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Abstract

[Excerpt] Productivity is always an important consideration for hotel operators. When times are bad, hotel managers first look to boosting their operations' productivity to enhance profitability. When times are good, successful hotel companies continue to emphasize productivity as a means of ensuring their prosperity. Moreover, when hotel firms merge or buy out competitors, those larger companies look for substantial productivity gains to justify the prices paid for added hotels and hotel brands.

Keywords

hotel industry, productivity, profitability, RevPAR, strategic orientation

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Comments

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Looking Beyond RevPAR

Productivity Consequences of Hotel Strategies

by James R. Brown
and Chekitan S. Dev

Decisions about a hotel's size, service orientation, strategic orientation, and ownership and management arrangements affect a number of labor- and capital-productivity measures.

Productivity is always an important consideration for hotel operators. When times are bad, hotel managers first look to boosting their operations' productivity to enhance profitability. When times are good, successful hotel companies continue to emphasize productivity as a means of ensuring their prosperity. Moreover, when hotel firms merge or buy out competitors, those larger companies look for substantial productivity gains to justify the prices paid for added hotels and hotel brands.

Understanding how to improve its productivity can help a firm's managers to enhance its profitability. Productivity refers to the ratio of a firm's outputs to its inputs.¹ The more output a firm can produce from a given set of inputs, the more productive it is.

¹ Louis P. Bucklin, *Productivity in Marketing* (Chicago: American Marketing Association, 1978).

Because hotels are labor intensive, improving productivity is a constant challenge. This is especially true when the hotel industry experiences periodic financial downturns resulting from an oversupply of rooms, or when a stagnant national business economy means that hoteliers can't easily raise room rates to offset rising costs. Even during

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periods of strong financial performance (such as the operating environment of the mid 1990s), there is increasing pressure for publicly traded hotel-operating companies to grow earnings to meet aggressive growth targets that cannot be met by expansion alone.

Lovelock and Young describe four ways by which a service firm can increase productivity.² First, the firm can improve the quality of its labor force through better recruiting or more extensive training. Second, it can invest in more-efficient capital equipment (e.g., state-of-the-art technology to facilitate sales and service). Third, the firm can replace workers with automated systems (e.g., replacing receptionists with voice mail). Finally, the firm can recruit consumers to assist in the service process (e.g., replacing wake-up coffee pots delivered by room service with in-room, make-it-yourself coffee makers).

Strategic decisions. To that list we add a fifth way that service firms can improve their productivity: make effective strategic decisions at the outset. Our premise is that those decisions relating to a hotel's service orientation, strategic orientation, ownership arrangement, management arrangement, and size, to name a few, affect its productivity.

Many of those decisions are made at the corporate level before the hotel is opened, and are based on the demand and competitive conditions that existed at the time the hotel was planned and built. Conditions do change, however, and those early decisions may need to be reviewed and revised to maximize profitability potential. Because many hotel general managers have top- and bottom-line responsibilities, they should ensure that their hotel's

² Christopher Lovelock and Robert F. Young, "Look to Consumers to Increase Productivity," *Harvard Business Review*, May-June 1979, pp. 168-179.

strategic decisions are consistent with the current operating environment. Hence, hotel general managers, in addition to making day-to-day operational decisions, need to be comfortable with and involved in making strategic decisions in conjunction with owners and corporate management. Accordingly, our research explores this question: How do the strategic decisions made for a hotel influence its productivity?

To answer that research question we first surveyed a number of hotel general managers. Next, we investigated the notion of productivity in the hotel industry and how various strategic decisions might affect a hotel's productivity. Following that, we applied analytical tools to the data that we collected to answer our research question. The results of that investigation are described below, and we close with a discussion of their implications for both managers and researchers.

The Study

To explore how hotels can improve their productivity, we studied two prominent hotel chains' individual North American properties. Each company provided us with a list of its hotels, their addresses, and general managers' names. We mailed a questionnaire to approximately 1,700 general managers, along with a cover letter from each company's chief operating officer that voiced support for our research. Twenty-five percent of the pool, or 420 general managers, responded with enough data to be included in our study.³

³ Because we looked at both franchised and company-owned hotels in this study, the sample is somewhat larger than that used in our previous article pertaining to franchisor-franchisee relationships in the hotel industry, which was another aspect of this same research effort; see: James R. Brown and Chekitan S. Dev, "The Franchisor-Franchisee Relationship: A Key to Franchise Performance," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 38, No. 6 (December 1997), pp. 30-38.

Unbiased. We also conducted a telephone survey of 50 nonresponding general managers to ensure that our sample of hotels was not biased. Those GMs were asked only a small number of the questions we posed in the mail survey. We found no significant differences in the answers to those questions between the original survey respondents and our telephone sample ($p > 0.10$). We conclude, therefore, that nonresponse bias was not present in this study.

