
An examination and application of current lodging valuation practices

Received (in revised form): 24 February 2008

Leonard A. Jackson

teaches at the Rosen College of Hospitality Management in Orlando, Florida. Throughout his 20-year career, Dr Jackson has held senior managerial positions with leading hospitality enterprises. These include hotels, resorts, free-standing restaurants and a national airline. He received his doctorate degree from Oklahoma State University, USA, Master's from the University of Guelph, Canada, Bachelor's from Ryerson University, Canada and Associate of Arts degrees from George Brown College, Canada. Dr Jackson is a Certified Hospitality Accountant Executive (CHAE), Certified Hospitality Revenue Manager (CHRM), Certified Hospitality Technology Professional (CHTP) and Certified Hospitality Educator (CHE). He also earned a certificate in Revenue Management from Cornell University. Dr Jackson focuses his research in the areas of hotel development, lodging operations management, lodging real estate investment trusts (REITs), hospitality accounting, hospitality finance, information technology and asset management.

Abstract

Lodging enterprises use a mix of approaches to estimate the value of their real property. Some approaches are formal, comprising theories and models while others are informal, operating by *ad hoc* rules of thumb. There is a wide variation and complexity between each valuation technique, with each offering benefits as well as limitations. While there are many approaches to valuating hospitality enterprises, three approaches are generally utilised to determine the value of lodging properties. These include the cost approach, the sales comparison approach and the income capitalisation approach. This paper presents an overview of the common valuation methods used in determining the value of hotels. The paper uses hypothetical data to illustrate the application of the income approach and the direct comparison approach.

Keywords:

hotel valuation, direct comparison approach, income approach

Journal of Retail and Leisure Property (2008) 7, 234–247.

doi:10.1057/rjp.2008.12; published online 11 June 2008

INTRODUCTION

In today's operating environment, valuation is a financial analytical skill that senior lodging managers need to learn and master. In the past, hotel valuation techniques were mainly employed by hotel investors and appraisers. Today's lodging executive, however, cannot rely exclusively on financial specialists. Instead, managers need to know how to conduct this exercise for themselves for two main reasons. First and foremost is

Leonard A. Jackson
Rosen College of Hospitality
Management
University of Central Florida
Orlando, FL, USA
Tel: +407 903 8154
Fax: +407 903 8105
E-mail: lajacks@mail.ucf.edu

the fact that executives have to live with the consequences of negative fallout of their companies' capital budgeting systems. Secondly, is the fact that understanding valuation has become a prerequisite for meaningful participation in a company's resource allocation decision. Thirdly, valuation is required to provide a quantitative measure of the benefits and liabilities accruing from the ownership of the real estate and is carried out by a number of different players. These may include real estate agents, appraisers, assessors, mortgage lenders, brokers and property developers, market researchers and analyst as well as investors and fund managers. Finally, the valuation of real property is a central tenet for all businesses. In fact, hotels often conduct comprehensive valuation on average every three years.

In its simplest form, valuation is the determination of the amount for which the property will transact on the open market at a particular time. In the lodging industry, the value of a hotel is the present worth of the future economic benefits accruing to ownership, which usually comprise of periodic cash flows plus the proceeds of an eventual sale. There is a wide range of purposes for which valuations are required. These range from valuations for purchase of sale, transfer, tax assessment, expropriation, investment and financing. Valuation methods can be grouped as traditional and advanced. The traditional methods are regression models, comparable cost, and income and profit methods. The advance methods are hedonic pricing methods, spatial analysis methods and fuzzy logic methods.

The purpose of this paper is to present an overview of the various types of valuation methods and techniques that are used to determine the value of hotels. The paper also uses hypothetical operational and market data to illustrate two of the common valuation approaches used to determine the market value of hotels.

REVIEW OF LITERATURE

Estimating the value of hotels is a complex and often complicated task that often requires a comprehensive knowledge of hotel operations as well as a thorough understanding of the various valuation techniques and procedures (Rushmore, 1992a). Although lodging executives estimate the value of their properties in many ways, the general trend in lodging valuation has been to employ three approaches, the cost approach, the sales allocation approach, and the income capitalisation approach (Lesser, 1992; Rushmore, 1992b; Walsh and Staley, 1993; Nilsson *et al.*, 2002). These approaches vary in their applications and complexity.

