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USE OF RATIOS BY FINANCIAL EXECUTIVES IN THE U.S. LODGING INDUSTRY

**A. J. Singh
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ABSTRACT

The purpose of this study is to identify ratios that property-level lodging financial executives consider important and the frequency with which each ratio is referenced. Taken together, these two measures show the usefulness of a ratio for evaluating financial performance. The results clearly emphasize the importance of operating, activity, and profitability ratios as key monitoring ratios, and categorize ratios into ratios referenced frequently and those seldom used.

Introduction

Financial executives are responsible for reporting the financial condition of their hotels, both internally to general managers, division heads and department heads, and externally to investors and financial institutions. Given the amount of financial and operating data generated in the three major financial statements (balance sheet, income statement, and statement of cash flows), this is a considerable task. Fortunately, a variety of ratios exist to assist financial executives in their reporting and interpretation tasks. Textbooks on managerial accounting and financial management have classified these ratios into five categories based on their purpose (Schmidgall, 1997, Coltman, 1994):

1. Liquidity Ratios: Address the ability of the company to meet short-term obligations.
2. Solvency Ratios: Address the ability of the company to pay long-term financial obligations.
3. Activity Ratios: Address the efficiency in management's use of the enterprise's assets.
4. Profitability Ratios: Address management's return on sales and investments.
5. Operating Ratios: Address management's efficiency with regard to its operation.

Literature Review

A group of research studies examined financial ratios from a behavioral perspective. These studies have examined the usefulness of ratio categories either by various user groups within an organization or between user groups within an industry.

Inter-industry differences in the use of financial ratios were the major themes in these studies. An early study by Schmidgall (1988) identified ratios considered most useful by financial executives in the lodging industry, and analyzed differences in the importance of ratios between various user groups such as investors, financial institutions, and lodging general managers. Financial ratio studies in other industries include Shivaswamy, Hoban, and Matsumoto (1993), who surveyed commercial loan officers and identified 19 key ratios they considered important when analyzing manufacturing firms and 14 key ratios for retail firms. Gibson (1983, 1985, 1987) studied the usefulness of financial ratios and discussed which ratios are more useful than others for accountants, bankers, and financial analysts.

A set of lodging industry and general business studies has focused on the definition, explanation, and interpretation of ratios. These studies include Temling's (1985) article on measuring profitability. Schmidgall and Singh's (1998) practitioner oriented article interpreted and explained the use of key lodging industry ratios. Damitio, Dennington, and Schmidgall's (1995) article explained three methods of analyzing financial statements, with ratio analysis being a key tool. Lodging industry consultants such as Smith Travel Research, Pannell Kerr Forster, and Horwath International regularly survey the industry to establish operating and profitability ratio comparables.

Significance of the Study

Despite the documentation of ratio analysis in various empirical, conceptual, and application studies, it appears that research related to the use of financial ratios by lodging financial executives is limited. Since Schmidgall's study in 1988, no one has studied the ratio analysis practices of lodging financial executives. Listed below are changes in the lodging industry's structure that were expected to affect responses in the two study periods:

- The lodging industry in 1988/89 was much more leveraged than it is today. Deregulation allowed lending institutions to make loans at very favorable terms and high loan-to-value ratios. One would expect that solvency and solvency ratios would be crucial to monitor.
- The lodging industry in the 1988/89 was unprofitable. Based on Smith Travel Research data, the industry lost \$1.3 billion in 1988 and \$2.1 billion in 1989, while the industry closed 1999 with a profit of \$22 billion.¹ We expected to find differences in the ranking of ratios due to the changed operating environment.
- Other structural factors may also be expected to affect responses during the study periods. Representative changes include an increase in the industry's size (room supply), a greater diversity of product, a greater complexity of ownership, a greater multiplicity in organizational forms and operating arrangements, a broader geographic dispersion of properties, and an increasing trend for independents to be replaced by chains. Each of these structural changes may affect the reporting requirements and consequently the usefulness of ratios.

¹ Smith Travel Research. 105 Music Village Boulevard. Hendersonville, TN 37075.

Furthermore, missing in the behavioral literature on ratio use is the frequency with which executives refer to a particular ratio. In view of the scarcity of behavioral studies and the changes in the lodging industry's size, scope, and structure, the present study seeks to fill the gap by studying the usefulness of ratios to financial executives in the U.S. lodging industry today. The industry will benefit from the results of the study as it outlines the current practice of ratio analysis in our industry. Further, continued research on performance measurement (of which ratio analysis is one part) is essential for development of better theories and techniques of ratio analysis.

