house of brands strategy (i.e., individual brand names for each segment).

Although this research doesn't allow us to derive specific recommendations about the effects of the parent company's branding strat-

egy on the hotel's bottom-line (or to reveal individual brand names), we believe that examining such effects in future studies would be highly valuable to hotel owners and developers. Furthermore, future research should continue to explore the complex managerial and marketing task of managing a hotel's bottom line. Also, although we believe the Smith Travel Research data used in this study represents the best available data to conduct the subject research, future research should consider exploring the relationship between hotel top and bottom line using a scientific sampling method and/or a random sample.

Brand hopping, or "flag switching," among hotel owners and developers has become a concern among hotel franchisors over the past few years ("Special Section," 2002). Clearly, different hotel brands not only have different business models that deliver different levels of profitability to hotel owners, but hotel owners who have learned about this situation, based on their prior brand relationships, have become less hesitant to seek brands that are in closer conformance to their financial goals. To assist such hotel owners and developers, we hope to have clarified some of the "noise" that exists in the hotel brand marketplace about the relationships between hotel top and bottom lines, using the best available statistical evidence. The bottom line of this study is that while hotels with a higher RevPAR generally have a higher NOI, they do not necessarily have a higher NOI percentage.

## REFERENCES

- Aaker, D., & Jacobson, R. (1994). The financial information content of perceived quality. *Journal of Marketing Research*, 31(2), 191-201.
- Anderson, E., & Sullivan, M. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(2), 125-143.
- Bolton, R., (1998). A dynamic model of the duration of the customer relationship with a continuous service provider: The role of satisfaction. *Marketing Science*, 17(1), 45-65.
- Bolton, R., Lemon, K., & Verhoef, P. (2004). The theoretical underpinnings of customer asset management. *Journal of the Academy of Marketing Science*, 32(3), 271-293.
- Jacoby, J., Szybillo, G., & Busato-Schach, J. (1977). Information acquisition behavior in brand choice situations. *Journal of Consumer Research*, 3(4), 209-217.
- Johnson, M., & Selnes, F. (2004). Customer portfolio management: Toward a dynamic theory of exchange relationships. *Journal of Marketing*, 68(2), 1-19.
- Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing*, 56(1), 6-21.
- Fornell, C., Mithas, S., Morgenson, F. V., III, & Krishnan, M. S. (2006). Customer satisfaction and stock prices: High returns, low risk. *Journal of Marketing*, 70(1), 3-14.
- Mithas, S., Jones, J., & Mitchell, W. (2004). Determinants of governance choice in business-to business electronic markets. Working paper, Ross School of Business, University of Michigan.
- O'Neill, J. W. (2003). ADR rule of thumb: Validity and suggestions for its application. *Cornell Hotel and Restaurant Administration Quarterly*, 44(4), 7-16.
- O'Neill, J. W., & Mattila, A. S. (2004). Hotel branding strategy: Its relationship to guest satisfaction and room revenue. *Journal of Hospitality & Tourism Research*, 28(2), 156-165.
- Rao, V., Agarwal, M., & Dalhoff, D. (2004). How is manifest branding strategy related to the intangible value of a corporation? *Journal of Marketing*, 68(4), 126-141.
- Reichheld, F. F., & Sasser, W. E., Jr. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, 68(5), 105-111.
- Shaw, W. J. (2002, September 4). *Speaking at Wall Street's view of the hotel industry*. The Pennsylvania State University, PA.
- Singh, A., & Schmidgall, R. (2002). Analysis of financial ratios commonly used by lodging financial executives. *Journal of Leisure Property*, 2(3), 201-213.
- Special section. (2002, May 20). *The Wall Street Journal*, p. B11.
- Watkins, E. (2002). Geller: There's got to be a better way. *Lodging Hospitality*, 58(10), 11.

SUBMITTED: September 7, 2005  
 FINAL REVISION SUBMITTED:  
 January 19, 2006  
 ACCEPTED: March 21, 2006  
 REFEREED ANONYMOUSLY