The cost approach focuses on asset replacement, which is rebuilding costs less allowances for depreciation. This approach is not concerned with the current market value of the hotel or the future net income that the hotel may generate (Stefanelli, 1982). Instead, this method focuses on the reduction of costs and ignores the value of the hotel both in terms of a property and as a business (Lesser, 1992). This method also requires a number of subjective and unsubstantiated depreciation estimates (Sikich, 1993). The cost approach is appropriate for estimating the value of newly constructed properties. This is because as a building age, its loss in value

becomes increasingly difficult to accurately quantify. Because the cost approach does not reflect any income-related considerations, and requires several subjective depreciation estimates, this approach is usually given little weight in hotel valuation (Rushmore, 1975; Lesser, 1992).

The sales comparison approach is concerned with recent transactions involving hotel purchases. That is, what the market recently indicated that it is prepared to pay for a similar hotel, without consideration as to the cost of replacement or recent income generation potential (Sikich, 1993). Since this approach relies on current market conditions, it normally requires adjustments in order to compensate for differences between comparable hotels (Andrew *et al.*, 2007). This approach is sometimes deemed as unreliable in determining the value of hotels. This is because hotels are dissimilar to one another in aspects such as levels of service, conditions of physical improvements, location, as well as the characteristics of the local market (Lesser, 1992). The sales comparison approach provides a range of values that provides support for the income approach. Its weakness, however, is that it is usually difficult to obtain comparable sales, make the necessary adjustments, as well as obtain accurate information regarding the true motivations of buyers and sellers.

The income capitalisation approach is more complex than the cost or sales comparison approach, and attempts relate the wealth generating capacity of the hotel to its value. The income capitalisation approach includes four valuation methods: the single capitalisation rate methodology, discounted cash flow analysis, simultaneous valuation formula and band of investment method. This approach therefore includes procedures comparable to those employed by hotel investors, who constitute the marketplace, and is generally considered to be the most appropriate for the determination of hotel values (Rushmore, 1975; Rushmore, 1992b). The income capitalisation approach is also the approach that is most favoured by appraisers, owners, lenders and borrowers since it most accurately estimates the market value of hotels (Lesser, 1992). Additionally, this approach is appropriate since hotels are income-generating facilities that are bought and sold based on its ability to generate a profit.

On the other hand, Sikich (1993) noted that the valuation of new hotels require that the cost approach be applied since valuation cannot be based on historic performance. According to Nilsson *et al.* (2002), despite the variations in methods, the income-based capitalisation method is the most effective basis for a framework on which to derive market value for a hotel. The authors however cautioned that at least one other valuation method should be utilised in reconciling the final value for a hotel. For this reason, this paper illustrates the income approach and the direct comparison approach.

The primary focus of any valuation technique is to assess the current market value to secure financing, for expansion and sometimes to assist with operations and to determine the market value or selling price at which a property is expected to change hands on the open market (Andrew *et al.*, 2007). Valuation techniques used in determining the value of hotels include: band of investment-one stabilised year, band of investment-three year build-up while valuation formulas used

include: ten-year discounted cash flow, ten-year discounted cash flow with overall discount rate, and market derived capitalisation rate and room rate multiplier. Band of investment is a simple technique to explain and apply. This technique is best for a stabilised property that is expected to maintain a consistent level of occupancy and net income into the future. On the negative side, it is difficult to establish an appropriate stabilised net income for hotels that have fluctuating and hence unpredictable occupancies. Band of investment-three year build-up is also simple and easy to explain. This technique works well for hotels experiencing a build-up of occupancy and net income. Although the use of this approach to develop a discount and a capitalisation rate is not 100 per cent mathematically correct, it usually yields reliable results. The ten-year discounted cash flow is a complicated technique. It accurately, however, mirrors the typical actions of hotel buyers. The discounted cash flow with overall discount rate is also relatively simple to perform. The major weakness of this technique, however, is that the discount rate has little support that weakens the overall technique. It is also difficult to adjust the discount rate for changes in the cost of capital. The market-derived capitalisation rate suffers from the same weaknesses as the sales comparison approach and is rarely used by hotel buyers. The room rate multiplier is a rule of thumb approach that provides a check to the accuracy of other techniques employed (Rushmore, 1992a).

In recent years, there has been an increase in the use of computer technology to aid in the analysis of real property. This has been done through the use of specialised computer software and computer-aided models such as automated valuation models. In fact, Lenk *et al.* (1997) argue that hedonic pricing models and artificial neural networks will replace the traditional valuation processes currently performed by humans. Presently, the use of automated valuating models to value hotels has been limited (O'Neil, 2004). O'Neil (2004) argued that such automated valuation models are appealing to stakeholders involved in hotel valuation (hotel managers, owners, potential purchasers, potential lenders, owners and analyst), since they are easy to use, they are objective and are relatively inexpensive to use. These models are also attractive since they save resources such as time and money and reduce barriers associated with retrieving data (Lenk *et al.*, 1997). Despite the benefits that these automated models offer, they should be used with caution and only as a supplement to existing valuation methodologies, such as the income capitalisation, sales comparison and cost approach (O'Neil, 2004).