Study Objectives and Research Questions

The purpose of the study was to determine the usefulness of financial ratios by financial executives in the U.S. lodging industry. This was achieved by identifying the importance of these ratios to lodging industry financial executives and summarizing how frequently such executives reference these ratios. Listed below are the specific objectives of this study:

1. To identify the importance to financial executives of 36 commonly used financial ratios in the U.S. lodging industry.
2. To identify how frequently financial executives reference individual ratios and the typical reference points of these ratios.
3. To identify, where applicable, changes in the importance of ratios for financial executives since 1988.

Research Methodology

We randomly selected a study sample of 500 lodging financial executives from the 2000 Directory of Hospitality Financial and Technology Professionals (HFTP). We received 81 useable responses, resulting in a response rate of 16.2%. Approximately 90% of the respondents were financial executives working in independent (34%), franchise (13%), management company (17%), and chain-owned-and-operated (12%) organizations. Approximately 24 percent of the respondents marked "other." A sorting of the data revealed that those who marked "other" were financial executives in first-class and luxury hotels; 95% of these "other" hotels were from 200 to 500 rooms in size.

The questionnaire was divided into three sections: (1) a profile of the respondents and their organization, (2) standards used to evaluate ratios, and (3) importance and frequency of ratio usage (the subject of this article). The survey instrument had primarily closed-ended questions using mainly an ordinal level of measurement. The measurement scale was a six point semantic differential, measuring importance and frequency of usage. The instrument was pre-tested on a small group of lodging financial executives before being finalized. The data were analyzed in SPSS using descriptive statistics, which were rank ordered in presenting the results.

Results and Discussion

The results analyzed and discussed for the five ratio categories reflect the importance of these ratios for financial executives and the frequency with which these ratios are referenced. The importance of ratios is analyzed on a scale from **crucial** to **unimportant**, while frequency of usage ranges from **daily use** to those ratios that are **never used**. We presented the summarized responses in three ways: frequency distribution to divide the responses into discrete categories, mean as a statistic to measure central tendency, and rank order to prioritize the importance of the responses. The discussion following the analysis of results compares the importance scores of select ratios in this study with Schmidgall's 1988 study. This is supported with supplementary tables (Tables 12 and 13), listing the most important ratios and changes in ratio usage from Schmidgall's 1988 study.

Use of Liquidity Ratios

Table 1 shows the importance of liquidity ratios to lodging financial executives. In general, executives consider liquidity ratios important ratios (mean score: 3.14). The two most important liquidity ratios for financial executives are accounts receivable turnover and average collection period. Both had mean scores of about 3.5, indicating usefulness ranging from important to very important. For the most part, financial executives refer to liquidity ratios on a monthly basis (Table 2). As noted in this table, a majority of the executives (66–70%) use accounts receivable turnover ratio and average collection period on a monthly basis. The executives were split in their use of current and acid test ratios. While many still refer to them monthly (43% current ratio, 30% acid test ratio), approximately 50% stated that they refer to them annually or never use them. While about one-third (38%) of the respondents said they use operating cash flow to average current liability ratios monthly, about the same number (37%) said they never use this ratio.

Table 1
Importance of liquidity ratios mean score and ranking

Liquidity Ratios	Calculation	Overall Mean	Importance Rank
AR Turnover	Total Revenue/ Average Accounts Receivable	3.55	1
Average Collection Period	365/ Accounts Receivable Turnover	3.48	2
Operating Cash Flow to Average CL	Operating Cash Flow/ Average Current Liabilities	2.81	3
Current	Current Assets/Current Liabilities	2.78	4
Acid Test	Cash, Marketable Securities, Notes Receivable & Accounts Receivable/ Current Liabilities	2.72	5
Total		3.14	

Scale: Crucial 5 Very Important 4 Important 3 Somewhat Important 2 Unimportant 1

Table 2
Frequency of liquidity ratio use by financial executives

Liquidity Ratios	Daily	Weekly	Monthly	Qrtly	Annual	Never
Current	0	2.6%	43.6%	3.8%	25.6%	24.4%
Acid Test	5.3	2.6	30.3	3.9	25.0	32.9
AR Turnover	1.3	11.3	66.3	3.8	3.8	13.8
Average Collection Period	1.3	6.3	69.6	5.1	6.3	11.4
Operating Cash Flow to Average CL	3.9	5.3	38.2	2.6	13.2	36.8