Hotel Productivity

Productivity is typically viewed as the ratio of a firm's outputs to its inputs. It measures the efficiency with which a firm's managers employ its resources. The higher the ratio, the more efficient the firm.

Output. A hotel's outputs can be measured in a number of ways. For example, occupancy rate and average daily rate (ADR) can be combined to form the most widely used measure of hotel productivity today: RevPAR (room revenue per available room). This measure suffers from two key limitations, however: (1) it does not include revenue from food and beverage and other departments, and (2) it does not take into account costs that are incurred to provide the requisite service level (e.g., special amenities such as a spa or additional guest-service employees such as a concierge). As Horst Schultze, president of the Ritz-Carlton Hotel Company, lamented recently:

When they talk RevPAR, they talk only room revenue—my hotels are good enough that our customers spend a lot of money in our restaurants and our shops, not just in our rooms. I like to maximize revenue and dollar profits, not just room-profit percentage. But the rest of the industry doesn't talk about non-room income because it depresses their profit percentages. After all, rooms make 80 percent profit, restaurants and shops only 30 percent.

I could increase my profit percentages by closing some restaurants and shops, but then I would be doing a disservice to our customers.⁴

This is the same concept that we teach our students: you don't take occupancy percentage to the bank, you take cash to the bank! To address the shortcomings of Rev-PAR, then, we use three key indicators of a hotel's output: total sales (Sales), gross operating profit (GOP), and income before fixed charges (Profit).⁵

It's worth noting that a limitation of using financial-output measures in cross-sectional studies such as this one is that price levels vary by market area. For example, a hotel in New York City may realize hefty sales revenue simply because it can charge high prices, not because it offers more services than a similar yet less-profitable hotel in another market. In an attempt to mitigate such differences, we studied a large, nationally balanced sample of individual hotel properties of two national hotel chains. Thus, we expect the differences in price levels to wash out. Unfortunately, we have no effective way to test whether that is the case.

Inputs. An operation's inputs traditionally have been defined as the firm's labor costs and capital investment.⁶ We measure a hotel's labor input as the total number of its full-time-equivalent employees (counting both part- and full-time workers). We did not collect data on the actual number of hours that

part-time employees worked, so we could not calculate an accurate weighted number of employees for each hotel.

To address the problem of the nonequivalence of full- and part-time employees, we assumed that each part-time employee represented one-half of a full-time employee. This is not unreasonable, we believe, as some part-time employees work nearly as much as a full-time employee while others merely work a handful of hours per week.

A proxy for the hotel's capital investment is its physical size—the larger the hotel, the more its capital investment in physical plant, room furnishings, dining and entertainment facilities, and hotel services (e.g., telephone systems, laundry facilities, maintenance facilities). We measure the hotel's physical size in terms of the number of its guest rooms.

The measure of a firm's productivity can be based on a single factor (i.e., output per single input) or on multiple factors (i.e., output per multiple inputs that are combined in some fashion).⁷ We use two single-factor measures:

- (1) labor productivity
(i.e., output ÷ labor) and
- (2) capital productivity
(i.e., output ÷ capital).

Using our chosen three outputs (i.e., Sales, GOP, and Profit) and two inputs (labor and capital), we calculated six single-factor measures of hotel productivity by dividing each output by each input: sales per full-time-equivalent employee (FTE), gross profit per FTE, income before fixed charges per FTE, total sales per available room, gross profit per available room, and income before fixed charges per available room. Our productivity measures and their abbreviations are given in Exhibit 1 (on the next page).

Strategic decision making begins before the hotel even opens.

⁴ As quoted in: Bill Gillette, "Luxury Segment Players," *Lodging*, October 1998, p. 56.

⁵ Our measure "income before fixed charges," which we label "Profit," was specifically defined for the respondents as "income from all operations before deducting rent, property taxes, property insurance, interest, depreciation, income tax, and reserve for replacement."

⁶ Dale D. Acabal, John M. Heineke, Shelby H. McIntyre, "Issues and Perspectives on Retail Productivity," *Journal of Retailing*, Vol. 60 (Fall 1984), pp. 107-127.

⁷ Bucklin, pp. 19-30.