Automated valuation methodologies are particularly useful in analysing portfolios rather than individual properties, and are found to be more accurate when they are used to value properties that have a large number of guestrooms, have high occupancy, average daily rates and net operating income than those that do not. Hence, these models do not compare favourably with traditional models (O'Neil, 2004). Caution should be exercised in using these models for valuation purposes since more technical knowledge is needed before private and public confidence can be placed in these techniques for property valuation and lending decisions (Lenk *et al.*, 1997). Hence, they should be used in conjunction

with existing, proven methodologies. Additionally, presently, the Uniformed Standards of Professional Appraisal Practice Advisor does not consider model outputs (void of other methodologies) to be an appraisal. Despite the current limitations of automated valuation models in hotel valuation, however, on the upside is the fact that these models reduce the subjectivity that is inherent to present valuation methodologies. Additionally, computer technology if employed effectively has the ability to improve the accuracy of current valuation techniques (Hin Li, 2000).

‘Despite the methodology used, a thorough market analysis must be conducted to obtain a reliable net operating income. At the very minimum, the market analysis should contain the following steps, site and area analysis, assessment of general economic conditions, supply and demand analysis, facilities review, market penetration analysis and projections of cash flow from operations’. (Walsh and Staley, 1993)

HOTEL VALUATION: AN EXAMPLE

Based on the foregoing discussion, market value therefore represents the most probable price that the property will bring in a competitive and open market. In considering market value, the assumption is made that all the conditions requisite for a fair sale are present. These conditions include the fact that the buyer and seller each are acting prudently and knowledgeably. The assumption is also made that the selling price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of the title from seller under the following conditions: the buyer and seller are typically motivated; both parties are well informed or well advised and will act in what they consider to be their best interest; payment is made in terms of cash or in terms of financial arrangements comparable thereto; and that the price represents the normal consideration for the property sold, unaffected by special or creative financing or sales or concessions granted by anyone associated with the sale.

Selection of valuation methodology

Of the three common approaches used in hotel valuation, only the income approach and the direct comparison approach were utilised in this example. The direct capitalisation method was utilised for the income derived from operations. The cost approach was not utilised due to the difficulties in estimating replacement cost, new and accrued depreciation from all causes for the property. Hence, because of the relatively limited information, both the direct comparison and the income approach were deemed appropriate to illustrate hotel valuation.

The direct capitalisation method is based on the conversion of the current annual net income into an indicated market value. This is accomplished by dividing the current net operating income by an appropriate overall rate that is derived from the marketplace. The derived capitalisation rate therefore is a reflection of the degree of risk involved in acquiring a particular property along with other investment characteristics

of the property. The direct comparison approach is based on the direct comparison of recent transactions of similar properties on the open market.

THE INCOME APPROACH

Market share

Determining the market share of the subject property is an integral part of the valuation process. Table 1 provides a list of all the hotels competing with the subject hotel. As shown, the hotels in the competing set achieved an overall occupancy rate of 74.4 per cent for the year to date 11-month period. The subject hotel achieved a slightly higher occupancy rate of 75 per cent for the same period. The overall average daily rate for the competitive set during the same period is \$103.77, while the subject hotel achieved an average room rate that was slightly lower than the overall average rate at \$102.94. Table 2 compares the statistical data to the subject and its direct competitors. The overall occupancy of these hotels for the same period is virtually the same at 74 per cent, however, the average room rate is somewhat higher at \$115.09, compared to the subject hotel at \$102.94. In terms of market share, the subject hotel has a potential share of 2.6 per cent of the total market. Hence, the subject hotel is achieving its potential market share (Table 1).

Primary competition

The subject hotel is a full service hotel offering extensive food and beverage facilities, meeting rooms, and convention and banquet facilities. The facility is located in the midtown area of a major metropolitan area. The subject hotel identifies its competition based on average room rates and occupancy levels, and levels of service. These are highlighted in Table 2. This group of primary competitors represents 2,734 rooms with a potential share of 9.5 per cent for the subject hotel. The average daily room rate for this group is \$115, with the subject at \$102.94.

