

DEFINING AND UNDERSTANDING REVENUE MANAGEMENT PERFORMANCE IN THE HOTEL INDUSTRY

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ABSTRACT

The aim of this paper is to analyze three aspects affecting value creation in hotel operations. The first aspect will concentrate on Revenue Per Available Room (RevPAR) ratio and how management could get misleading information and make wrong decisions by paying too much attention to this ratio. The second aspect, which is based on information collected and analyzed in the previous point, plus further elements obtained from observations made on the field, introduces other metrics and measures of performance that could give different information to different stakeholders in order to align pricing tactics and strategies with hotel operations' performance not only from an accounting and financial point of view but, most important, from a value creation and maximization perspective. The third aspect is related to costs and ways of measuring costs and wants to open new doors about the ways of analyzing them. The author considers that a Strategic Management Accounting approach based on the Theory of Constraints (TOC) and the Activity-Based System could help hotel management to better understand cost behaviour in their operations in order to enhance their cost and pricing analysis process.

This paper also aims at illustrating some gaps in analysing hotel operations management but it does not take into account some other aspects affecting performance such as the effect of elasticity of demand over occupancy rate percentage and Average Daily Rate (ADR).

RevPAR or CoMarPAR?

In this section we will analyze and see how another metric called Contribution Margin Per Available Room (CoMarPAR) give us more complete information when studying operating performance in lodging operations since it concentrates not only on RevPAR, but also on revenue (RevPAR) minus variable cost to obtain CoMarPAR.

I have observed that more and more companies in the hotel industry have decided to use RevPAR as the ultimate measure of performance at the operating level, specially since Revenue Management was introduced in the hotel industry.

Hotel managers, Directors of Marketing, Reservations managers and head offices adore communicating in terms of this ratio. But from my point of view, the information contained in this ratio is incomplete and could be misleading if we do not pay attention to its individual components and to the way they can be manipulated. Moreover, these managers forget to take into account shareholders' interests since they do not take into consideration how RevPAR contributes to create value for them. Further, I have seen that, for instance, some people speak of this ratio as "a financial ratio" (Carr, 2003), we know and must recognize that this ratio is only a measure of reservations and operating performance.

Hotel managers and corporate executives, as we said before, love to communicate using this ratio. But, from my point of view, and after some discussions and analyses with hotel executives, this ratio gives incomplete information which could be misleading if we do not take into consideration how this ratio can be manipulated.

Before proceeding, let's remember how Cross (1993), the "father" of Revenue Management defines revenue management: it is "The application of disciplined tactics that predict consumer behaviour at the micromarket level and that optimise product availability and price to maximise revenue growth".

Mark Talbert professor at the School of Hotel Administration, Cornell University, had stressed this issue in 1997 in his CHESS, Revenue Management simulation exercise, which I use in my Revenue Management course. Mark Talbert used this argument to illustrate the importance of Displacement in lodging operations but did not go further in the analysis of RevPAR. Further more, let's remember that Revenue Management theory and pricing decision making is based on variable cost, direct cost, and contribution margin. Unfortunately, he did not go further on his analysis when studying RevPAR.

RevPAR Analysis:

Before going further, let's just remember the origin and composition of RevPAR (Orkin, 1988):

$$\text{RevPAR} = \text{ADR} \times \text{Occupancy Rate \%}$$

$$\begin{aligned} \text{Where ADR (Average Daily Sales)} &= \frac{\text{Room Sales}}{\text{Number of Rooms Sold}} \\ \text{and Occupancy Rate \%} &= \frac{\text{Number of Rooms Sold}}{\text{Number of Available Rooms}} \times 100 \end{aligned}$$

Let's consider the following combination of Average Rates and Occupancy Percentages for a 250-room hotel where, in normal circumstances, the activity level (*Activity Range*) generates an occupancy rate percentage between 30% and 100%.

CASE	AVG. RATE	OCCUPANCY %
1	€60	100%
2	€70	86%
3	€80	75%
4	€90	67%
5	€100	60%
6	€120	50%
7	€150	40%
8	€200	30%

Which of these situations would you consider most favorable in your hotel?

In this 250-room hotel, the revenue generated in each case is presented in the 4th column.

