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Yield Management: an overview

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Yield Management has been successfully adopted by the airline industry following deregulation in the late 1970's. In an hotel context, yield management—a profit maximization strategy—is concerned with the market sensitive pricing of fixed room capacity relative to specific market characteristics. The concept of yield management is reviewed and the authors present a comprehensive structured operational framework for management in the hospitality industry focusing on 10 key areas. The article concludes with a look at the future of Yield Management and some areas for further research.

Key words: hotel accommodation profit Yield management
demand supply

Introduction

Effective management practices in the international hotel industry have seldom been more important or critical than at present. Today's hotel executives confront intensively competitive markets which show excess capacity, a reduction in leisure and business travel, severe short term liquidity problems and increasing business failure rates.

Hotels are characterized by high fixed costs and no scope for product inventory in a highly variable market. Consequently, the direction and organization of the hotels' available capacity must be both tactical and strategic. It is no longer prudent to aim for the demand/supply equilibrium. The critical factor is the revenue 'yield' which is generated at the point where demand for, and supply of, the hotel room meet. Chang and Campo-Flores (1980) contend that strategic management practices adopted by many hoteliers have been effective in terms of "development, conservation and deployment of limited resources to maximise returns". Capacity management [Jones and Lockwood (1989)] has been one further tactic adopted by hoteliers as a source of equating demand with supply. Again this can be seen as an effective strategy where the aim is to improve overall revenue. Yet, practitioners in such a volatile market as the hotel sector must increasingly be aware of the net return. Improved and sustainable profit is not always the outcome of revenue increments. This effectively means that the realization of return on investment can be significantly enhanced through profit maximization—being distinct from capacity maximization. Yield management may be the tool which can make a sustainable difference in both revenue and profit generation.

Focus of article

This article reviews the literature on the relatively new concept of Yield Management within the hotel industry. Additionally, and specifically, the paper reviews and combines sparse and fragmented literature into a current comprehensive operational framework for management and practitioners in the hospitality industry.

What is yield management

The airline industry has been credited with the development and refinement of Yield Management (YM) which followed airline deregulation in the 1970's. The techniques of YM have been increasingly used by the airlines to maximize capacity utilization, overall revenue and consequently net returns [Larsen (1988); Carter (1988); James (1987)].

YM is a revenue maximization technique which aims to increase net yield through the predicted allocation of available bedroom capacity to pre-determined market segments at optimum price. YM is still at embryonic stage with hoteliers generally having low levels of understanding of its precise function [Salomon (1990)]. As a management tool, it is not entirely an innovation as most hotels currently practice some form of YM—for example by adjusting room rates to temper demand fluctuations between peak and off peak seasons, midweek and weekend business. Within the context of airlines, Carter (1988) suggests that instead of reducing fares prior to flight departures, YM looks at historical demand patterns and identifies seats which have been difficult to sell in the past. These seats are promoted often through discounting to ensure they are sold in advance, resulting in the last available seats on a flight being available only at full fare.

Larsen (1988) suggests that within the context of the airline industry, YM can be divided into two distinct functions: overbooking and managing discounts. The work of Kimes (1989) would implicitly suggest that the concept can easily be transmitted into an hotel framework where YM consists of “room inventory management and pricing”. This viewpoint is challenged by a few commentators, in particular Orkin (1990a) who insists it would be inherently perilous for hotels to follow the practices of the airline industry.

In a hotel context, yield management is concerned with market sensitive pricing of fixed room capacity relative to specific market characteristics. The ‘goal’ of YM is the formulation and profitable alignment of price, product and buyer. Sieburgh (1988) considers YM as a set of procedures used to control rates and occupancy while Relihan III (1989) discusses YM in the context of applying ‘economic principles to pricing and room inventory’. Appropriately, Lieberman (1993) interprets YM on a much broader scale—as a tool with the capacity to yield a net result of enhanced revenue and customer service capabilities through a . . .

‘melding of information-systems, technology, probability, statistics, organisational theory, and business experience and knowledge’.

Gamble, (1990) suggests that YM is something of a misnomer in that it seeks to maximize revenue, not yield.

While there exists some general debate about the precise definition of YM, there is considerable agreement about its potential to enhance revenue generation. The work of

Kimes (1989) suggests that YM practices are applicable where the following conditions predominate:

- where capacity is relatively fixed
- when demand can be separated into distinct market segments
- when inventory is perishable
- when the product is sold well in advance of consumption
- when demand fluctuates substantially
- where marginal sales costs are low and marginal production costs are high.