We compared two of the liquidity ratios in this study, the accounts receivable turnover and the current ratio, with Schmidgall's 1988 study on the usefulness of financial ratios. In 1988, financial executives gave the accounts receivable turnover ratio a mean score of 4.08 (indicating very important) as compared with the current study's score of 3.55 (between important and very important). The current ratio received a mean score of 3.20 (slightly over average importance) in the former study, while the mean score in this study was 2.78 (slightly less than important). These importance rankings have remained reasonably consistent.

While in general the respondents did not rank current and acid test ratios as high as the accounts receivable ratios, they are directly related. A reduction or increase in accounts receivables directly affects the two coverage ratios by raising or lowering current assets. Interpreted this way, these two categories of ratios are "cause-effect" ratios, where a change (cause) in accounts receivables has an effect on the current and acid test ratios. This may explain the more frequent reference to the accounts receivable and turnover ratios. Specific actions (ability to collect receivables) ultimately affect the current and acid test ratios. The accounts receivable ratio refers to a specific asset that needs to be carefully monitored to ensure the conversion to cash. This may offer an alternative explanation for its popularity.

Use of Solvency Ratios

In general, financial executives of individual hotels did not appear to be very interested in their hotel's degree of debt financing or its ability to meet its long-term debt obligations. As noted in Table 3, the overall mean scores for the five solvency ratios studied was less than 3.0. While executives identified the debt-to-equity ratio as the most important ratio among the five ratios, there was not much difference in the overall mean between the first- and fifth-ranked ratio (mean 2.64–2.46). The frequency with which this ratio is referenced further reflects this. As indicated in Table 4, the majority of the executives either uses these ratios annually or never uses them.

Table 3
Importance of solvency ratios mean score and ranking

Solvency Ratios	Calculation	Overall Mean	Importance Rank
Debt-Equity	Total Liabilities/Total Owners' Equity	2.64	1
Solvency	Total Assets/Total Liabilities	2.61	2
Operating Cash Flow to Total Liabilities	Operating Cash Flows/ Average Total Liabilities	2.58	3
Times Interest	Earnings before Interest and Taxes/Interest Expense	2.55	4
Fixed Charge	EBIT + Lease Expense/ Interest and Lease Expense	2.46	5
Total		2.59	

Scale: Crucial Very Important Important Somewhat Important Unimportant
 5 4 3 2 1

Table 4
Frequency of solvency ratio use by financial executives

Solvency Ratios	Daily	Weekly	Monthly	Qrtly	Annual	Never
Debt-Equity	0.0%	0.0%	29.9%	9.1%	26.0%	35.1%
Solvency	0.0	0.0	32.5	5.2	33.8	28.6
Times Interest	1.3	1.3	22.4	6.6	23.7	44.7
Fixed Charge	0.0	1.3	22.7	4.0	21.3	50.7
Operating Cash Flow/Total Liabilities	1.3	0.0	36.4	1.3	24.7	36.4

The low rankings across all solvency ratio categories (Table 3) and their infrequent use (Table 4) was not surprising, as these ratios are primarily of interest to bankers, owners, and corporate financial executives. This study focused on the property-level financial executives as opposed to a corporate fiscal officer. The combination of low importance and lack of use may be a sign of a lack of awareness or understanding of these ratios.

In Schmidgall's 1988 study, financial executives gave solvency ratios an overall score of 3.09 (indicating average importance). The importance of this ratio has not changed much over this period, as the results of the current study are reasonably similar to the former study. Given the similarity of results during these two periods, we may infer that changes since 1988 in the lodging industry's capital structure (ratio of debt to equity) and its inability to meet debt service do not necessarily make this ratio important to the fiscal officer at a hotel property. U.S. hotels in general were more highly leveraged and the rates of lodging industry loan defaults were higher during the time of the study in 1988 than during the period of the present study.

Finally, increased industry profitability during the study period, the significant reduction in interest costs since 1988, and the lack of leased properties in the study sample may partially explain why many executives consider number of times interest earned and fixed charge coverage ratios as less important than other solvency ratios or use these two ratios infrequently.