CASE	AVG. RATE	OCCUPANCY %	REVENUE (Rounded)
1	€60	100%	€15 000
2	€70	86%	€15 000
3	€80	75%	€15 000
4	€90	67%	€15 000
5	€100	60%	€15 000
6	€120	50%	€15 000
7	€150	40%	€15 000
8	€200	30%	€15 000

By many standards, each case would be considered identical. (Are they? Which case would the Food and Beverage Manager favor? What about the Accounting Office? The General Manager? The Financial Manager? The Executive offices? The Shareholders?)

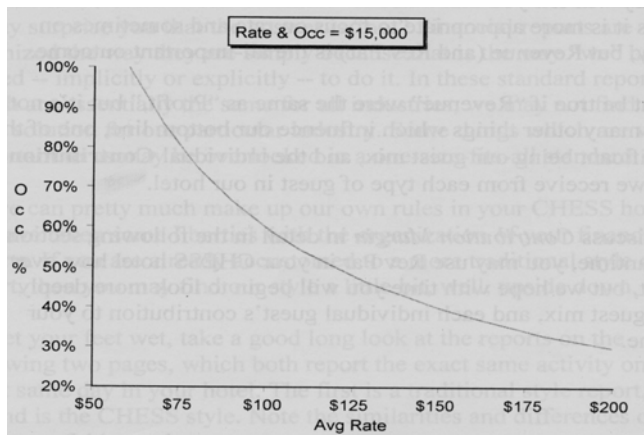
In years past, wide daily fluctuations in rate were less common, and therefore monitoring the effects in conjunction with changing occupancy patterns was not an issue, at least not on a *daily* basis. However, in recent years, with almost constantly fluctuating rates, it has become more common to employ certain summary statistics to help monitor the effects of Rate and Occupancy together. Most common of these is Revenue Per Available Room, or RevPAR.

Going back to our previous example,

CASE	AVG. RATE	OCCUPANCY %	REVENUE (Rounded)	RevPAR
1	€60	100%	€15 000	€60
2	€70	86%	€15 000	€60
3	€80	75%	€15 000	€60
4	€90	67%	€15 000	€60
5	€100	60%	€15 000	€60
6	€120	50%	€15 000	€60
7	€150	40%	€15 000	€60
8	€200	30%	€15 000	€60

As we can see, RevPAR is very closely related to revenue. You can compute RevPAR by dividing your daily revenue by the number of available rooms, in this case $\text{€}15\,000 / 250 = \text{€}60$, as does $\text{€}70 \times 86\% = \text{€}60.20$ rounded to €60, and so on.

How many ways are there to achieve €15 000 in revenue, or a €60 RevPAR?



Talbert, Chess, 1998

*There are many different ways of achieving a €60.00 RevPAR!!!
RevPAR allows us to deal with a potentially infinite number of rate and occupancy combinations.*

Before we get carried away with the wonders of RevPAR (as everyone else in the hotel industry seemingly has!) (Talbert, 1998) we would like to issue a few words of caution:

First, the danger of relying too much on any kind of numerical summary is that you necessarily suffer a loss of detail. If you focus only on your €60 RevPAR, will you know which part of that is attributable to occupancy and which part to average rate? Remember: there are an infinite number of ways to achieve that €60 RevPAR.

The second and more significant danger is that far too many people in our industry will tell you that *it does not matter which is which*; sometimes is more appropriate to focus on rate and sometimes on occupancy, but Revenue (and RevPAR) is the all-important outcome.

This might be true if “*Revenue*” were the same as “*Profit*,” but it is not. There are many other things which influence our bottom line, one of the most significant being our guest mix, and the individual **Contribution Margins** we receive from each type of market segment, and guest in our hotel.

CoMarPAR (Contribution Margin Per Available Room)¹ :

One of the most important things a General manager, and people involved with room sales, must know is the variable cost(s) per room sold. Let’s assume that in our example the variable cost per room is €39.00. This variable cost is composed of

Room attendant service**	7.00
Laundry and linen**	8.00
Room supplies**	8.00
Agency commission**	6.00
Complimentary newspaper**	1.50
Welcome gift**	6.50
Utilities (Water, AC, Heating, Electricity, etc.)**	2.00
Total variable cost**	€39.00

*** These costs and expenses are hypothetical and should not be used as a basis when budgeting or analyzing a hotel operation.*

Accounting defines Contribution Margin as follows:

$$\text{Contribution Margin} = \text{Sales Price} - \text{Variable Cost}$$

So, applying this concept to lodging operations, we can say that

$$\text{Contribution Margin per Room} = \text{Sales Price per Room} - \text{Variable Cost per Room}$$

¹ Ratio created by Henry Clavijo, August 2003.