Clearly the value of current YM systems is their potential to enhance profit through analytical and systemized intelligence of customer base, market characteristics and hotel capacity. This is effectively achieved through detailed analysis of the internal and external functional parameters within which the hotel operates. Furthermore, this analysis must be based on historical data, current trends and projected levels of business.

Measurement and efficiency

Too often, the selection of criteria used to assess performance introduces difficulties, influences decisions and produces results which conflict with the aim of revenue maximization. Where room night productivity becomes a valuation technique for sales staff, lower paying group business will increase while higher paying transient business is turned away [Orkin (1988a); Orkin (1988b); Jones and Hamilton (1992)]. A low occupancy percentage can be inflated by front office management and reservation staff through discounting and/or accepting an inequitable proportion of lower paying guest. A low average room rate is often 'justified' by the correspondingly high occupancy ratios used by the hotel industry and are wholly unsatisfactory in that occupancy may be increased while profitability decreases.

In the face of, or perhaps because of such a volatile market, the goal of hotel management is to generate revenue with the hotels' available resources. The profitable alignment between supply and demand is an attainable goal but many hoteliers have much ground to travel before achieving enhanced profit.

The key factors in determining room revenue are average room rate and occupancy. The philosophy of YM is to simultaneously optimize *both* these variables in the yield statistic identified by Orkin (1988a) as a measure of yield efficiency:

$$\text{Yield efficiency} = \frac{\text{Revenue Realised}}{\text{Revenue Potential}}.$$

Therefore, a 350 bedroom hotel with an £85.00 rack rate which sells 270 rooms at an average of £69.00 yields:

$$\frac{\text{Rooms Sold} \times \text{Average Rate}}{\text{Room Rate} \times \text{Available Rooms}} = \frac{270 \times 69}{85 \times 350} = >62.6\% \text{ yield.}$$

Orkin (1988a) has defined Realised Revenue as "actual sales receipts" and Potential Revenue as the "income that could be secured if 100% of available rooms are sold at full

rack rates". This yield efficiency statistic proposed by Orkin may however be somewhat restrictive and unrealistic for a number of reasons.

Inconsistent 'rack rate'

Firstly, it is generally accepted that rack rates are maximum room rates charged principally to one segment of the market, that is, walk in 'chance' arrivals. However, many non-commercial hotels—perhaps those dealing with volume leisure and/or conference business—merely have a rack rate to accommodate their small number of transient guests. The use of Orkin's yield efficiency statistic for such an establishment will result in an unrealistic, low and meaningless yield percentage. This leads on to the second area of concern with this yield equation. There are no industry specific criteria for the establishment or acceptability of rack rates. It follows, therefore, that the use of rack rate in the determination of yield efficiency is misleading, inconsistent and serves no useful purpose in comparing the performance of hotels. It would appear that Orkin's yield efficiency statistic should only be used where there is uniformity in pricing formulation.

Revenue versus profit

A further shortcoming of Orkins' statistic concerns the focus on revenue generated from accommodation in isolation from costs *and* the other revenue generating departments of the hotel. If YM is to effectively enhance yield, these items must be included.

Dunn and Brooks (1990) have proposed a Market-Segment Profit Analysis (MSPA) which they contend allows the hotelier to base decisions on profit maximization rather than revenue maximization. These authors suggest that the use of market demand pricing techniques in revenue maximization is an ineffective long term strategy, particularly for the high cost/quality provider which cannot profitably compete on price. Appropriately, the focus of MSPA is based on "activity-based costing" and revenue potential of each market segment. Dunn and Brooks suggest that such an analysis provides a framework for pricing based on maximizing profit through accurate integration of the full costs in supporting specific markets.

Clearly therefore, YM decisions must include consideration of:

- (1) the cost incurred in the provision of the hotel product;
- (2) the propensity to spend within each sector of the business mix; and
- (3) the most desirable mix of guest in terms of incremental costs and profit potential.

Focusing attention on these three areas will effectively provide a more detailed framework from which hotel managers can more accurately determine the precise contribution of net profit per trigger market. In essence, such an approach is more 'yield' focused than revenue maximization by virtue of consideration with cost variables. By coupling the costs incurred in providing the hotel service with an awareness of guest spending capacities throughout the hotel, YM moves from a revenue to a profit generating tool. The potential of YM can be further exploited to enhance profitability by highlighting the most desirable business mix.