Exhibit 1 Productivity measures

SalesPAR = Total annual sales per number of available rooms
GOPPAR = Gross operating profit per number of available rooms
ProfitPAR = Income before fixed charges per number of available rooms

SalesEmp = Total annual sales per number of full-time equivalent employees (FTEs)
GOPEmp = Gross operating profit per FTEs
ProfitEmp = Income before fixed charges per FTEs

Other researchers have investigated a number of factors besides labor and capital that are believed to be associated with productivity, such as environmental conditions (e.g., competitive environment, economic environment), customer characteristics (e.g., household income), employee characteristics (e.g., education, attitudes), and the firm's strategic efforts (e.g., firm size, ownership type, marketing-mix strategies).⁸ This last variable—the effect of strategic decisions on productivity (beyond labor and capital decisions)—has not been widely investigated.⁹ It is therefore our goal to contribute some evidence to show how strategic decisions may affect hotel productivity.

Strategic Decisions and Productivity

Hotel operators' strategic decisions may take any of several forms. Sometimes decisions are made at the corporate level (e.g., overall price-and-service orientation). Other times strategic decisions are made at the individual-property

level (e.g., aggressively offering new services and pursuing new markets versus maintaining current market position by lowering costs). Moreover, owners or corporate executives may provide local GMs with some "wiggle room," allowing them to adapt the property to local conditions (e.g., to offer more services than usual within the price point).

Often strategic decisions are made at the corporate level prior to the hotel's opening (e.g., its size, ownership arrangement, management arrangement). Even so, a hotel's management (with or without corporate headquarters' feedback) may adjust those earlier decisions so that the hotel can respond effectively to changing market and competitive conditions. In some cases, of course, desirable adaptations are constrained by pre-opening decisions. For example, a hotel's size may be considered a constraint because of the inherent difficulty in adding capacity. In other instances some capacity can be added by converting suitable, underused space to guest rooms or by building onto available, adjacent land. Likewise, capacity can be taken off-line by converting available rooms to other purposes (e.g., offices, health spas, suites). Moreover, ownership and management arrangements may also change as hotel chains acquire independent franchisees or take individual company-owned properties

private, depending on corporate strategy at the time. In addition, some management contracts today have short terms and relatively liberal escape clauses, making it somewhat easier now than ever before to reevaluate the property manager and change flags if need be.¹⁰

Thus, important strategic decisions are made both before and after the hotel has opened. Additionally, they can be made at the corporate level or at the individual-hotel level. Our data do not allow us to distinguish between the "whens and wherefores" of those decisions, but they do allow us to examine the effects of those decisions on a hotel's productivity. To do so we compared our six productivity measures based on the following strategic decisions:

- hotel size (small, medium, large),
- service orientation (mid-market versus upscale),
- strategic orientation (prospector, analyzer, defender, reactor),¹¹
- ownership arrangement (company-owned versus franchised), and
- management arrangement (branded management company, independent management company, independent management).

How we measure those strategic decisions are described in Exhibits 2 and 3.

Before analyzing the data we made a few adjustments. Our service-orientation measure was intended to distinguish between limited- and full-service hotels within each category (i.e., economy, mid-market, and upscale). Only a

⁸ For a recent review, see: Naveen Donthu and Bonghee Yoo, "Retail Productivity Assessment Using Data Envelopment Analysis," *Journal of Retailing*, Vol. 74 (Spring 1998), pp. 89–105.

⁹ For two exceptions, see: Robert F. Lusch and Soo Young Moon, "An Exploratory Analysis of the Correlates of Labor Productivity in Retailing," *Journal of Retailing*, Vol. 60 (Fall 1984), pp. 37–61; and Jeffrey T. Douth, "Comparative Productivity Performance in Fast-Food Retail Distribution," *Journal of Retailing*, Vol. 60 (Fall 1984), pp. 98–106.

¹⁰ See, in this issue of *Cornell Quarterly*: Karen Johnson, "Hotel Management Contract Terms: Still in Flux," pp. 34–39.

¹¹ The prospector-analyzer-defender-reactor typology was developed by: Robert H. Miles and Charles C. Snow, *Organizational Strategy, Structure, and Process* (New York: McGraw-Hill, 1978), and has been previously used by one of the authors; see: Chekitan S. Dev, "Operating Environment and Strategy: The Profitable Connection," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 30, No. 2 (April 1989), pp. 9–13.

small number of hotels in our sample offered limited service, however. Further, few respondents in our sample classified their properties as being economy hotels. Therefore, we eliminated the limited service and economy hotels from our study. This left us with only full-service hotels in just the mid-market and upscale categories. Another adjustment we made was to categorize hotels according to their size, as measured by the number of rooms available for sale. We grouped the full-service hotels in our sample according to PKF's *Trends* classification, as follows: small (up to 124 rooms), medium (125 to 200 rooms), or large (more than 200 rooms).¹² Our final adjustment was to eliminate seasonal hotels altogether from our sample. Thus, this study contains only those hotels that operate year-round. After making all the adjustments, the size of our sample was 396 individual full-service hotel properties.