Revenue analysis

To derive a fair analysis, revenue and expenses were analysed on a line-by-line basis for a five-year period, using the comparative income statements for the subject property. To ensure consistency in the analysis, ratios were utilised. Revenue from rooms was calculated based on an average room rate of \$105 and an occupancy level of 73 per cent. The projected revenue from rooms of \$7,300,000 (rounded) is basically the same as the 2004 budget and slightly higher than 2003 rooms revenue of \$6,945,000 (rounded). The forecasted rooms revenue of \$7,300,000 represents 62.2 per cent of total revenue, which is slightly higher than the actual 2003 or budget 2004 that are at 61.0 per cent and 58.0 per cent, respectively (Table 3).

Food and beverage revenues for the subject property have traditionally contributed a little over 30 per cent of total revenues. The 2004 budget shows this source of revenue at around 35 per cent mainly due to higher



Table 1: Market share report

	Daily rooms available	Period rooms available	Potential share (%)	Rooms sold	Occupancy percentage	Actual share (%)	Variance	Rooms revenue	Average daily rates	Actual share (%)	Variance	Revenue per room available
Subject hotel	259	86,506	2.6	64,911	75.0	2.6	0.02	6,682,196	103	2.60	0.00	77.25
Competitor A	255	85,170	2.6	65,971	77.5	2.7	0.10	7,436,471	113	2.89	0.33	87.31
Competitor B	208	69,472	2.1	56,113	80.8	2.3	0.18	8,201,015	146	3.19	1.10	118.05
Competitor C	424	141,616	4.2	115,037	81.2	4.6	0.39	14,257,193	124	5.54	1.29	100.68
Competitor D	1,408	470,272	14.1	359,625	76.5	14.5	0.39	37,923,959	106	14.73	0.62	80.64
Competitor E	584	195,056	5.9	151,795	77.8	6.1	0.27	17,030,377	112	6.62	0.76	89.31
Competitor F	1,400	467,600	14.0	359,836	77.0	14.5	0.47	39,571,353	110	15.37	1.34	84.64
Competitor G	1,600	534,400	16.0	426,595	79.8	17.2	1.16	40,492,002	95	15.73	-0.30	75.77
Competitor H	601	200,734	6.0	155,045	77.0	6.3	0.23	15,940,057	103	6.19	0.17	79.41
Competitor I	292	97,528	2.9	65,090	66.7	2.6	-0.30	8,475,339	130	3.29	0.37	86.90
Competitor J	346	115,564	3.5	79,581	68.9	3.2	-0.26	9,117,278	115	3.54	0.07	78.89
Competitor K	157	52,438	1.6	40,218	76.7	1.6	0.05	4,285,943	107	1.67	0.09	81.73
Competitor L	520	173,680	5.2	114,896	66.2	4.6	-0.58	9,719,341	85	3.78	-1.44	55.96
Competitor M	229	76,486	2.3	64,600	84.5	2.6	0.31	7,250,373	112	2.82	0.52	94.79
Competitor N	328	109,552	3.3	63,059	57.6	2.5	-0.75	4,236,693	67	1.65	-1.64	38.67
Competitor O	338	112,892	3.4	74,403	65.9	3.0	-0.39	5,546,996	75	2.15	-1.23	49.14
Competitor P	717	239,478	7.2	159,876	66.8	6.4	-0.74	12,189,931	76	4.74	-2.45	50.90
Competitor Q	312	104,208	3.1	63,989	61.4	2.6	-0.55	9,050,636	141	3.52	0.39	86.85
Total	9,978	3,332,652	100.00	2,480,640	74.4	100.00	0.00	257,407,155	103.77	100.00	0.00	77.24

Note: Days available is based on an 11-month period, 1 January–30 November

Table 2: Direct competitors

	Daily rooms available	Period rooms available	Potential share (%)	Rooms sold	Occupancy percentage	Actual share (%)	Variance	Rooms revenue	Average daily rates	Actual share (%)	Variance	Revenue per room available
Subject hotel	259	86,506	9.5	64,911	75.0	9.6	0.13	6,682,196	103	8.59	-0.88	77.25
Competitor A	255	85,170	9.3	65,971	77.5	9.8	0.44	7,436,471	113	9.56	0.24	87.31
Competitor B	208	69,472	7.6	56,113	80.8	8.3	0.70	8,201,015	146	10.55	2.94	118.05
Competitor Q	312	104,208	11.4	63,989	61.4	9.5	-1.94	9,050,636	141	11.64	0.23	86.85
Competitor I	292	97,528	10.7	65,090	66.7	9.6	-1.05	8,475,339	130	10.90	0.22	86.90
Competitor D	1,408	470,272	51.5	359,625	76.5	53.2	1.72	37,923,959	106	48.76	-2.74	80.64
Total	2,734	913,156	100	675,700	74.0	100	0.00	77,769,617	115.09	100	0.00	85.17