Jones and Hamilton (1992) view the concept of YM to be a strategy which endeavours to maximize guest room rates when demand exceeds supply and to maximize occupancy when supply exceeds demand. While this strategy may be a productive capacity management technique, clearly there is a requirement for a management tool with a focus on profit in such a volatile and competitive market. Accordingly, the exploitation and application of 'yield' management in its true sense is a more effective tool since increasing revenue per market segment is cognizant of the costs incurred. Indeed, effective YM techniques incorporate the management of available capacity. Therefore, the operations which warrant the title 'yield' ought to embrace the aggregate product range and the associated costs per segment/business mix.

YM in an operational context ...

Generally, the literature agrees that a structured YM system will significantly alter the traditional approach to accommodation management specifically within the following key areas:

- management focus
- data collection
- optimum guest mix
- capacity levels
- technological input
- pricing
- customer hotel interface
- human resource implications
- incentive schemes
- training.

The available information that has been published over the last few years has been fragmented and somewhat repetitive. The remaining section of this paper will review and combine the fragmented concepts within an operational framework, focusing on the 10 key area identified above.

Management focus

The recent IHA (1993a) study on YM has highlighted the new approach to selling rooms from a management perspective. Accordingly, key management activities involve:

- setting the most effective pricing structures
- limiting the number of reservations accepted for any given room night or room type
- reviewing reservation activity to determine whether inventory control action is needed
- negotiating volume discounts with wholesalers and groups
- providing customers with the 'right' product—both room type and room rate, and
- enabling reservation agents to be effective sales managers rather than order takers.

In practice this effectively means that the price of an hotel room may change several times in any one day, which according to Horgan (1990) is a simple concept but a complex calculation. The emphasis is moved from room type at a set price (product driven) to a more complex strategy whereby room price is dictated by demand (market/demand driven) [Orkin (1990a)]. Yet despite the apparent simplicity of the concept, Berkus (1988), Salomon (1990) and Donaghy *et al.* (1994) highlight misunderstanding and ignorance among 80% of the hotel industry. These reports are supported by Gamble (1990) who calls for a real investment in management education.

It is increasingly more apparent in the recent literature that YM can most effectively be implemented by the co-ordination of a 'Yield Manager' (IHA, 1993a). The implicit advantage of creating such a new position is that the disparate activities which contribute to overall yield (sales, marketing, reservations and general management) may be streamlined towards one common unified goal rather than fragmented departmental objectives.

Data collection

To operationalize a YM system, extensive detailed data is required in quite specific formats. Markets must be segmented into more distinct components than the broad dichotomy of business and leisure, to establish a market fit product provision [Kimes (1989)]. The characteristics of each market such as quantifiable demand [CHRAQ Conference Report (1990)], price sensitivity, propensity to spend, booking patterns, booking lead times, duration of stay, check-in and departure patterns all need to be identified. The work of Gamble (1990) would suggest that this essential and timely procedure can be at best problematic and at worst fruitless. In essence, it must be possible to quantify some considerable time in advance, the projected demand from each market segment on a particular day during a certain month. To enable such forecasting, variables such as weather, holiday patterns, national and local events, season, month and the exact day of the week all need to be assessed in terms of anticipated demand for specific products from respective market segments [Orkin (1989)]. While many hoteliers currently employ forecasting techniques, the needs of a YM system are somewhat more complex.

Determination of optimum guest mix

The availability of such comprehensive data assists the strategic focus of hotel management by encouraging:

- the development of products or services to match customers needs more accurately or by
- allowing hoteliers to focus operational and/or marketing activities on customers whose needs match the hotel's resources.

Due to fixed capacity and high marginal fixed costs, hoteliers may then determine optimal guest mix by addressing:

- (1) the extent of demand from existing markets;
- (2) the potential demand from additional segments;
- (3) the compatibility of hotel resources with market needs.

The propensity to spend and cost of accommodating differing market segments are further components of significance in determining mix. These will be reviewed later.

While Orkin (1988b) suggests that YM does not in itself generate new business, it can be expected that the use of such yield strategies should ensure that management practices and decisions incorporate a stimulus through:

- (1) market research in terms of establishing demand levels, demand characteristics, and price elasticity of demand;
- (2) the overall selection and combination of products to be made available by the provider;
- (3) the configuration of products available each day; and
- (4) decision on price.