Analytical Procedure

To answer our research question—how do strategic decisions made for a hotel influence its productivity?—we used one-way analysis of variance (ANOVA) with blocking variables. One-way ANOVA provides an overall statistical comparison of how the means for each productivity measure vary across the different strategic decisions. The blocking variables allow us to control for the effects of other factors not directly under investigation. We used the Duncan multiple-range test to discover how the statistically significant strategic decisions differed.¹³

Capital Productivity

The first productivity measure that we investigated was the hotel's capital productivity. Exhibit 4 shows our

Exhibit 2 Measures of strategic decisions

<u>Strategic decision</u>	<u>Questionnaire response categories</u>
Service orientation	<ul style="list-style-type: none"> • Economy (either limited- or full-service) • Mid-Market (either limited- or full-service) • Upscale (either limited- or full-service)
Ownership arrangement	<ul style="list-style-type: none"> • Company-owned (either partially or fully) • 100-percent independently owned
Management arrangement	<ul style="list-style-type: none"> • Managed by a branded management company (for example, Hyatt) • Managed by an independent management company (for example, Richfield) • Independently managed

Exhibit 3 Measuring hotel strategic orientation

<u>Hotel strategic orientations</u>	<u>Respondents were asked to select the one hotel prototype (A, B, C, or D) from the list below that most closely resembles their operation.</u>
<i>Defender</i>	Hotel A maintains a "niche" within its market by offering a relatively stable set of services and facilities. Generally, Hotel A is not at the forefront of new services or market developments in hospitality. It tends to ignore changes that have no direct impact on current areas of operation and concentrates instead on doing the best job possible in its existing arena.
<i>Analyzer</i>	Hotel B maintains a relatively stable base of services while at the same time moving to meet selected, promising new service and market developments. The hotel is seldom "first in" with new services or facilities. However, by carefully monitoring the actions of operations like Hotel C (below), Hotel B attempts to follow with a more cost-efficient or better-conceived service.
<i>Prospector</i>	Hotel C makes relatively frequent changes in (especially additions to) its set of services and facilities. It consistently attempts to pioneer by being "first in" in new areas of services or market activity, even if not all of those efforts ultimately prove to be highly successful. Hotel C responds rapidly to early signals of market needs or opportunities.
<i>Reactor</i>	Hotel D cannot be clearly characterized in terms of its approach to changing its services or markets. It doesn't have a consistent pattern on this dimension. Sometimes the hotel will be an early entrant into new fields of opportunity, sometimes it will move into new fields only after considerable evidence of potential success, sometimes it will not make service or market changes unless forced to do so by external changes.

¹² *Trends in the Hotel Industry*, PKF, 1997.

¹³ See: B.J. Winer, *Statistical Principles in Experimental Design*, Second Edition (New York: McGraw-Hill, 1971), pp. 196–197.

Exhibit 4

Effect of strategic decisions on hotel capital productivity

Hotel strategic decision	Hotel Capital Productivity Measures					
	SalesPAR		GOPPAR		ProfitPAR	
	Mean	n	Mean	n	Mean	n
0 to 124 rooms	\$20,514 ^A	38	\$7,891 ^A	31	\$7,314 ^A	29
125 to 200 rooms	\$26,378 ^A	122	\$9,510 ^A	142	\$6,572 ^A	105
More than 200 rooms	\$29,360 ^A	151	\$10,027 ^A	113	\$8,627 ^A	133
ANOVA F-ratio, df, p-value	0.36; 2, 307; > 0.10	311	0.57; 2, 282; > 0.10	286	0.32; 2, 263; > 0.10	267
Mid-market	\$23,225 ^A	267	\$8,577 ^A	245	\$6,764 ^A	227
Upscale	\$50,681 ^B	44	\$15,288 ^B	41	\$12,850 ^B	40
ANOVA F-ratio, df, p-value	28.02; 1, 307; < 0.01	311	9.20; 1, 282; < 0.01	286	10.50; 1, 263; < 0.01	267
Prospector	\$31,847 ^A	71	\$11,417 ^A	65	\$9,306 ^A	62
Analyzer	\$26,800 ^A	159	\$9,724 ^A	142	\$7,579 ^A	130
Defender	\$23,235 ^A	55	\$7,497 ^A	54	\$6,645 ^A	51
Reactor	\$24,262 ^A	26	\$8,014 ^A	25	\$6,180 ^A	24
ANOVA F-ratio, df, p-value	0.85; 3, 307; > 0.10	311	0.92; 3, 282; > 0.10	286	0.86; 3, 263; > 0.10	267
Company-owned hotels	\$32,780 ^A	50	\$10,035 ^A	50	\$10,084 ^A	46
Franchised hotels	\$26,023 ^A	261	\$9,434 ^A	236	\$7,175 ^A	221
ANOVA F-ratio, df, p-value	0.25; 1, 306; > 0.10	311	0.01; 1, 281; > 0.10	288	1.18; 1, 261; > 0.10	267
Branded management company	\$51,387 ^A	53	\$18,273 ^A	52	\$13,795 ^A	47
Independent management company	\$22,229 ^B	125	\$7,348 ^B	117	\$6,414 ^B	113
Independently managed	\$22,022 ^B	133	\$7,848 ^B	117	\$6,321 ^B	107
ANOVA F-ratio, df, p-value	13.03; 2, 305; < 0.01	311	11.71; 2, 280; < 0.01	286	7.24; 2, 261; < 0.01	267