Contribution Margin is important since it represents the amount of money that will contribute to pay for fixed costs and, if any money is left after we have paid for our costs and expenses, generate net profit for the company.

Let's remember that Revenue Management theory is built, at least from an accounting perspective, around four factors: *Demand*, *Sales price*, *variable cost* (*direct cost*), and *Contribution Margin*

Now, let's compute the Contribution Margin (C.M.) per room and the total contribution margin according to the previous example (for illustration purposes, let's assume that we have the same variable cost for every type of room we sell in our hotel)

RevPAR

CASE	AVG. RATE	OCCUPANCY %	REVENUE (Rounded)	RevPAR
1	€60	100%	€15 000	€60
2	€70	86%	€15 000	€60
3	€80	75%	€15 000	€60
4	€90	67%	€15 000	€60
5	€100	60%	€15 000	€60
6	€120	50%	€15 000	€60
7	€150	40%	€15 000	€60
8	€200	30%	€15 000	€60

Contribution Margin

CASE	AVERAGE ROOM RATE	VARIABLE COST PER ROOM	C.M. PER ROOM	ROOMS SOLD	TOTAL REVENUE	TOTAL V.C.	TOTAL C.M.	C.M.%
1	€60.00	€39.00	€21.00	250	€15 000	€9 750	€ 5 250	35.00%
2	€70.00	€39.00	€31.00	215	€15 050	€8 385	€ 6 665	44.29%
3	€80.00	€39.00	€41.00	188	€15 040	€7 332	€ 7 708	51.25%
4	€90.00	€39.00	€51.00	168	€15 012	€6 552	€ 8 460	56.35%
5	€100.00	€39.00	€61.00	150	€15 000	€5 850	€ 9 150	61.00%
6	€120.00	€39.00	€81.00	125	€15 000	€4 875	€10 125	67.50%
7	€150.00	€39.00	€111.00	100	€15 000	€3 900	€11 100	74.00%
8	€200.00	€39.00	€141.00	75	€15 000	€2 925	€12 075	80.50%

What can we extrapolate from this simulation?

1. As we said before, revenue is not the same as profit.
2. If we consider C.M. as a measure of profit, we see that Contribution Margin and Total Contribution Margin increase when the Average Room Rate increases and the Occupancy Rate decreases.

3. From a financial point of view, we could say that, at least from a short-term point of view, for the operation it is more interesting to have a higher average room rate and a lower occupancy rate.

If we relate Contribution Margin to RevPAR, we obtain the ratio that I call **CoMarPAR**, Contribution Margin Per Available Room, where

$$\begin{aligned} \text{CoMarPAR} &= \text{RevPAR} - \text{Variable cost per room sold} \\ &\text{and} \\ \text{CoMarPAR \%} &= \text{RevPAR} - \text{Variable cost \%} \end{aligned}$$

Whereas RevPAR only relates Average Daily Rate and Occupancy Rate %, CoMarPAR has the advantage of relating

Room Rate
Occupancy Rate
Variable Cost (or direct cost)
Profit (Contribution Margin)

Without forgetting that sales price is a key issue when looking at profitability in the hospitality industry.

Taking the previous elements into account, let's calculate the CoMarPAR for the example we have illustrated here above:

	RevPAR	x	Contribution Margin %	=	CoMarPAR
Case 1	€60.00	x	35.00%	=	€21.00
Case 2	€60.00	x	44.29%	=	€26.57
Case 3	€60.00	x	51.25%	=	€30.75
Case 4	€60.00	x	56.35%	=	€33.81
Case 5	€60.00	x	61.00%	=	€36.60
Case 6	€60.00	x	67.50%	=	€40.50
Case 7	€60.00	x	74.00%	=	€44.40
Case 8	€60.00	x	80.50%	=	€48.30

At present, let's assume that our hotel has fixed costs (Administration and General, Rent, Depreciation, Interest, Property Taxes, etc.) of € 000 per day or €20.00 per available room (€ 000 / 250 rooms).