Use of Activity Ratios

This category of ratios measures management's effectiveness and efficiency in using its resources. The overall mean score of 3.62 indicates that the executives consider this a very important ratio group. As expected, in general most of the ratios in this category scored high on the importance scale. Paid occupancy and average occupancy per room were the two most important ratios, with an overall mean score of 4.56 and 4.18, respectively (Table 5). Employee turnover, daily seat turnover, multiple occupancy, and inventory turnover followed, with mean scores ranging from 3.31–3.72 (Table 5). As noted in Table 6, financial executives keep a close watch on this ratio, with a majority referencing some of the ratios in this class daily (80% for paid occupancy, 51% for multiple occupancy, 42% for daily seat turnover). The most common reference point for inventory turnover and employee turnover ratios was monthly (approximately 70% selecting this response). The fact that executives tended to look at inventory turnover monthly suggests that most hotels conduct monthly inventories.

Table 5
Importance of activity ratios mean score and ranking

Activity Ratios	Calculation	Overall Mean	Importance Rank
Paid Occupancy	Paid Rooms Occupied / Available Rooms	4.56	1
Average Occupancy per Room	Number of Guests / Number of Rooms Occupied	4.18	2
Employee Turnover	Number of Terminations / Average Number of Full-Time Equivalent Employees	3.72	3
Daily Seat Turnover	Number of Covers per Day / Number of Seats in Restaurant	3.52	4
Multiple Occupancy	Rooms Occupied by Two or More People / Rooms Occupied	3.34	5
Inventory Turn	Cost of Food Used / Average Food Inventory	3.31	6
Fixed Asset Turn	Total Revenue / Average Property and Equipment (Fixed Assets)	2.20	7
Total		3.62	

Scale: Crucial 5 Very Important 4 Important 3 Somewhat Important 2 Unimportant 1

Table 6
Frequency of activity ratio use by financial executives

Activity Ratios	Daily	Weekly	Monthly	Qrtly	Annual	Never
Inventory Turn	2.5%	8.6%	66.7%	6.2%	3.7%	12.3%
Fixed Asset Turn	0.0	1.3	18.2	7.8	24.7	48.1
Paid Occupancy	80.8	7.7	10.3	0.0	0.0	1.3
Average Occupancy per Room	71.3	6.3	12.5	1.3	0.0	8.8
Multiple Occupancy	51.9	5.1	21.5	1.3	1.3	19.0
Employee Turnover	0.0	7.5	67.5	8.8	8.8	7.5
Daily Seat Turnover	41.6	5.2	26.0	3.9	2.6	20.8

The measurement of the effectiveness with which hotel assets such as room space (three occupancy related ratios) and dining room space (seat turnover) are utilized is clearly important to financial executives. This is consistent with Schmidgall's 1988 study that ranked occupancy percentage as very important. It is interesting to observe that while average occupancy per room and multiple occupancy percentage measure essentially the same activity, financial executives in the current study ranked the former higher than multiple occupancy percentage. This preference may be the result of one ratio being intuitively more informative than the other ratio.

The speed with which inventory is turned over affects the amount of cash tied up in physical goods and space costs associated with storage. In both this study and the 1988 study, the food inventory ratio scored relatively low as compared to the other ratios in this category. The executives ranked it sixth out of the seven ratios, with a mean score of 3.31. In the 1988 study, the respondents categorized this ratio between important and average importance. An individual analysis of the 17 hotels that scored this ratio between somewhat important and no opinion revealed that the same hotels scored the food cost percentage as very important to crucial. A possible explanation of this anomaly is that a subset of the industry may not have a full understanding of the cost savings associated with proper inventory controls. Specifically, this may indicate an incomplete understanding of costs associated with dead stock, spoilage, theft, economic order quantity, and other issues associated with achieving optimal inventory levels. Alternatively, inventory may be a minor part of the costs at these hotels and therefore considered inconsequential to the overall results.