^{A, B} Numbers with different superscripts indicate statistically significant differences ($p < 0.05$), while those with the same superscripts are not statistically different at $p < 0.05$.

¹ The ANOVA F-ratio has been adjusted by controlling for the effects of service orientation.

² The ANOVA F-ratio has been adjusted by controlling for the effects of hotel size.

findings in terms of hotel capital productivity as measured by average sales, gross operating profits, and income before fixed charges generated per available room.¹⁴

¹⁴ Because some hotel general managers in our sample were reluctant to report all the financial information about which we asked, the effective sample size (n) was somewhat less than 396. The number of hotels used in each statistical analysis varied by productivity measure. As an illustration, the number of hotels used to compare SalesPAR across strategic orientation was 311 while we were able to use just 267 hotels to compare ProfitPAR across strategic orientation.

The ANOVA results of Exhibit 4 show that capital productivity varies significantly according to two strategic decisions. Greater sales per available room (SalesPAR) are generated by:

- Upscale hotels (\$50,681 per room) as compared to mid-market hotels (\$23,225 per room); and
- Hotels operated by branded management companies (\$51,387 per room) as compared to hotels operated by independent man-

agement companies (\$22,229 per room) or hotels that are independently managed (\$22,022 per room).

Those findings are consistent with those for our gross-operating-profits-per-room measure of productivity (GOPPAR). The ANOVA results of Exhibit 4 show that GOPPAR is higher for:

- Upscale hotels (\$15,288 per room) as compared to mid-market hotels (\$8,577 per room); and

Exhibit 5 Effect of strategic decisions on hotel labor productivity

Hotel strategic decision	Hotel Labor Productivity Measures					
	SalesEmp		GOPEmp		ProfitEmp	
	Mean	n	Mean	n	Mean	n
Rooming strategy						
0 to 124 rooms	\$41,051 ^B	38	\$15,077 ^A	31	\$14,910 ^A	29
125 to 200 rooms	\$44,585 ^{A,B}	122	\$16,770 ^A	113	\$11,245 ^B	105
More than 200 rooms	\$49,804 ^A	151	\$16,255 ^A	142	\$15,069 ^A	133
ANOVA F-ratio, df, p-value	3.19; 2, 307; < 0.05		0.13; 2, 282; > 0.10		5.49; 2, 263; < 0.01	
Service orientation						
Mid-market	\$45,592 ^A	267	\$16,483 ^A	245	\$13,454 ^A	227
Upscale	\$53,331 ^B	44	\$15,418 ^A	41	\$14,082 ^A	40
ANOVA F-ratio, df, p-value	3.56; 1, 307; < 0.10		0.15; 1, 282; > 0.10		0.06; 1, 263; > 0.10	
Service strategy						
Prospector	\$46,268 ^A	71	\$16,182 ^A	65	\$13,980 ^A	62
Analyzer	\$46,107 ^A	159	\$16,808 ^A	142	\$13,738 ^A	130
Defender	\$47,631 ^A	55	\$15,675 ^A	54	\$13,271 ^A	51
Reactor	\$49,386 ^A	26	\$15,421 ^A	25	\$11,989 ^A	24
ANOVA F-ratio, df, p-value	0.29; 3, 307; > 0.10		0.09; 3, 282; > 0.10		0.30; 3, 263; > 0.10	
Ownership arrangement						
Company-owned hotels	\$52,681 ^A	50	\$16,722 ^A	50	\$16,816 ^A	46
Franchised hotels	\$45,539 ^B	261	\$16,248 ^A	236	\$12,867 ^B	221
ANOVA F-ratio, df, p-value	3.00; 1, 306; < 0.10		0.07; 1, 281; > 0.10		4.68; 1, 262; < 0.01	
Management arrangement						
Branded management company	\$58,336 ^A	53	\$21,358 ^A	52	\$15,735 ^A	47
Independent management company	\$44,494 ^B	125	\$14,794 ^B	117	\$13,240 ^A	113
Independently managed	\$44,107 ^B	133	\$15,632 ^B	117	\$12,912 ^A	107
ANOVA F-ratio, df, p-value	13.54; 2, 305; < 0.01		2.59; 2, 280; < 0.05		0.99; 2, 261; > 0.10	

A, B Numbers with different superscripts indicate statistically significant differences ($p < 0.05$), while those with the same superscripts are not statistically different at $p < 0.05$.