Table 3: Comparative statement of operation-subject hotel

	2000		2001		2002		2003		2004 (Budget)	
	\$	%	\$	%	\$	%	\$	%	\$	%
Revenue										
Rooms	5,372,662	52.6	6,122,845	55.8	6,169,680	57.4	6,945,860	61.0	7,289,898	58.0
Food	2,713,914	26.6	2,481,808	22.6	2,453,652	22.8	2,473,373	21.7	3,331,537	26.5
Beverage	906,727	8.9	1,004,416	9.2	974,559	9.1	915,410	8.0	859,468	6.8
F&B Other	348,773	3.4	300,210	2.7	284,792	2.7	246,388	2.2	268,877	2.1
Telephone	325,313	3.2	313,644	2.9	332,086	3.1	347,752	3.1	356,930	2.8
Garage	437,830	4.3	405,104	3.7	356,411	3.3	331,257	2.9	339,119	2.7
Other	108,031	1.1	337,870	3.1	174,950	1.6	131,282	1.2	118,863	0.9
Total	10,213,250	100.0	10,965,897	100.0	10,746,130	100	11,391,322	100	12,564,692	100
Expenses										
Rooms	2,192,641	21.5	2,279,011	20.8	2,210,929	20.6	2,219,839	19.5	2,280,621	18.2
F&B	3,743,415	36.7	3,663,216	33.4	3,462,060	32.2	3,444,786	30.2	3,999,148	31.8
Telephone	282,777	2.8	282,972	2.6	285,837	2.7	270,223	2.4	264,271	2.1
Garage	178,778	1.8	184,529	1.7	184,074	1.7	184,882	1.6	227,102	1.8
Other	—		—		—		9,345		—	
Total	6,397,611	62.6	6,409,728	58.5	6,142,900	57.2	6,110,385	53.7	6,771,142	53.9
Gross profit	3,815,639	37.4	4,556,169	41.5	4,603,230	42.8	5,280,937	46.3	5,793,550	46.1
Expenses										
Overhead										
Administrative and general	828,287	8.1	688,564	6.3	766,837	7.1	783,096	6.9	841,762	6.7
Human resources	41,290	0.4	35,057	0.3	18,276	0.2	56,991	0.5	93,534	0.7
Sales and marketing	658,074	6.4	658,029	6.0	588,346	5.5	576,143	5.1	988,131	7.9
Repair and Mtc.	686,637	6.7	773,465	7.1	703,810	6.5	760,603	6.7	789,489	6.3
Utilities	435,091	4.3	451,345	4.1	495,984	4.6	468,906	4.1	491,100	3.9
Total	2,649,379	25.9	2,606,460	23.8	2,573,253	23.9	2,645,739	23.2	3,204,016	25.5
Occupancy:										
Rental allocation	349,434	3.4	353,777	3.2	307,908	2.9	143,690	1.3	—	0
Property taxes	1,090,900	10.7	1,213,091	11.1	1,073,073	10.0	1,091,938	9.6	1,098,000	8.7
Insurance	44,691	0.4	38,075	0.3	38,400	0.4	47,129	0.4	48,000	0.4
Management fee	—		63,365	0.6	85,203	0.8	108,053	0.9	—	0
Total	1,485,025	14.5	1,668,308	15.2	1,504,584	14.0	1,390,810	12.2	1,146,000	9.1
Total expenses	4,134,404	40.5	4,274,768	39.0	4,077,837	37.9	4,036,549	35.4	4,350,016	34.6
Net operating income	(318,765)	-3.1	281,401	2.6	525,393	4.9	1,244,388	10.8	1,443,534	11.5
Statistics:										
Occupancy %	65.7		67.9		65.8		72.4		73.6	
Avg. room rate	87.54		96.78		100.41		102.31		103.29	

anticipated revenues from the food section. The estimate for this analysis, however, is based more on the historical trend at around 30 per cent of total revenue. The balance of the revenue items historically contributes between 6 per cent and 8 per cent of total revenue. Based on these historical data, it can be assumed that this area will contribute 6.6 per cent of total revenue.

