

Assessing the Benefits of Yield Management in the Hospitality Industry in Kumasi Metropolis of Ghana

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ABSTRACT

Ghana's hotel industry has a great deal of potential for future development. However, revenue loss due to lost opportunity arising from unused rooms or no shows is a challenge facing the industry. Maximizing revenue is important in the industry because of high costs of operation. Yield Management (YM) offers one of the potential revenue maximization strategies in the hotel business operations. This study aims at evaluating the effect of yield management practices on business operations in the hotel industry in the Kumasi Metropolis of Ghana. The study adopted a combination of qualitative and quantitative approach. The study relied on primary data which was collected through field survey using semi-structured interview and questionnaires instruments. Descriptive statistics was used to analyse qualitative data whilst the qualitative data was analysed through deduction and inferences. The study revealed that that the implementation of yield management has positive impact in hotel business operations in the Kumasi Metropolis in terms of profitability competitive advantage operational efficiency productivity and cost saving. It is recommended that the hotel industry, particularly in the Kumasi Metropolis, should invest in information technology education as well as staff training to improve their skill capacity since effective practices YM depends on effective information system.

1. Introduction

It is an undeniable fact that tourism is a household name in the Ghanaian society today. It is so because when rating the resources of Ghana's economy that give the nation enough foreign exchange, tourism comes third with cocoa and gold placing first and second respectively (Ghana Tourist Board, 2005). Tourism has to do with providing services, such as transport, places to stay or entertainment, for people who are on holidays. We call such people tourist. When people are travelling for their holidays the three basic things without which their dreams could not be materialized include transport services (where mentioned could be made of air travel, sea travel, road and rail), catering services and places to stay or entertainment also known as hotel services.

Ghana's hotel industry has flourished in the last few years and is seen to have a great deal of potential for future development. There is a growing demand within the hotel industry from both international and domestic travellers in recent times, especially after the discovery of Oil in commercial quantities in 2007. In view of this Ghana's hotel industry needs to expand and develop further. Ghana's accession to World Tourism Organization (WTO) has exposed the local hotel industry to greater competition from foreign companies. In order to survive in the face of keen competition, the industry needs to adopt advanced operational management methods. Among these methods, Yield management (YM), which is a Revenue Management (RM) approach can be used to improve revenues for Ghana's hotel industry and enable it to survive in a changing market.

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According to Kimes (1989) YM is the process of allocating the right inventory unit to the right customer at the right time and for the right price. It guides the decision of how to allocate undifferentiated units to limited capacity and to available demand in a way to maximize profit or revenue (Jones, 2000).

Maximizing revenue is important for hotels because of their high fixed costs and their fixed capacity. High levels of investment hinder increasing the supply of hotel rooms in the short run to cope with peaks in demand. Conversely, overall costs decrease minimally in periods of low demand (Kimes, 2000). Furthermore, the marginal cost of selling a room is usually considerably less than the revenue generated from the sale of that room, making selling as many rooms as possible each night particularly important for profitability. The hotel product is also perishable. Unlike in manufacturing, an unsold room on a particular night cannot be stored for future sale. Thus, any empty room represents a lost opportunity and lost revenue. For hotels offering last-minute pricing, "the demand boost will not be large, but the loss of revenue will be painful" (Enz, 2003, Suri, Long, & Monroe, 2004). In the light of this, effective YM is crucial in the hotel industry if revenue is to be maximized. This study aims at evaluating the benefits of yield management practices in the hospitality industry in the Kumasi Metropolis of Ghana.

2.0 Related Studies

2.1 The Concept of Yield Management (YM)

YM originates from the U.S. airline industry as a result of deregulation in the late 1970s and it has since gained widespread acceptance in a wide range of industries. Indeed, the practice of YM, strongly associated with the airline industry, is both pervasive and mature, and YM is viewed as enormously effective since many airlines attribute improvements in their profits due to YM (Fitzsimmons and Fitzsimmons, 2011).

YM can apply to virtually all businesses with perishable inventory. Applications range from simply adopting the yield management attitude and thinking about supply, demand, and pricing management in YM terms to using high-powered algorithmic tools (Cross, 1997). The last two decades have seen the application of YM to various types of service industries such as healthcare, convention centres, car rental agencies, cruise lines, golf courses, among many others. Due to their similar market and supply operational conditions (Brotherton and Mooney, 1992; Kimes, 1989), hotels have also successfully adopted and implemented the YM concept, boosting their operational performance by increasing both occupancy and average room rates. The body of research continues to grow in scope, in terms of academic and practitioner research, with the increasingly sophisticated ways to improve business performance. Several papers have provided an overview of research on YM (Weatherford and Bodily, 1992; McGill and van Ryzin, 1999; Bitran and Caldentey, 2003; Kimes, 2003; Chiang et al., 2007). Along with the growing attention and literature on YM in the hotel sector, a multitude of definitions has been proposed.