While the capital-intensive nature of the lodging industry makes the fixed asset turnover ratio a logical choice for being important and a regularly referenced ratio, the majority of executives ranked this ratio as unimportant and 48% of the respondents stated they never use the ratio. The lack of executive interest may be due to difficulty with this ratio's interpretation. The denominator of this ratio is the average book value of property and equipment for a period, while the numerator represents total revenue. The combination of a continuously depreciating asset base and steady or improving revenue (numerator

Table 8
Frequency of profitability ratio use by financial executives

Profitability Ratios	Daily	Weekly	Monthly	Qrtly	Annual	Never
Profit Margin	11.1%	8.6%	77.8%	0.0%	0.0%	2.5%
Operating Efficiency	6.3	1.3	72.2	1.3	5.1	13.9
Return on Assets	0.0	0.0	31.6	8.9	26.6	32.9
Gross Return on Assets	0.0	1.3	25.6	10.3	26.9	35.9
Return on Equity	0.0	2.6	29.5	10.3	26.9	30.8
Earnings per Share	0.0	1.4	18.3	8.5	8.5	63.4
Price Earnings Ratio	3.1	1.6	15.6	7.8	4.7	67.2

Both the 1988 and the present study scored profit margin and operating efficiency as very important and crucial ratios. While mean scores indicated that executives ranked return on equity as important, nearly 60% use it infrequently or never. Cross tabulation of the results showed that 35% of the respondents who scored this ratio less than important worked at independent hotels and 25% were with management companies. While it is easy to understand why a financial executive with a management company may not consider this ratio important, we can only assume that respondents from independent hotels have a corporate entity (investor or partnership entity) that monitors this ratio.

Use of Operating Ratios

Financial executives were unanimous in ranking operating ratios as very important and crucial. While average daily rate had the highest mean score (4.67), the narrow band of agreement on ten of the twelve ratios in this category (mean 4.67 to 4.15) makes it difficult to state that one ratio is more important than the other ratios. Of these ratios, average daily rate, RevPAR, and average food check are most closely monitored, as most refer to them daily or weekly (Table 10). The operating ratios associated with departmental profit (rooms, food, beverage, and telephone) and sales mix are reviewed monthly. Finally, operating ratios associated with cost (food, beverage, and labor) are most often referenced weekly or monthly.

Table 9

Operating Ratios	Calculation	Overall Mean	Importance Rank
ADR	Total Room Revenue/Number of Rooms Sold	4.67	1
RevPAR	Rooms Revenue/ Available Rooms	4.62	2
Labor Cost %	Total Labor Cost/Total Revenue	4.55	3
Rooms Dept Profit	Total Departmental Profit/Departmental Revenue	4.39	4
Food Profit %	Total Departmental Profit/Departmental Revenue	4.37	5
Beverage Profit %	Total Departmental Profit/Departmental Revenue	4.37	5
Food Cost%	Cost of Food Sales/Food Sales	4.32	6
Beverage Cost %	Cost of Beverage Sales/Beverage Revenue	4.29	7
Telephone Profit %	Total Department Profit/ Department Revenue	4.21	8
Average Food Check	Total Food Revenue/Number of Food Covers	4.15	9
Sales Mix	Departmental Revenue/Total Revenue	3.89	10
RevPAC	Total Revenue from Hotel Guests/Number of Hotel Guests	3.31	11
Total		4.34	

Scale: Crucial Very Important Important Somewhat Important Unimportant

 5 4 3 2 1

Table 10
Frequency of operating ratio use by financial executives

Operating Ratios	Daily	Weekly	Monthly	Qrtly	Annual	Never
Rooms Dept Profit	8.6%	6.2%	84.0%	0.0%	0.0%	1.2%
Food Profit %	8.9	5.1	79.7	1.3	0.0	5.1
Beverage Profit %	8.6	7.4	77.8	1.2	0.0	4.9
Telephone Profit %	6.3	5.0	85.0	1.3	0.0	2.5
Sales Mix	12.3	11.1	70.4	0.0	1.2	4.9
ADR	77.8	8.6	12.3	0.0	0.0	1.2
RevPAR	63.0	13.6	22.2	0.0	0.0	1.2
Average Food Check	60.5	5.3	28.9	0.0	0.0	5.3
Food Cost %	19.2	21.8	53.8	0.0	0.0	5.1
Beverage Cost %	18.8	21.3	53.8	1.3	0.0	5.0
Labor Cost %	35.0	30.0	30.0	1.3	0.0	3.8
RevPAC	12.8	6.4	33.3	7.7	2.6	37.2

The strong agreement among executives on the importance of operating ratios indicates their key role in assisting management in the operation of a hotel. Many of the same ratios were studied in Schmidgall's 1988 study, with the same results. Labor cost percentage, average daily rate, food, and beverage costs were ranked as the most important ratio in 1988.