The total revenue estimate of \$11,740,000 (Table 4) is virtually unchanged from the actual 2003 and slightly lower than the budgeted revenue of 2004 of \$12,565,000. The total per room revenue equates to \$44,981 that is significantly higher than the statistical norms as shown in Table 5.

Departmental expenses

Direct expenses have been projected based on historical data. Each individual expense line appears to be stable and consistent from year to year. For this analysis, departmental expenses are estimated to be

Table 4: Stabilized statement of operations

	2004 estimate	%	Per room
Revenue			
Rooms	7,300,000	62.2	27,969
Food	2,500,000	21.3	9,579
Beverage	900,000	7.7	3,448
F&B Other	250,000	2.1	958
Telephone	350,000	3.0	1,341
Garage	325,000	2.8	1,245
Other	115,000	1.0	441
Total	11,740,000	100.00	44,981
Expenses			
Rooms	2,500,000	21.3	9,579
Food and Beverage	3,600,000	30.7	13,793
Telephone	300,000	2.6	1,149
Garage	180,000	1.5	690
Other			
Total	6,580,000	56.0	25,211
Gross profit	5,160,000	44.0	19,770
Expenses			
Overhead:			
Administrative and General	775,000	6.6	2,969
Human resources	50,000	0.4	192
Sales and marketing	600,000	5.1	2,299
Repairs and Mtc.	725,000	6.2	2,778
Utilities	450,000	3.8	1,724
Total	2,600,000	22.1	9,962
Occupancy			
Rental Allocation	230,000	2.0	881
Property taxes	1,100,000	9.4	4,215
Insurance	45,000	0.4	172
Total	1,375,000	11.7	5,268
Total expenses	3,975,000	33.9	15,230
Net operating income	1,185,000	10.1	4,540
Statistics			
Occupancy %	73.0		
Average Room Rate	105.00		

Table 5: Industry norms for respective years (*amounts per available room*)

	2000	2001	2002	2003	2004
	\$				
Revenue					
Rooms	18,134	15,411	15,503	16,077	14,833
Food and beverage					
Food	7,396	12,089	6,704	6,236	6,495
Beverage	3,011	4,226	2,457	2,281	2,265
Other F&B	706	727	831	923	669
Total F&B	11,113	17,042	9,992	9,440	9,430
Operating departments					
Telephone	659	544	516	560	516
Minor operated departments	253	607	654	557	531
Retail					
Other income	289	436	372	282	263
Total revenue	30,448	34,041	27,039	26,916	25,573
Departmental expenses					
Rooms					
Wages and benefits	3,361	3,066	3,222	3,450	3,107
Other expenses	1,484	1,384	1,478	1,607	1,257
Total rooms	4,789	4,423	4,778	5,013	4,394
Food and Beverage					
Cost of food	2,419	2,342	2,332	2,283	2,165
Cost of beverage	991	930	869	824	809
Wages and benefits	4,141	3,927	4,582	4,487	3,950
Other expenses	966	975	974	869	844
Total food and beverage	8,517	8,174	8,757	8,463	7,768
Operating departments					
Telephone	726	543	509	542	424
Minor operated	388	361	443	494	405
Retail					
Other		436			
Total departmental expenses	14,420	13,937	14,487	14,512	12,991
Departmental profit					
Rooms	13,345	10,988	10,726	11,064	10,439
Food and beverage	2,596	8,868	1,235	978	1,662
Operating Departments					
Telephone	(67)	1	7	18	92
Minor operated Profit	(135)	246	211	63	126
Retail Profit					
Other Income Profit	289		372	282	263
Total Departmental Profit	16,028	20,103	12,552	12,407	12,582
Undistributed expenses					
Administrative and general	2,621	2,940	2,550	2,600	2,203
Marketing	1,702	1,999	1,578	1,692	1,420
Energy costs	1,161	1,191	1,241	1,288	1,189
Property operations	1,476	1,584	1,394	1,466	1,333
Management fees	814	685	787	832	777
Total unapportioned expenses	7,774	8,399	7,550	7,878	6,922
House profit	8,254	11,704	5,002	4,528	5,660
Other expenses					
Land Rent		698	1,036	2312	2,413
Taxes	1,509	1,400	1,603	1,678	1,545
Insurance	106	137	113	111	98
Other		189	192	175	177
Total Other Expenses	1,615	2,424	2,944	4,285	4,233
Net operating profit	6,639	9,280	2,058	243	1,427

\$6,580,000 that equates to 55.1 per cent of total revenue that is much in line with the operating norms, which ranges from 41 per cent to 54 per cent for the five years shown.