While there exist a general debate about the precise definition of YM, these varying definitions share a fairly similar and broader framework about its potential to enhance revenue and profit generation.

According to Orkin (1988), the main goal of a YM system is to maximize the property's yield by obtaining a revenue goal that is as close to the potential revenue target as possible.

Kimes (1989:15) states that YM is the process of allocating the right inventory unit to the right customer at the right time and for the right price. It guides the decision of how to allocate undifferentiated units to limited capacity and to available demand in a way to maximize profit or revenue.

Moreover, Jauncey *et al* (1995:25) view YM as an integrated, continuous and systematic approach to maximizing room revenue through the manipulation of room rates in response to forecasted patterns of demand.

Donaghy *et al* (1995:140) discuss mainly the same concept as Jauncey *et al*. but also highlight the importance of market segmentation and consider YM to be a revenue maximization technique which aims to increase net yield through the predicted allocation of available bedroom capacity to predetermined market segments at optimum price.

Jones and Hamilton (1992:90) display a slightly different perspective on their overall perception of YM. They affirm that YM comprises a range of systems and procedures to maximize sales of a product or service

under more-or-less fixed supply conditions, where revenue producing ability diminishes with time. In the hotel business context, YM tries to maximize guest room rate when demand exceeds supply, and maximize occupancy, even at the expense of average rate, when supply exceeds demand. Basically, the idea is to maximize a company's effective use of its resources by moving away from mass pricing and mass marketing, to the management of the micro market.

2.2 Key elements of yield management in the hotel industry

With the objective of profit maximization, the key to YM implementation in hotel industry is selling every room at the highest possible rate, while at the same time, not allowing any room to remain unoccupied. In order to achieve this goal, the basic and key elements of yield management include overbooking, pricing, room inventory control, and duration control.

2.2.1 Pricing

Revenue management is a kind of price discrimination Jauncey *et al* (1995). The hotel needs to classify customers and charge them different rates based on their different needs and behavior. This kind of pricing strategy adopts some rational rules and restrictions to differentiate between guests who are willing and able to pay higher prices from those who are willing to change their behavior in exchange for a lower price (Hanks, Cross, and Noland 1992). For example, price-sensitive customers can enjoy a lower price, but with some restrictions including booking a certain period of time ahead, being subject to a no deposit refund, or having limited room options. Customers who are willing to pay full price, on the other hand, can book at anytime and select any kind of room. The advantage to this kind of segmentation is that the hotel can sell the discounted rooms to one customer segment without losing any income from the other segments.

Meanwhile, it is easy to explain the pricing system to customers since each kind of price is set up according to reasonable rules. Price discrimination is a trend. The key is to build a rational price structure while controlling room inventory in case customers from the high-price segment need to be able to purchase a low-price room.

2.2.2 Overbooking

Though customers have made a room reservation in advance, they may cancel the reservation or not to show up due to various reasons. This will lead to the room being vacant and the hotel losing the chance to make a profit. In order to protect the hotel against the possibility of no-shows, overbooking is common practice of YM in the hotel industry. However, overbooking also carries a risk: if all of the customers arrive at the reserved time, the hotel may not have enough rooms for them all. Therefore, in order to make a trade-off, it is important to assess the optimal overbooking rate (Hanks et al., 1992).

In addition, reservation also benefits consumers by reducing waiting and guaranteeing service availability. Problems do arise, however, when customers fail to honor their reservations. (These customers are referred to as no-shows.) Usually, customers are not held financially liable for their unkept reservations (Fitzsimmons and Fitzsimmons, 2011). Therefore, it only makes economic sense to adopt overbooking as a strategy to minimise potential losses in the event of customer no shows. A good overbooking strategy should minimize the expected opportunity cost of idle service capacity as well as the expected cost of turning away reservations. Thus, adopting an overbooking offers one of the best strategies to ensuring optimal overbooking rate.

2.2.3 Inventory control

Inventory control and management is key element of YM in the hotel industry. It is concerned with allocating current room resources reasonably. In general, some hotels are willing to accept as many reservations as possible even though some reservations are made far in advance. This may guarantee occupancy; however, the hotel may lose the opportunity to capture more potential income in the future. The earlier the customers make their reservation, the greater the discount they ask for. If all rooms were sold at a low price, the price-insensitive segment customer who would pay full price will not be able to reserve a room near the date that they will come (Fitzsimmons and Fitzsimmons, 2011; Noone and Griffin, 1997). Therefore, to maximize revenues, hotels should try to sell the room near the arrival date at the highest possible price. Hence, the hotel must decide how many rooms will be sold in advance and how many should be kept for walk-in guests, based on demand forecasting. Moreover, a reasonable price structure should be determined, including the number of available rooms in terms of corresponding discount policy (O'Neill and Mattila, 2006).