Capacity levels

The accumulation of data is a labour intensive but essential component of YM. Ideally, historical data should cover at least 2 years to identify and characterize demand variables per sector over time [Shine (1992)]. A 24 month span is of further importance in determining demand sensitivity relative to macro-economic and exogenous factors. By analysing demand patterns, the hotel can establish market characteristics—the more fragmented the analysis becomes, the more useful the information in terms of forecasting over distinctive periods per market segment.

An evaluation of 'no-show' data is essential in determining the over booking policy. The availability of such detailed data facilitates the establishment of capacity levels. The reservation manager may, for example, decide that sixty percent of capacity should be allocated for business rate guests on Tuesday night of week 27. For the same night, it may be considered reasonable to allocate 15% of capacity for full rack-rate walk-in guests and encourage group business for 35% of capacity. This simplistic example considers overbooking as an essential YM activity. [For an excellent account of overbooking within the context of YM see Larsen (1988)].

Accordingly, the hotel changes its focus from a single room at single room rate to the rate for a single room on a certain night.

Technological input

YM systems—whether revenue or profit focused—depend upon the extensive provision, sorting and manipulation of data. While this management tool has progressed slowly over the last 5 years within the hotel sector, there has been much development in the use of technology as an aid to enhancing yield [Nissan (1987); Sieburgh (1988); Spano (1988); Rowe (1989); Salomon (1990); IHA (1993b)]. The use of Artificial Intelligence (AI) has

enormous potential for handling the complexities of YM because of its abilities in complex problem solving, reasoning, perception, planning and analyses of extensive data [McCool (1987); Berkus (1988)]. AI applications are based on the fact that computers can function as human brains. Expert systems are 'knowledge base' software packages which reflect expertise in the area of application and such systems have extensive capacity in dealing with qualitative non-numeric data. Such systems perform decision making and problem solving in a heuristic manner using established rules prompted by 'triggers' which are embedded in the software [Berkus (1988)]. Sieburgh (1988) reports that the development of expert systems at the Sonesta property has resulted in extensive financial, human resource, marketing and product competitiveness.

Pricing

The economic principles of differential pricing can not be attributed to the emergence of YM. Most hotel managers have different price bands and employ the tactics of adjusting rates in response to demand [Jenner (1991); Relihan III (1989)]. Contemporary yield strategies (supported by the appropriate technologies) have the capacity to increase the scope and frequency of pricing decisions which more effectively align room prices with market forces. In a free market economy, market forces must be the determinant of price. Clearly it is sub-optimal to have a segmentation strategy which differentiates customers exclusively on price sensitivity [Dunn and Brooks (1990)]. Hotel room pricing needs to be supported with a market segmentation strategy which identifies the varying needs and expectations of market sectors. Figure 1 illustrates some of the fundamental differences between business and leisure travellers but is by no means exhaustive.

Analysing markets by both needs and price provide the hotelier with the data required to differentiate customers who are prepared to pay higher prices from those who are willing to alter their travel plans in exchange for lower prices. The challenge for hoteliers is to take advantage of these market characteristics in their provision, packaging and pricing of the hotel product by matching different rates against different purchase behaviour. For this to be an effective strategy, hoteliers must implement rational restrictions which prevent price inelastic trade-downs [see Hanks, Cross and Noland (1992)]. The critical point here is the hotel managers' precision in establishing the respective needs of each market. It is these segment differentials which determine the restrictions that prevent

<i>Business Travellers</i>	<i>Leisure Travellers</i>
Reluctance to make advance reservations	Tend to Plan in advance
Destination stay of minimal length of time	Stays are frequently longer
Expectation of higher quality	Quality expectations vary
Pre-determined destination	Destination often flexible
Travel plans often change	Seldom alter travel plans
Price insensitive	Price sensitive

Fig. 1. Comparison of market segment characteristics.

trade-downs, for example, lower rates in exchange for reservations made in advance with reduced flexibility. Kimes (1989) while sharing this viewpoint take the concept one important stage further and considers it fundamental that managers are aware of what effect a price change will have on demand. Orkin (1990a) considers that to avoid 'arbitrage' and subsequently a fall in revenue, hotel management must erect barriers. Hanks, Cross and Noland (1992) give an account of how this has been an effective strategy for Marriott hotels. YM techniques focus on how much of a product to sell at established prices on a daily, weekend, weekly, monthly, seasonal and annual basis.