Gross profit

The resulting gross profit from operations of \$5,160,000 is slightly lower than the anticipated 2003 gross profit level and substantially lower than the 2004 budgeted amount. The gross profit per room is \$19,770 and compares favourably with the statistical norms that range from \$12,500 to \$20,000 per year for the years shown.

Overhead and occupancy expenses

The estimates of the overhead expenses are based on the historical data of the subject hotel. On a percentage basis, total overhead expenses represent 21.8 per cent of total revenue, which is in line with the statistical norms and the total overhead expenses on a per room basis of \$9,962 does not appear to be out of line. Occupancy expenses of \$1,375,000 or 11.5 per cent of total revenue are based on the subject's historical data and information.

Net operating income

The net operating income for the 12 months ending December 2004 is projected to be \$1,185,000 or \$4,540 per available room. The operating statistics norm shows net operating income on a per room basis to fluctuate widely and range from \$243.00 in 2003 to a high of \$9,280. Hence, a projection of \$4,540 per room for the subject hotel operation is considered to be reasonable.

Direct capitalisation

To arrive at an appropriate capitalisation rate for the subject hotel, a review of recent transaction of other hotel facilities was conducted. Table 6 presents a summary of recent hotel sales in the metropolitan area where the subject hotel is located. Based on the capitalisation rates (from the hotels where sufficient data were available) as indicated in Table 6, as well as giving consideration to the income/expense ratios in comparison to the hotel sales as mentioned and listed, the subject hotel location, physical attributes, etc, it is reasonable to establish a capitalisation rate

Table 6: Recent hotel sale transaction summary

	Age of the hotel	Consideration	Number of rooms	Occupancy (%)	Average room rate	Sale price per room	Capitalisation rate	Adjusted sale price per room
Subject hotel			261	72.4	102.31			
Hotel A	8	7,600,000	196	68.0	68.00	38,775	—	61,114
Hotel B	10	34,810,127	424	77.0	109.00	82,099	10.38	72,848
Hotel C	12	12,600,000	292	65.0	67.50	43,150	—	72,848
Hotel D	7	42,439,000	459	71.8	106.42	92,460	—	89,632
Hotel E	6	12,378,500	202	60.4	79.63	61,322	11.13	94,441
Hotel F	5	33,700,000	374	72.0	96.34	90,106	12.04	96,221

for the subject property at 11 per cent. Based on the foregoing, the market value of the hotel as indicated by the income approach would be as follows:

Projected 2004 net operating income: \$1,185,000
\$1,185,000 capitalised at 11 per cent: \$10,772,727
Rounded to \$10,775,000.

Therefore, based on the income approach, the value of the subject hotel would be \$10,775,000.

DIRECT COMPARISON APPROACH

The direct comparison approach is a process in which market value is derived by analysing the market for similar properties and comparing these properties to the subject property. The most relevant unit of comparison for hotels is the 'sale price per room'. The physical attributes, location, standard of service, etc all affect the sale price of a hotel. A hotel, however, is an income-producing asset and the sale price is determined by the income that the asset is generating and its potential for future income streams.

Average room rates and occupancy levels are the two major factors when analysing a specific hotel operation. Therefore, in analysing and comparing hotel sales, these economic units of comparison are used to adjust the physical unit of comparison (sale price per room). The sale price per room (unit of comparison) of the comparables is adjusted using their occupancy levels and average room rate and the occupancy level and average room rate of the subject property. The adjustment process is as follows:

1. Unit price of comparable, divided by;
2. Occupancy level of comparable, divided by;
3. Average room rate of comparable, multiplied by;
4. Occupancy level of subject, multiplied by;
5. Average room rate of subject, equals;
6. Adjusted sale price per room.

Table 3 presents a list of recently sold hotels within the same metropolitan area as the subject hotel. A brief description of each hotel follows.

Hotel 1 is a full service hotel located in the downtown area of the metropolitan area. This hotel is eight years old and is built on .47 acres of land. This hotel is considered to be a high-rise budget hotel with 'no-frills' restaurants and lounges. Hotel 2 is a full service airport hotel and is ten years old at the time of sale. This hotel was built on 5.67 acres of land. Hotel 3 is 12 years old and was built on 2.70 acres of land. This hotel was a full service hotel purchased that had undergone a \$1,000,000 renovation one year prior to its sale. Hotel 4 is a full service luxury hotel and was seven years old at the time of its sale. It was built on .87 acres of land. Hotel 5 was six years old at the time of its sale and was located near

a major highway. This hotel sat on 5.5 acres of land. Hotel 6 is 15 years old and had undergone major renovations five years prior to its sale. This hotel was built on 14.29 acres of land. The subject hotel is 28 years old and had undergone major renovations twice. This hotel was built on 2.5 acres of land. The adjusted unit price per room ranges from \$38,775 to \$92,460. Adjusting for occupancy and average room rate variances, the 'adjusted' unit sales price per room becomes significantly tighter ranging between \$62,100 and \$96,200.