The objective of room inventory control is to limit the number of discounted rooms. Hotels should keep the rooms for customers who are willing to pay a higher price so as to capture more profit as well as satisfy various customers' needs. However, there is a risk involved in giving up current assured yet lower profit in exchange for future uncertain yet higher profit. To lower the risk, accurate demand forecasting is necessary (Fitzsimmons and Fitzsimmons, 2011).

2.2.4. Duration control

Duration control is yet another YM strategy that can be used to maximize revenue in the hotel industry. One particular problem hotels have is that the customers may stay for more than one night. This is quite different from the situation faced by the airline industry, whose seats are used only once during one flight. Though customers who stay for more than one night will bring more revenue than those who only stay for one night, the question of whether a hotel accepts a reservation or not depends not only on the entire length of the customers' stay, but also on the customers' demand level as well as the rooms available at that time. To enforce optimal duration control, the hotels need to forecast the demand level at different time periods (Jauncey et al 1995). For example, a hotel with lower demand on Wednesday and higher demand for Tuesday and Thursday could require a customer who arrives on Tuesday to stay for at least two days and deny those willing to stay for one night only.

Moreover, the hotels need to consider the rooms available in the future when controlling the customers' duration. For instance, the computer generated reservation system may be adopted such that it may decline a reservation for one day or four days on a certain day's arrival and accepting those for two days, three days and five days based on a complicated calculation combing the number of customers with stays of various duration with the corresponding number of available rooms. The objective may be to take full advantage of limited capacity while shortening the time for which a room is vacant from when one customer leaves and another arrives. Though it is a complicated and advanced way of setting duration control when compared with other yield management techniques, it contributes considerably more to overall revenue (Jauncey et al 1995; Fitzsimmons and Fitzsimmons, 2011).

2.3 Developing Appropriate Yield Management Systems

Each element of yield management including overbooking, pricing, inventory control and duration control is based on accurate forecasting on customer demand. Since this requires a lot of data processing work, the hotels need to adopt a yield management system (Fitzsimmons and Fitzsimmons, 2011; Kimes 2000). Ghana's state owned hotels and other small and medium-sized hotels differ from foreign-invested hotels in terms of market positioning, management systems and marketing strategies, and so they need to develop their own yield management systems. Since yield management systems are developed based on complicated mathematic models and arithmetic design (Kimes 2000), Ghana's state-owned hotels should employ professional consulting companies to develop their own appropriate yield management systems (Kimes 2002). Thus hotels need to pay more attention to their competitors by collecting their rivals' price information and making a competitive price structure accordingly.

2.4 Conditions to apply yield management

The requirements necessary to apply yield management correctly are as follows (Kimes, 2002): limited capacity; segmentation of the market; uncertainty in demand; perishable inventory and, finally, high overheads. It is possible to indicate that market segmentation figures prominently, because when the number of market segments increases, profits increase. However, the fundamental issue is without a doubt that the different segments do not perceive the use of this practice to be unfair (Kimes, 2002).

In this sense, Berman (2005) establishes situations in which the yield management strategy can be used. These situations must fulfill a series of characteristics in relation to demand, reservations, costs and capacity limit.

Demand characteristics include:

- Significant variation in demand by time of day, season, day of week;
- Demand that can be segmented;
- Significant differences in price elasticity by market segment.

Reservation characteristics include:

- Predictable demand
- Service is booked by consumers in different time periods;
- Uncertainty of actual usage despite bookings creates possibility of unsold seats.

Cost characteristics include:

- Low costs of marginal sales in comparison to marginal income;
- High overheads.

Capacity Limit characteristics include:

- Capacity is really fixed;
- Service providers have excess capacity at certain times and excess demand at other times;
- Capacity is perishable. It cannot be stored.

The success of yield management depends mainly on the customer, which is the axis on the basis of which strategic and price-fixing decisions must be taken (Shaw, 1992).

Blake and Buckhiester (2005) are of the view that, in order to use yield management successfully, companies must take the following steps:

1. create a yield management group that is involved in the decision making process, as well as in the fixation of prices;
2. know the company and its competitors, that is, know what the company offers in order to ascertain whether consumer needs are being covered, as well as to know the services or products offered by the competition;
3. fix prices strategically, once the company has analyzed how their customers make their reservations and
4. determine the most valuable consumers and forecast demand.