¹ The ANOVA F-ratio has been adjusted by controlling for the effects of service orientation.

² The ANOVA F-ratio has been adjusted by controlling for the effects of hotel size.

- Hotels operated by branded management companies (\$18,273 per room) as compared to hotels operated by independent management companies (\$7,348 per room) or hotels that are independently managed (\$7,848 per room).

This same basic pattern of results continues with our ProfitPAR measure. Those ANOVA results (also shown in Exhibit 4) show that greater net profit per room is achieved by:

- Upscale hotels (\$12,850 per room) as compared to mid-market hotels (\$6,764 per room); and
- Hotels operated by branded management companies (\$13,795 per room) as compared to hotels operated by independent management companies (\$6,414 per room) or hotels that are independently managed (\$6,321 per room).

Interestingly, capital productivity does not vary according to hotel

size, strategic orientation, or ownership arrangement. However, on a per-available-room basis, upscale hotels and those managed by branded management companies generate significantly more sales revenue, gross operating profits, and net profits.

Labor Productivity

Another important aspect of a hotel's efficiency is its labor productivity. The ANOVA results show that sales per employee (SalesEmp)

does vary according to a number of strategic decisions (Exhibit 5, on the previous page). The hotel's size, its service orientation, and both its ownership and management arrangements significantly impact the revenue productivity of its employees as follows:

- Large hotels (at least 201 available rooms) make \$49,804 per employee while small hotels (those with less than 125 rooms) make \$41,051 per employee;
- Upscale hotels make \$53,351 per employee while mid-market hotels make \$45,592 per employee;
- Company-owned hotels make \$52,681 per employee while franchised hotels make \$45,539 per employee; and
- Hotels operated by branded management companies make \$50,356 per employee while hotels operated by independent management companies make \$44,494 per employee, and hotels that are independently managed make \$44,107 per employee.

Apparently the hotel's strategic orientation (e.g., prospector, defender) made no difference in terms of SalesEmp (Exhibit 5). Regardless of which strategy the hotels followed, they averaged about \$47,000 in revenue per employee.

GOP. Another facet of labor productivity is how much each employee contributes to the hotel's gross operating profits. Surprisingly, the hotels' GOPEmp productivity measure did not vary according to the hotel's size (i.e., number of rooms), its service orientation, its strategic orientation, or its ownership arrangement. The ANOVA results in Exhibit 5 indicate that only one key factor is significantly associated with higher gross operating profit per employee (GOPEmp). That is, hotels operated by branded management companies made \$21,358 per employee while hotels

operated by independent management companies made \$14,794 per employee and those hotels that are independently managed made \$15,632 per employee.

Our final measure of labor productivity in the hotel industry is the income before fixed charges that is generated by each employee (ProfitEmp). The ANOVA results of Exhibit 5 show two factors that are significantly associated with ProfitEmp, namely, size and ownership structure:

- Large hotels (at least 201 available rooms) make \$15,069 per employee while medium-sized hotels (125 to 200 rooms) make \$11,245 per employee and small hotels (less than 125 rooms) make \$14,910 per employee; and
- Company-owned hotels make \$16,816 per employee while franchised hotels make \$12,867 per employee.

None of the other strategic decisions—service orientation, strategic orientation, or management arrangement—varied significantly in terms of profitability per employee (ProfitEmp).

Our results indicate that strategic decisions affect hotel labor productivity in a number of ways. First, those decisions have a greater impact on the hotel's sales-revenue productivity of its employees than they do on the hotel's gross operating profit and net profit per employee. Second, none of the strategic decisions had a consistent effect across the three labor-productivity measures. Third, the hotel's strategic orientation has no bearing on the firm's labor productivity. Fourth, the hotel's size and its ownership arrangement (e.g., company-owned versus franchised) do affect the hotel's labor productivity in terms of sales revenue and net profits. Specifically, employees of a company-owned hotel generate more sales revenue and net profits

than do their counterparts in smaller or franchised hotels. Fifth, we found that upscale hotels and those operating under branded management companies generate more sales revenues per employee than do non-upscale and hotels run by unbranded management companies. Finally, medium-size hotels generated lower net profit per employee than did either larger or smaller hotels.