Giving consideration to location, physical condition, and based on an examination and comparison of recent sales, it can be assumed that the unit price per room for the subject hotel would be at the lower limit of the range (see Table 3). Thus, it would be fair to assume that a reasonable price per unit room for the subject hotel would be about \$60,000. Further, it can be assumed that the market value of the subject hotel as indicated by the direct comparison approach is as follows: 261 rooms @ 60,000 = 15,660,000. Hence, under the direct comparison approach, the market value of the subject hotel would be \$15,660,000.

CONCLUSION

There are three common valuation approaches that are utilised in determining the value of hotels. These are the cost approach, the sales comparison approach and the replacement cost approach. Despite the methodology used, a thorough market analysis must be conducted to obtain a reliable net operating income. At the very minimum, the market analysis should contain the following steps, site and area analysis, assessment of general economic conditions, supply and demand analysis, facilities review, market penetration analysis and projections of cash flow from operations. Changing market conditions will require adjustments to traditional valuation methods. Each approach has strengths and weaknesses and as such it is of paramount importance that the correct approach is applied based on the property characteristics and circumstances. The difficulty in calculating depreciation in the cost approach and in adjusting the comparables in the market data comparison approach decreases the accuracy of these two procedures. The cost approach, however, is appropriate for estimating the value of newly constructed properties.

Although the trend in recent years is to incorporate sophisticated computer-aided models in the valuation process, caution should be exercised since more technical knowledge is needed before private and public confidence can be placed in these techniques for property valuation and lending decisions. Although, there is no empirical evidence to support the use of any one valuation technique over another or one being superior to another, for the purpose of hotel valuation, presently, the income capitalisation method yields the most accurate results (Pricer and Johnson, 1997). Ultimately, the valuation method employed will be a function of the amount of information available, the age of the property, the purpose of the valuation, as well as the needs of the users.

References

- Andrew, W.P., Damitio, J. & Schmidgall, R.S. (2007). *Financial Management for the Hospitality Industry*, 1st edn, Prentice-Hall, Upper Saddle, NJ.
- Hin Li, L. (2000). Simple computer applications improve the versatility of discounted cash flow analysis. *The Appraisal Journal*. 68(1), 86–92.
- Lenk, M., Worzala, E. & Silva, A. (1997). High-tech valuation: Should artificial neural networks bypass the human value? *Journal of Property Valuation and Investment*. 15(1), 8–17.
- Lesser, D.H. (1992). Property tax valuation of lodging properties. *Cornell Hotel and Restaurant Administration Quarterly*. 33(1), 73–81.
- Nilsson, M., Harris, P. & Kett, R. (2002). Valuing hotels as business entities. *Journal of Leisure Property*. 2(1), 17–28.
- O'Neil, J.W. (2004). An automated valuation model for hotels. *Cornell Hotel and Restaurant Administration Quarterly*. 45(3), 260–268.
- Pricer, R.W. & Johnson, A.C. (1997). The accuracy of valuation methods in predicting the selling price of small firms. *Journal of Small Business Management*. 35(4), 24–35.
- Rushmore, S. (1975). How much is your place worth? A case study in hotel-motel valuation. *Cornell Hotel and Restaurant Administration Quarterly*. 16(1), 38–48.
- Rushmore, S. (1992a). Seven current hotel valuation techniques. *Cornell Hotel and Restaurant Administration Quarterly*. 33(4), 49–56.
- Rushmore, S. (1992b). The valuation of distressed hotels. *Cornell Hotel and Restaurant Administration Quarterly*. 33(5), 61–71.
- Sikich, F. (1993). Business valuations: From the accountant's perspective. *The Bottomline*. 8(2), 14–18.
- Stefanelli, J.M. (1982). Buying or selling a restaurant: How to set the price. *Cornell Hotel and Restaurant Administration quarterly*. 23(3), 80–92.
- Walsh, C.B. & Staley, H.B. (1993). Considerations in the valuation of hotels. *The Appraisal Journal*. 61(3), 348–356.