Assuming that the main activity in a hotel is selling rooms, that our food and beverage revenue is not relevant, and assuming that fixed costs are only related to our hotel's lodging activity, we can split these Fixed Costs among the number of rooms sold for a specific day and see how each room sold contributes to pay for the hotel's fixed costs and to generate profit (Net Income Per Available Room):

	CASE 1	CASE 2	CASE 3	CASE 4	CASE 5	CASE 6	CASE 7	CASE 8
RevPAR	€60.00	€60.00	€60.00	€60.00	€60.00	€60.00	€60.00	€60.00
x C.M. %	35.00%	44.29%	51.25%	56.35%	61.00%	67.50%	74.00%	80.50%
= <i>CoMarPAR</i>	€21.00	€26.57	€30.75	€33.81	€36.60	€40.50	€44.40	€48.30
Fixed Costs PAR	€20.00	€23.26	€26.60	29.76	€33.33	€40.00	€50.00	€66.67
= <i>Income Before Taxes PAR</i>	€1.00	€3.31	€4.15	€4.05	3.27	- €0.50	- €5.50	- €18.37
x Income Tax (40%)**	€0.40	€1.32	€1.66	€1.62	€1.31	€0.00	€0.00	€0.00
= <i>Net Income PAR</i>	€0.60	€1.99	€2.49	€2.43	€1.96	- €0.50	- €5.50	-€18.37
= <i>Net Income % or NIPAR</i>	1.00%	3.32%	4.15%	4.05%	3.27%	-0.83%	- 9.17%	-30.62%

	N° of Rooms Available	Occupancy Rate %	Rooms Sold	Total Fixed Costs	Fixed Costs per Room Sold
Case 1	250	100%	250	€ 000	€20.00
Case 2	250	86%	215	€ 000	€23.26
Case 3	250	75%	188	€ 000	€26.60
Case 4	250	67%	168	€ 000	€29.76
Case 5	250	60%	150	€ 000	€33.33
Case 6	250	50%	125	€ 000	€40.00
Case 7	250	40%	100	€ 000	€50.00
Case 8	250	30%	75	€ 000	€66.67

At present, we can create a Condensed Income Statement for each one of the cases we have studied previously:

**This rate corresponds to the average Income tax bracket worldwide.

NIPAR (Net Income Per Available Room)² :

From the previous illustration, we find a new ratio called ***NIPAR (Net Income Per Available Room)***. This ratio is very important since it helps us to measure the net income generated by the room sales in our hypothetical hotel. We can measure how each decision and combination affects Net income, Return on Investment, Return on Equity and Value Creation and Value Maximization.

NIPAR helps us to answer to the ultimate questions management, owners and stockholders ask themselves:

² Ratio Created by Henry Clavijo in August 2003, and introduced for the first time in this document

1. *What is the Net Income Per Available Room in my hotel according to the different scenarios configured by Occupancy Rate % and Average Daily Rate?*
2. *When using CoMarPAR, what scenario offers the best possibility of obtaining the highest net income in my hotel?*
3. *When we integrate Revenue Management techniques, what are the best decisions we can make to optimize our efforts, our operation, and our investment?*

ROI PAR (Return On Investment Per Available Room)³ :

Taking into consideration the previous examples, and following the analytical approach to the Income Statement (Profit and Loss Statement) when studying RevPAR, we see that we must proceed as follows:

1. Calculate RevPAR = ADR x Occupancy Rate %
2. Calculate COMARPAR and COMARPAR %
 $\text{COMARPAR} = \text{RevPAR} - \text{The costs of selling the room}$
 $\text{COMARPAR \%} = \text{COMARPAR} / \text{RevPAR}$
3. Calculate GOPPAR⁴ and GOPPAR %
 $\text{GOPPAR} = \text{COMARPAR} - \text{Operating Costs, and before financial charges}$
 $\text{GOPPAR \%} = \text{GOPPAR} / \text{RevPAR}$
4. Calculate NIPAR and NIPAR %
 $\text{NIPAR} = \text{GOPPAR} - \text{Financial Charges per room (depreciation and amortization, occupancy costs, interests and taxes, etc.)}$
 $\text{NIPAR \%} = \text{NIPAR} / \text{RevPAR}$

However, we see that, until now, we have not taken into consideration management's and owners' goals.