Customer/hotel interface

The implementation of a 'yield' driven system radically changes the traditional client/staff dialogue. Guests are accustomed to booking a particular room type at an established price which may even occasionally be discounted. The emphasis within YM changes this traditional approach in that staff will sell the hotel room at a price which is determined by just about everything other than room type. From the outset, the transaction becomes difficult to handle as guests will expect a specific rate per room type. This conflicts with yield strategies. An inquiry for a single room at single business rate on a Tuesday evening requires sensitive handling to inform the guest that

- the rate requested may not be available on the Tuesday required;
- the rate requested may be available on a Tuesday night if booked and confirmed fourteen days in advance;
- rooms are available on the Tuesday night requested at a higher rate, or
- rooms are available on a Thursday night at a rate lower than requested for Tuesday.

This effectively means that introducing YM necessitates commitment to internal cultural appraisal and modification. Jones and Hamilton (1992) consider the development of this "Yield Culture" to be the first stage in developing a yield management system.

Human resource implications

Jones and Hamilton (1992) identify two major obstacles with which personnel are confronted. Firstly, the focus of senior staff is often on the 'minutiae' of YM without a conceptual understanding. Secondly, the increasing use of technology in YM has overshadowed the human resource element. Accordingly, it is essential that staff develop an understanding of YM:

- as a corporate activity, and
- as to how the pursuit of YM affects their individual job.

The effectiveness of YM as a management tool is largely determined by human resource input. While AI has and will continue to be at the forefront of YM applications, there exists a growing need for personnel trained in the use of YM at many levels within hotels.

There is some debate about the impact of YM systems on the responsibilities and decision making functions of staff. Kimes (1989) proposes that employee morale will suffer

among reservation staff through the reduction or elimination of guesswork and personal judgement. Liberman (1993) discusses such claims from the viewpoint that YM systems merely recommend specific courses of action. As such, the ultimate decision and responsibility for accepting a yield decision remains with personnel. Generally, reports in the literature holds that while yield systems increasingly involve the use of technology, staff are required to have an exhaustive and precise understanding of YM if they are to be successful.

Sophisticated yield programmes may well recommend the restructuring of selected room rates, prompt displacement costs or even refuse advance reservations from certain market segments at certain rates. It becomes the responsibility of trained personnel to accept or reject these recommendations in accordance with the profit maximization strategy of YM. Structured training programmes are required which reflect the new sales approach, i.e. from the traditional room type availability to the YM approach of available rates on a particular night.

Incentive schemes

YM systems can be expected to present difficulties for sales departments. Traditionally, such staff are rewarded by the amount of sales they make—often on the basis of occupancy or average room rate. The implicit assumption in this approach is that all room nights are equally beneficial to the hotel regardless of rate. However, a productive incentive scheme within the context of YM must incorporate incentive points which are directly related to the sales generated on high, medium and low demand days.

Management/staff training

YM systems involve the validation and manipulation of “trigger points” and ‘rules’ as identified by Berkus (1988). Thus, implementing a yield system requires that all staff including management need to be trained in, and familiar with the yield philosophy of the hotel. Extensive and specialist training will be required for staff on the front-line who deal directly with daily sales and inquiries. Gamble (1990) contends “serve problems of management and staff training remain to be solved if techniques associated with yield management systems are to be implemented successfully”. Gamble notes that this is consistent with the finding that 76% of British hotel managers seldom or never use operation management techniques [Martin and Clarke (1989)].

The future of YM

The hospitality industry has been forced to explore methods of enhancing profitability. To eliminate or reduce in-house services is a short-term approach which conflicts with the aim of the industry and overlooks sustainable growth. The use of YM techniques can improve an hotels competitive stance and enhance overall profitability. However, the benefits will only accrue where management have the capacity to fully understand the concept, the

aptitude to learn essential YM techniques and the determination to develop and nurture an understanding of the system among personnel at all levels within the hotel.

There exists some considerable potential for further research in the field of YM. Virtually no research has been undertaken to establish the implications of YM on management or the organization as a whole. Obviously much work is required to establish the precise areas of awareness on the concept of YM among managers in the industry so that lack of knowledge, concern and misunderstanding can be progressively addressed. YM systems have implications for staff at all levels of the organization which need to be identified and structured into a series of information seminars and training programmes.

Practitioners in the industry would find it particularly helpful to have some tangible quantitative evidence of the impact of YM on hotel performance. This calls for a case study approach assessing pre- and post-performance of hotels who have implemented structured YM systems.