Making Sense of the Findings

Our goal for this research was to test the proposition that the strategic decisions made for a hotel affect both its labor productivity and its capital productivity. Our findings largely support this proposition.

As already mentioned, we generally found hotel size to be associated with greater labor productivity, in that large hotels in our sample produced higher sales revenues and net profits per employee than did the small hotels. Interestingly, medium-size hotels generated less net profit per employee than did either large or small hotels. Thus, the larger hotels in our sample appear to experience economies of scale, enabling them to use their labor more productively than do their smaller counterparts.

No evidence was uncovered to indicate that large hotels experienced higher capital productivity. Indeed, total sales revenue, gross operating profits, and net profits per available room did not vary by hotel size. Thus, size appears to play a role solely in terms of labor productivity; it has no bearing on capital productivity, at least none that this study uncovered.

The hotel's service orientation also influenced its productivity. As one might expect, upscale hotels achieve greater sales-revenue productivity from both their employees and their available rooms than do mid-market hotels. On the other

hand, to provide the range of services demanded by their clientele, we would expect upscale hotels to have correspondingly high cost structures. In other words, the high revenues generated by upscale hotels should be accompanied by high operating costs. Therefore, upscale hotels' higher prices should be offset by their higher operating costs as well as higher marketing and administrative costs. This would eliminate the pricing advantage of upscale hotels as compared to mid-market hotels in our productivity analysis. Our findings show that this seems to be the case for labor productivity; thus, the labor productivity advantage of upscale hotels appears to be more than an artifact of their relatively high net room rates. Upscale hotels generated significantly greater GOP per available room as well as greater net profit per available room than did other hotel types, however. Therefore, we cannot eliminate the possibility that higher net room rates account for the capital-productivity advantage of upscale hotels.

Interestingly, we found that a hotel's productivity is not significantly related to its strategic orientation. Apparently, the hotels in our sample have settled on the strategic orientation that optimizes their performance, given localized demand and competitive conditions. This may well explain why we found no systematic relationship between strategic orientation and productivity.

In general, our results show that company-owned hotels are more efficient in terms of labor productivity. This may result from what's known as "ownership redirection," whereby some hotel companies reserve the most lucrative sites for company-owned operations and buy out their most successful franchisees. Ownership redirection is often undertaken with the aim of

No evidence was uncovered to indicate that hotels with more than 200 rooms experienced higher capital productivity than did smaller properties.

increasing a hotel company's returns on its investment.¹⁵

Finally, the hotel's management performance was uniformly related to labor and its capital productivity. Each hotel employee managed by a branded management company generated significantly higher revenues and gross operating profits than did her counterpart working for an independent management company or an independently operated hotel. Similarly, a hotel room being managed by a branded management company generated more than twice the sales revenue, GOP, and net profit than did its counterpart being managed independently or by an independent management company. A likely explanation for this is that the professional management services of branded management companies have a decided edge over independent management companies, even those that operate branded hotels.

Using the Findings

Our findings point out a number of decisions that hotel executives can make to improve hotel productivity.

Chain-hotel companies.

Chain-hotel operators might consider expanding the size of their prototype hotels. Large hotels (i.e., those with at least 201 rooms) tend to be more productive than smaller hotels in terms of managing their labor forces. Upscale hotels are also more productive than other types of hotels. Brand-name hotel companies might also seek to be more aggressive in marketing their management services to independently run hotels, as it appears that hotels operated by

branded management companies realize higher productivity from both their labor resources and capital investments.

In an earlier study we reported that hotel chains can increase the financial performance of their franchised hotels by developing close relationships with those hotels.¹⁶ In that study we measured financial performance in the same way as we did here—labor productivity (i.e., SalesEmp, GOPEmp, ProfitEmp) and capital productivity (i.e., SalesPAR, GOPPAR, ProfitPAR). Thus, behaving in a predictable manner, jointly developing clear performance expectations with the hotel, and working together in a harmonious way to resolve the inevitable conflicts that arise in any business relationship are additional ways by which hotel chains can enhance productivity.¹⁷

Independent hotels. Some strategic decisions have already been made for an existing, independent hotel, and those may be hard to undo. For example, the size of the hotel cannot easily be changed in the short run, although it can be expanded in the medium term. In addition, the ownership and management arrangements may not be easily altered. What remains to be reviewed is the service level and the strategic orientation.

Our research shows that upscale hotels are the most productive. Changing the hotel's positioning may be difficult to do, especially if the market will not support an upscale hotel. Changing a property's positioning requires changing customer perceptions, and that is not an easy task.