Let's assume that:

- Owners have invested €1 000 000 in the hotel (50% of total cost), and they are expecting a 10% Return On Investment per year (€100 000). This ROI is after tax.
- The hotel has 100 rooms available, and according to market history, the average occupancy rate is 70%.
- The hotel is open 365 days per year.
- Income Tax rate 40%
- The hotel has being financed 50% equity, 50% long-term debt. Total cost of the project €2 000 000.

³ Ratio Created by Henry Clavijo in August 2003, and introduced for the first time in this document.

⁴ GOPPAR : Gross Operating Profit Per Available Room, PKF Consulting, 2003.

- The average Direct costs of selling a room are estimated, according to industry standards, at €10.72.

At present, we must compute the number of rooms to be sold

Rooms available	x	Occupancy %	x	Opening days per year	=	Forecasted n° of rooms to be sold
100	x	70%	x	365 days	x	25 550

Total Direct costs per year for the Rooms Department are:

$$€10.72 \times 25\,550 \text{ rooms to be sold} = €273\,896$$

If we take into consideration the Hubbart Formula and the Bottom-Up pricing approach we can see that:

Net Income required	€100 000 (10% after-tax on investment of €1 000 000)
Income tax at 40%	€ 66 667
Income Before Tax	€166 667 (€100 000 / 60%)
Depreciation	€ 80 000 (NPV of the building €1 600 000 at 5% annual depreciation rate)
	€60 000 NPV of furniture and equipment €300 000 at a 20% annual depreciation rate)
Interest expense	€100 000 (Present mortgage payable and other Long-Term debt of €1 000 000 at 10% interest rate)
Property taxes and insurance	€ 60 000
Administrative general	and € 70 500
Marketing	€ 50 000
Utilities	€ 34 000
Repairs and maintenance	and € 32 000
Rooms dept. Direct Costs	€273 896
Total known costs	€927 063

So, Average Room Rate to cover all costs including expected return on investment:

$$\frac{€927\,063}{25\,550 \text{ rooms}} = €36.284 \text{ ADR}$$

If Occupancy rate declined, the hotel would have to increase its ADR in order to maintain the same RevPAR level.

Analyzing this information in the form of a Condensed RevPAR Income Statement we would obtain:

RevPAR	€36.284
Direct Costs	€10.720 (€273 896 / 25 550 rooms to be sold)
COMARPAR	€25.564 70.455%

Other Operating Costs	€ 9.648	(€ 246 500 / 25 550 rooms to be sold)
Interest and depreciation	€ 9.393	(€ 240 000 / 25 550 rooms to be sold)
Income Before Taxes	€ 6.523	
Income Tax (40%)	€ 2.609	
NIPAR	€ 3.914	10.78%

NIPAR x N° of rooms to be sold = Expected Return on Investment

€3.914 x 25 550 rooms = €100 002.70 (the €2.70 difference is due to round ups)

So, Return On Investment Per Available Room (ROIPAR) must be equal to €3.914 or 10.786% in order to attain the owners' expectations.

Looking at hotel operations from a Strategic Management Accounting Perspective:

The hotel industry has been quite traditional on analyzing costs, and since it is based on the Uniform System of Accounts for the Lodging Industry (USALI) it presents the same gaps than other industries that analyze and allocate their costs in a discretionary way based mainly on the traditional variable cost, fixed cost structure.

Other theoretical and practical ways of approaching costs in service industries have been adopted in the last years but very few has been done on looking at how we could use and, if necessary, adapt them, in order to better understand hotel operations cost structure and pricing decisions. The first approach is the Theory of Constraints (Goldratt, 1988, 1990, 1993); the second approach is Activity-Based Costing, Activity-Based Pricing and Activity-Based Management (Kaplan 1985, 1986, 1987, 1988, 1989, 1992, 1993, 1994, 2005).

The Theory of Constraints (TOC) is largely the result of the work of Doctor Eliyahu M. Goldratt. TOC is an overall management philosophy that recognizes constraint on any system restricts the maximum performance level that the system can obtain in relation to its goal. For most manufacturing and service organisations the goal of the organisation is to make a larger profit now and in the future. Since the goal is to make a profit, constraints on manufacturing and service organisations keep the organisation from making a higher level of profit (Siha, 1999).