It was also interesting to note that, contrary to the popular notion that financial executives are more "bottom line" focused, they ranked two revenue maximization ratios—RevPAR and average daily rate—as the two most important operating ratios. Overall, financial executives at lodging properties take a balanced approach towards evaluating their operations by focusing on revenue maximization, cost reduction, and ultimate flow-through to the bottom line.

Typical Use of Ratios By Financial Executives

While the preceding analysis and discussion provides the details on ratio usage by executives, Table 11 is a density chart showing the typical frequency with which executives use ratios. As the table suggests, ratios used to monitor activities and operations such as occupancy, seat turnover, ADR, RevPAR, and labor costs are watched daily, while ratios influencing liquidity, such as receivable ratios and current ratios, are monitored monthly. Executives typically refer to profitability ratios (profit margin and operating efficiency) and operating ratios (departmental profits, sales mix, and product cost) on a monthly basis as well. It is clear from Table 11 that most executives do not have much use for solvency ratios, as most never use them or use them infrequently. The same applies to

profitability ratios that compare earnings to the asset base (return on assets) or those that compare earnings to owners' investment (return on equity, earnings per share). While important for evaluating efficiency of asset use and capital invested, these ratios are clearly not used at the property level.

Table 11
Typical reference time frame of financial ratios
Based on highest percentage selecting category**

Ratios	Daily	Weekly	Monthly	Quarterly	Annually	Never
Current			44%		26%	24.4%
Acid Test			30%		25%	32%
Accounts Receivable Turnover			66%			
Average Collection Period			70%			
Operating Cash Flow to Current Liabilities			38%			37%
Debt-Equity			30%		26%	35%
Solvency			33%		34%	29%
Times Interest Earned					24%	45%
Fixed Charge Coverage						51%
Operating Cash Flow to Total Liabilities					25%	37%
Inventory Turnover			67%			
Fixed Asset Turnover					25%	48%
Average Occupancy	71%					
Paid Occupancy	81%					
Multiple Occupancy Per Room	52 %					

Ratios	Daily	Weekly	Monthly	Quarterly	Annually	Never
Employee Turnover			68%			
Daily Seat Turnover	42%		26%			
Profit Margin			78%			
Operating Efficiency			72%			
Return on Assets			32%		27%	33%
Gross Return on Assets			26%		27%	36%
Return on Equity			30%		27%	31%
Earnings per Share						64%
Price Earnings Ratio						67%
Rooms Dept Profit			84%			
Food Profit %			80%			
Beverage Profit %			78%			
Telephone Profit %			85%			
Sales Mix			71%			
ADR	78%					
RevPAR	63%					
Average Food Check	61%		29%			
Food Cost %			54%			
Beverage Cost %			54%			
Labor Cost %	35%	30%	30%			
RevPAC			33%			37%

* Percentages are rounded to the closest whole number

Comparison of 1988 Results to Present Study

We selectively compared the importance scores of ratios in the present study with Schmidgall's study in 1988. Table 12 shows the comparative importance scores of the five ratio categories during these two study periods. We also compared the rankings of the top ten ratios during the two-study period (Table 13).

Table 12
Comparative importance of financial ratios
1988 versus 2000

RATIO	MEAN SCORE 1988	MEAN SCORE 2000
Liquidity	3.06 (average importance)	3.14 (important)
Solvency	3.09 (average importance)	2.59 (somewhat important)
Activity	3.59 (average-very important)	3.62 (important-very important)
Profitability	3.57 (average-very important)	3.56 (important-very important)
Operating	3.78 (average-very important)	4.34 (very important-crucial)

Table 13
Top ten ratios identified by financial executives in 1988 and 2000

Ratio	Ratio Category	Rank2000	Mean Importance 2000	Rank 1988	Mean IMPORTANCE 1988
Revenue % Change from Budget		Not Asked		1	4.44 (v imp-most imp)
Average Room Rate	Operating	1	4.66 (crucial)	6	4.19 (v imp-most imp)
RevPAR	Operating	2	4.63 (crucial)	Not Asked	
Occupancy Percentage	Activity	3	4.56 (crucial)	4	4.39 (v imp-most imp)
Labor Cost Percentage	Operating	4	4.55 (crucial)	5	4.33 (v imp-most imp)
Profit Margin	Profitability	5	4.47 (v imp-crucial)	2	4.43 (v imp-most imp)
Rooms Department Profit	Operating	6	4.39 (v imp-crucial)	Not in Top 10	
Food Department Profit	Operating	7	4.37 (v imp-crucial)	Not in Top 10	
Beverage Department Profit	Operating	8	4.36 (v imp-crucial)	Not in Top 10	
Food Cost Percentage	Operating	9	4.32 (v imp-crucial)	9	4.15 (v imp-most imp)
Beverage Cost Percentage	Operating	10	4.28 (v imp-crucial)	8	4.17 (v imp-most imp)