Development in these areas will ensure that effective YM systems become widely established across the industry and become an effective management tool contributing to overall profitability and business growth.

References

- Berkus, D. (1988) The Yield management revolution—an ideal use of Artificial Intelligence. *The Bottomline*, June/July, pp. 13–15.
- Carter, R (1988) Screen Dreams. *The Business Traveller* April, 34–35.
- Chang, Y. N. and Campo-Flores, F. C. (1980) *Business Policy and Strategy: Text and Cases*. Goodyear, Santa Monica.
- Cornell HRA Quarterly Conference Report (1990) Yield Management Magic. *The Cornell HRA Quarterly* 31(2) 14–15.
- Donaghy, K., McMahon, U. and McDowell, D. (1994) Yield Management—A practised Idea or an Ideal practice? *Council for Hospitality Management Education (CHME) Third Annual Research Conference*, Napier University, Edinburgh.
- Dunn, D. and Brooks, D. E. (1990) Profit Analysis beyond Yield Management. *The Cornell HRA Quarterly* 31(3) 80–90.
- Gamble, P. R. (1990) Building a yield management system—the flip side. *Hospitality Research Journal* 14(2) 11–22.
- Jenner, G. (1991) Rate Relations. *Caterer and Hotel Hotelkeeper* 184, 44–46.
- Hanks, D., Cross, G. and Noland, P. (1992) Discounting in the Hotel Industry: a new approach. *The Cornell HRA Quarterly* 33(1) 15–23.
- Horgan, B. (1990) quoted in Solomon, A. (ed.) Yield Management—leaders shed light on the dark science. *Hotel and Motel Management* 205, 85–88.
- International Hotel Association (IHA) (1993a) The ABCs of Yield Management. *Hotels* 27(4) 55–56.
- International Hotel Association (IHA) (1993b) Technology to the rescue balancing rates, occupancies. *Hotels* 27(8) 37–38.
- James, G. W. (1987) Fares must yield to the market. *Airline Business* January, 16–19.
- Jones, P. and Hamilton, D. (1992) Yield Management: putting people in the big picture. *The Cornell HRA Quarterly* 33(1) 88–95.
- Jones, P. and Lockwood, A. (1989) *The Management of Hotel Operations*. Cassell Education Ltd, London.

- Kimes, S. E. (1989) The basics of yield management. *The Cornell HRA Quarterly* **30**(3) 14–19.
- Larsen, T. D. (1988) Yield Management and your passengers. *Asta Agency Management* June, 46–48.
- Lieberman, W. H. (1993) Debunking the Myths of Yield Management. *The Cornell HRA Quarterly* **34**(1) 34–41.
- Martin, C. A. and Clarke, B. R. (1989) The use of production management techniques in the tourism industry, *4th Annual International Conference of the Operations Management Association*, Glasgow University, Glasgow.
- McCool, A. (1987) Some considerations in developing expert systems for the hospitality industry. *International Journal of Hospitality Management* **6**, 191–198.
- Nissan, E. (1987) Knowledge-based computer systems for tasks in hospitality management or related areas: accommodation (lodging, alimentation) and leisure. *International Journal of Hospitality Management* **6**, 191–198.
- Orkin, E. B. (1988a) Boosting your bottomline with Yield Management. *The Cornell HRA Quarterly* **28**(4) 52–56.
- Orkin, E. B. (1988b) Yield Management makes forecasting fact not fiction. *Hotel and Motel Management* August 15, 112–118.
- Orkin, E. B. (1989) Forecasting: crystal ball or CRT? *Bottomline* June/July, 21–23, 29.
- Orkin, E. B. (1990) Strategies for managing transient rates. *The Cornell HRA Quarterly* **30**, 34–39.
- Relihan III, W. J. (1989) The Yield Management Approach to Hotel Room pricing. *The Cornell HRA Quarterly* **30**(1) 40–45.
- Rowe, M. (1989) 'Yield Management'. *Lodging Hospitality* February, 65–66.
- Salomon, A. (1990) Yield Management—leaders shed light on the “dark Science”. *Hotel and Motel Management* Part 205, 85, 88.
- Shine, M. (1992) Yield Management: a competitive advantage in the nineties. *HSMAI Marketing Review* **9**(4) 13–16.
- Sieburgh, J. A. (1988) Yield Management at work at Royal Sonesta. *Lodging Hospitality* October, 235–237.
- Spano, S. V. (1988) The growing importance of hotel technology. *Lodging Hospitality* October, 106–107.