The concept of the TOC can be summarised as:

- *Every system must have at least one constraint.* If it were not true, then a real system such as a profit making organisation would make unlimited profit. A constraint therefore, "is anything that limits the system from achieving higher performance versus its goal" (Goldratt, 1988, p. 453).
- *The existence of constraints represents opportunities for improvement.* Contrary to conventional thinking, TOC views constraints as positive, not negative. Because constraints determine the performance of a

system, a gradual elevation of the system's constraints will improve the performance (Rahman, 1998).

The second approach, Activity-Based Costing (ABC) aims at providing detailed information that describes the range, cost and consumption of activities throughout the organization and at providing accurate information to managers to improve their decisions (Holmen, 1995).

In ABC, accountants work to allocate the cost of each activity (such as purchasing, receiving, disbursing, setups, production, engineering, product and process improvement and inspections) to the cost objects benefiting from the activity. ABC is a two-stage process that first associates costs with individual activities and then identifies a measure of activity usage for each activity, called a cost driver (Sheu, Chen and Kovar, 2003).

Two major advantages are seen with ABC when compared with simpler, more traditional costing systems (Kee, 1995). First, by using a wider variety of cost drivers, ABC allocates indirect costs to cost objects (such as products and customers) on the basis of cost drivers that actually cause indirect cost. Second, ABC recognises that cost objects consume different types of activities at different rates. In particular, four different categories of activity costs based on the hierarchy of production are recognised and segregated: unit, batch, product and facility.

In 2005 Robert Kaplan in his paper called "*Activity-Based Costing and Capacity*" explains and introduces two concepts that make evolve the idea of fixed and variable costs. In his paper he studies some of the key aspects of revenue management: capacity. Especially when speaking of seasonal and peak-load capacity. He also raises the following points about capacity: "Production in peak periods is more expensive because of the cost of the additional capacity required to handle the peak period demands. Production in the peak demand period must pay for not only the costs of capacity resources it uses but also the cost of capacity resources supplied, but not used, during the slack demand period."

So, the final question is: How could we integrate TOC and ABC in the hospitality industry and, specifically, how could we analyse Revenue Management performance from this perspective?

Conclusions:

RevPAR is a ratio that combines Average Daily Rate and Occupancy Rate %. Sometimes, it is difficult to know which element of the equation increases RevPAR. For these reasons, we should handle RevPAR with careful attention.

RevPAR is a sales and operating performance ratio, which, does not tell us anything about financial outcomes when it increases or decreases.

RevPAR should never be used as a measure of financial performance.

If RevPAR is used as an external measure of performance when we will look at the competition, it should not be used as an intra-company measure of performance without taking into account other important elements such as Contribution Margin and Net Income.

The two elements of RevPAR, Occupancy Rate % and Average Daily Rate have a different impact in our operation. As we saw in the previous example, CASE 3 seems to be the most profitable. Let's remember the elements of the example: RevPAR €60.00, Average Daily Rate €80.00, and Occupancy Rate % 75%.

CoMarPAR combines other elements that help us to better determine profitability by relating RevPAR and Contribution Margin and Contribution Margin to Sales Ratio.

Once we have determined CoMarPAR, we can establish an income statement per type of room and market segment in order to obtain the Net Income Per Available Room (NIPAR).

CoMarPAR is an intermediate measure of performance, which, helps us to optimize our Net income.

In order to make objective decisions and keeping profitability in mind, hotel management should know the variable and fixed costs of the property. CoMarPAR assists hotel management to identify which scenario or market segment is most profitable. However, a high CoMarPAR is worthless if Occupancy Rate % is low.

In order to optimize sales and marketing decisions, hotel executives should know the operation's fixed and variable costs in order to make the best decisions.

CoMarPAR does not deny Revenue Management philosophy, on the contrary, it underlines the most important elements that let us optimize decisions and operations: sales price (offer), occupancy rate % (demand), variable or direct cost, and profit (Contribution margin).