Although it was not significantly related to any of our six productivity measures as reported by our sample,

¹⁵ For more on ownership redirection, see: Rajiv P. Dant, Patrick J. Kaufmann, and Audhesh K. Paswan, "Ownership Redirection in Franchised Channels," *Journal of Public Policy and Marketing*, Spring 1992, pp. 1-12.

¹⁶ Brown and Dev, p. 36.

¹⁷ Brown and Dev, p. 38.

a hotel's strategic orientation is critical to its success. Hotel general managers must ensure that their properties are pursuing a strategic orientation that is consistent with their competitive environment. In some cases, this means aggressively developing new services and pursuing new target markets. In other instances, it may mean finding low-cost methods of delivering the same level of service to the same guests. In still other cases, it means doing a little of both.

Hotels in general. In addition to the specific applications described above, understanding productivity has some general implications.¹⁸ First, a hotel company can compare its productivity to the hotel industry as a whole. This comparison shows the firm's competitive position in terms of its productivity. If the firm lags the industry, it will shortly experience declines in profitability, if it has not already done so. If its productivity exceeds the industry, the firm must be vigilant to ensure that its productivity does not fall off, relative to its competitors.

Second, a firm can use productivity measures to determine ways of achieving productivity gains, especially if the productivity information is supplemented with other data. Supplementary data might include information about the level of competitive intensity (e.g., market saturation) and environmental factors that influence demand (e.g., disposable family income, population growth).¹⁹

¹⁸ Louis P. Bucklin, "Research in Productivity Measurement for Marketing Decisions," in *Research in Marketing*, Vol. 1, ed. Jagdish N. Sheth (Greenwich, CT: JAI Press, 1978), pp. 1-22.

¹⁹ See: Charles A. Ingene, "A Conceptual Model and Empirical Evidence of Labor Productivity in Department Stores," in *Productivity and Efficiency in Distribution Systems*, ed. David A. Gautschi (New York: North-Holland, 1983), pp. 77-92.

Firms can also use productivity information to develop standards for employee behavior. Developing sales goals per unit of time (e.g., shift, day, week, season) for departments and employees can be used as a motivational device. Care must be taken, however, not to develop unreachable or onerous standards.

Next, as Bucklin suggests, "[f]rom historical trends of labor wages and capital costs, estimates of the future required gross margins [or] technological gains of the firm may be formed."²⁰

Finally, firms can use productivity information to determine whether certain functions can be shifted away from the hotel itself. For example, a hotel might choose to rely more heavily on the chain's central reservations service, or cooperate with other hotels of the brand in a geographical area to operate a shared system, rather than operating its own system. It may also limit labor requirements by involving its guests more in the actual delivery of hotel services, such as by encouraging the use of automated check-in and check-out services, providing voice mail, and supplying in-room coffee machines as well as other self-service food and beverage amenities.

Directions for Future Research

Several questions for future research occur to us. First, should productivity measures be modified to reflect hotels' changing emphasis from a rooms-only orientation to a full-service orientation? For example, as mentioned earlier, in many cases SalesPAR may be a more appropriate comparative statistic than simple RevPAR.

A second, related question is, should productivity measures be modified from product-oriented

²⁰ Bucklin, "Research in Productivity Measurement," p. 15.

measures to customer-oriented measures? Some hotel companies—Holiday Inn, for instance—are using unconventional measures of productivity such as revenue per available customer (RevPAC). Non-hotel service firms such as Federal Express and U S West (a telecommunications firm) are examining profit per available customer (ProfitPAC) to provide insight into ways to boost their market impact.²¹ Another customer-oriented productivity measure is "share of wallet," often used in food-service and retail businesses, which measures the extent to which the business has tapped the purchasing potential of the customer. (For a hotel property, items to measure would include rooms revenue, on-premises or take-out food and beverage purchases, gift-shop sales, and other products and services not included in the room rate.) For example, Singapore's Raffles Hotel is reputed to earn several million dollars in gift-shop sales a year. Clearly, gift-shop revenue increases Raffles Hotel's overall productivity; however, those dollars do not show up in simple RevPAR comparisons. Productivity measures that include customers' actual purchasing habits over time might prove more valuable than those calculations that merely consider a hotel's physical assets or the size of its work force.

Finally, at what size does a hotel begin to experience economies of scale? Conversely, how large is too large—that is, so large that the hotel experiences diseconomies of scale? While there is some limited research that addresses this issue, this important issue remains largely unexplored.²² **CQ**

²¹ Paul C. Judge, "What've You Done for Us Lately?," *Business Week*, September 14, 1998, pp. 140ff.

²² For example, see: Albert Gomes, *The Optimum Size and Nature of New Hotel Development in the Caribbean* (Washington, DC: Organization of American States, 1987).