While the scales used to categorize the importance of the ratios in the two study periods were slightly different,² it appears from the mean scores that the overall importance of ratios was higher in the current study as compared to the 1988 study. In particular, financial executives regard operating ratios as more critical today than they did in the former study. Furthermore, liquidity ratios have moved from a score of average importance³ to being an important ratio. There was no change in executive opinion on solvency ratios; executives considered them to be of average importance to somewhat important during both periods.

The emphasis on operating, activity, and profitability ratios is evident in both the studies. While rankings vary slightly, the band of mean scores is very narrow between the first- and tenth-ranked ratios in both studies. Financial executives consider each of these ratios critical. While RevPAR was a crucial ratio in the present study, it was not generally used (and hence not asked about) during the former study.

Conclusion and Implications of Findings

At the very fundamental level, the results of the study identify ratios considered important by financial executives at U.S. lodging properties. Hotel managers should review their ratio analysis practices to see if they are using ratios considered important based on the results of the study. Additionally, users can compare their own importance scale to the results reported in the study to adjust their ratio analysis practices accordingly. Financial executives can also use the results of the study to evaluate how frequently they refer to ratios as compared to the general industry norm. Using this information, they can appropriately adjust their ratio monitoring practices.

At a more advanced level, the results of the study indicate that the basic responsibilities and evaluation criteria of a financial controller have not changed much between the two study periods. The study reaffirms the importance of operating, profitability, and activity ratios to financial controllers. While it is encouraging to note that hotel controllers are very concerned with the operations of their properties (eight of the top ten ratios are operating ratios), this study also reveals a status quo in their professional certification, education, and responsibilities. In 1984, Geller and Schmidgall's study on the role of hotel controllers concluded with a disturbing finding: there was a lack of professional certification among controllers. While a repeat study in 1990 showed a marginal improvement, only 14% of the respondents were CPAs (Geller, Ilvento, and Schmidgall, 1990). The same studies also showed that the basic responsibilities for controllers between the two study periods remained the same, with one major exception: use of computers. This is an important point because even though the operating environment of hotels was very different in 1983 as compared to 1989 (in 1983, the industry was flush with capital and resulted in many new hotels being financed, which led to overbuilding

²1988 study importance scale: 5=most important, 4=very important, 3= average importance, 2=<average, 1=least importance. The sampling frame for both study periods was identical.

³ The scale equivalent to "average importance" (1988) would be "somewhat important" (2000).

at the end of the decade), the responsibilities of the controller did not reflect this. As a result, Schmidgall's ratio study in 1989 showed that controllers still focused on ratios related to profitability, operations, and activity, with little regard for solvency or liquidity ratios.

This divorce of changes in the external environment with the responsibilities of the financial executives is reflected in the present study as well. As hotel assets become larger and more dependent upon external financing and as operating structures become more complex, hotel managers are being viewed more as asset managers than merely managers of the business component of a hotel. In light of this, it is important to hotel owners that their financial executive be knowledgeable and that their performance be evaluated on specific balance sheet ratios in addition to income statement ratios. In particular, we are concerned about the lack of attention to the current ratio and the operating cash flow to average current and total liabilities ratios, as well as about a general lack of awareness of many solvency ratios and ratios measuring the efficiency with which assets are used (asset turnover and return on asset ratios).

Suggestions for Future Research

A variety of topical areas may be studied to further contribute to ratio research in the lodging industry. An area of interest to executives and academicians is to study how specific ratios are useful in achieving management objectives. Research of this type may show the linking of compensation, management objectives, and specific ratios. A study along this theme may help explain why executives consider some ratios more important than other ratios. Results of this study may offer an opportunity to recommend different (perhaps more effective) compensation programs for financial executives.

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