NIPAR helps us to measure different scenarios proposed when we combine occupancy rate percentage, average daily rate (ADR), and be able to choose the one that offers the best Net income, and, therefore, the best Return on Investment and Equity.

ROIPAR relates operating efforts with Owners' expectations and opens new ways for analyzing how the sale of a room or of the different rooms available can affect the expected returns of the hotel.

Electronic and manual Revenue Management (Yield Management) systems must integrate CoMarPAR, NIPAR and ROIPAR in order to be able to measure the impact on financial results each time we make, or are to make, a sales decision (when we change prices or take a reservation).

In the same way that RevPAR has been integrated into the Restaurant industry by incorporating a time unit where it has been transformed into RevPASH - Revenue Per Available Seat per Hour - , Van Westering *et al.* (1994) we can integrate CoMarPAR by using a ratio called CoMarPASH (Contribution Margin Per Available Seat per Hour or the regular service time unit). We can even define our NIPAR by using the NIPASH (Net Income Per Available Seat per Hour) ratio.

Further Research:

Other questions that deserve deeper analysis are:

1. What results are obtained at the different metrics level when elasticity changes? How does it affect Occupancy Rate Percentage and ADR?
2. Are the results obtained from the fact of changing these variables relevant to our study or do results remain constant?
3. Does traditional accounting give us all the information we need when pricing in presence of significant fixed costs?
4. How less traditional approaches to costing and pricing in hotel operations such as the Theory of Constraints and Activity-Based Costing, Activity-Based Pricing and Activity-Based Management could affect determination of costs, price, profits and performance in hospitality?

References:

- Andrew, W.P., Schmidgall, R.S. (1998), "Hospitality Financial Management", 1st edition, American Hotel & Lodging Educational Institut, United States.
- Carr, G. (2003) PKF Consulting, published in *Hotel Resource* on April 24, 2003
- Cheu, Ch., Chen, M. & Kovar, S. (2003), "Integrating ABC and TOC for better manufacturing decision making", *In tegrated Manufacturing System*, 14 (5) , pp. 433-441.
- Cross, R.G. (1997), "Launching the revenue rocket: how revenue management can work for your business", *Cornell Hotel and Restaurant Administration Quarterly*, 38(2), 77-87.
- Hill and Jones, (2003), "Strategic Management An Integrated Approach", Houghton Mifflin, 6th Edition, Boston, United States.
- Holmen, J.S. (1995), "ABC vs. TOC: it's a matter of time", *Management Accounting*, Vol. 76, pp. 37-40.
- Kaplan, R.S., (March-April) 1986, "Must CIM be Justified by Faith Alone?", *Harvard Business Review*, pp. 86-93.

Kaplan, R.S., 1986 “The Role for Empirical Research in Management Accounting”, *Accounting Organisations and Society*, Vol. II N° 4-5, UK.

Kaplan, R.S., 1987, “John Deere Components Works”, Harvard Business School Case Series 187-107/108, United States.

Kaplan, R.S. (January-February) 1988, “One Cost System isn’t Enough”, *Harvard Business Review*, United States.

Kaplan, R.S., (January-February) 1989, “Introduction to Activity Based Costing”, NAA Conference, Global solutions to Global Problems II, Boston, MA, United States.

Kaplan, R.S., (June) 1994, “Flexible Budgeting in an Activity-Based Costing Framework”, *Accounting Horizons*, Vol. 8, N° 2.

Kaplan, R.S., 2005, “Activity –Based Costing and Capacity”, Harvard Business School Publishing, Boston, MA, United States.

Kee, R. (1995), “Integrating activity-based costing with the theory of constraints to enhance production-related decision making”, *Accounting Horizons*, Vol. 9, December, pp. 48-61.

Orkin, E.B. (1988), “Boosting your bottom line with yield management”, *Cornell Hotel and Restaurant Management Quarterly*, 27(1), 52-6.

Rahman, S. (1998), “Theory of constraints A review of the philosophy and its applications”, *International Journal of Operations and Production Management*, Vol. 18 (4), pp. 336-355.

Talbert, M. (1998), Chess Simulation Exercise, Cornell University, United States.

Van Westering, J., Cooper, C. P. and Lockwood, A. (1994), “Yield management – the case for food and beverage management”, *Progress in Tourism, Recreation and Hospitality Management*, 6(1), 39-47.