McMahon and Palmer (2000) also consider the following actions necessary for the yield management strategy to be successful:

1. Identify the base customer using a detailed process of segmentation, which becomes the first step towards finding the correct customer and, therefore, being able to offer them a suitable price.
2. Make managers aware of the necessity to change customer needs and expectations.
3. Consider the elasticity of price and demand by market segment.
4. Make managers responsible for knowing the conditions of the market, which are characterized by constant change.
5. And, finally, analyze past demand in combination with the reliability of the forecasting method.

Valls (2009) asserts that “when managing income on the basis of dynamic prices, there are a series of principles that must be applied”:

1. Balance between supply and demand. This equilibrium is obtained by adjusting prices in order to reduce the seasonal component of demand, maximize capacity and avoid stocks.
2. Segmentation on the basis of price sensitivity. Create consumer segments according to their sensitivity to prices, and then fix prices according to each of these segments.
3. Knowledge of the target market. Analyze past behavior to secure a precise knowledge of the market.
3. Modulation of price tariffs. Assess the opportunity of obtaining new income through the modulation of price tariffs.

On the basis of the above, two fundamental elements must be considered when developing a yield management strategy. On the one hand, companies must be aware of the characteristics of the target customer to better adapt their supply. On the other hand, the entire company must be aware of its objectives and be involved in accomplishing them (Fitzsimmons and Fitzsimmons, 2011).

2.5 The Impact of Yield Management

YM uses differential pricing and other techniques to manage customer demand for a company's products and services, and incorporates those techniques and decisions based on knowledge derived from interfacing with current and potential customers to grow revenue through pricing and volume. Various literatures that outline the positive impacts of YM on a company level (Barth 2002; Cross 1997). Esse (2003) suggests that YM provides more benefits to customers and this leads to greater performance, increases efficiency and productivity as well as competitive advantage. Thus YM, in essence, encompasses activities that concentrate on proper allocation of resources by virtue of which better profits can be achieved.

Jones and Hamilton (1992) delineate that YM in the hotel business context tries to maximize guest room rates when demand exceeds supply and maximize occupancy when supply exceeds demand, even at the

expense of the average room rate. Nevertheless, a vast amount of authors agree that the purpose of YM is the maximization of room revenue through the manipulation of room rates in a structured fashion, so as to take into account forecasted patterns of demand (Jauncey et al., 1995; McMahon-Beattie et al., 1999; Siguaw et al., 2001).

In addition, it is a procedure that attempts to maximize profits by using information about buying behaviour and sales to create pricing and inventory controls (Ross and Johns, 1997). The system consists of techniques that allow managers to gain more insight into customers' buying behaviour and consequently, to make adjustments in the marketing mix to maximize revenue and achieve significant increase in market share and profitability through customer preferences (Siguaw et al., 2001; Chiang, 2007). Hence, the ability to control rates is dependent on correct predictions of future patterns of demand. This involves modelling the rate and volume of predicted reservations over time, based on historical data.

YM brings staff satisfaction as well and provides better work environment by providing promotion opportunities and different positions for the staff. Also, it is a crucial point in income administration and an integral part of a company's long-term strategy. In financial terms, in modern economies, YM often comes from the school of nurturing investor relations (Kimes, 2003).

3. Methodology

The study adopted a combination of qualitative and quantitative approach. The hotels in the Kumasi Metropolis of Ashanti region, Ghana, constituted the population of the study. Nine (9) hotels, drawn from the 2-Star and 3-Star hotel categories were purposively selected for the study.

9 General Managers from each of the 9 hotels were used as key informants of the study and were interviewed. Again in each of the nine hotels, 45 respondents were selected purposively. The respondents from each hotel comprised of the Manager, the Accountant, the Operations manager and two front desk staff. Primary data were collected in two stages from both the key informants and the staff from the selected hotels. Qualitative data, which was the first phase of data collection, was collected from the key informants through semi-structured interview. In the second phase, the respondents were asked to give their perception on the responses given by the key informants using questionnaires. The questionnaires used was closed ended type with five point likert scale, ranging from 5= Very High, 4=High, 3= Neutral, 2=Fairy High and 1= Low. The quantitative data was analysed using descriptive statistical tools with the aid of Statistical Package for the Social Scientist (SPSS) whilst the qualitative data was analysed through deduction and inferences. Table 3.1 shows the categories of respondents.

Table 3.1 Categories of Respondents

Respondents	Sample
Key Informants	9
Hotel Staff	
Managers	9
Accountants	9
Operations Managers	9
Front Desk Staff	18
Total	54

Source: Authors' Field Survey, (2013)

4.0 Results and Discussions

4.1 The Effect of YM on Hotel Operations

9 hotel managers in the Kumasi Metropolis were purposively selected and interviewed on the effects of yield management on their businesses. The interviewees were asked to provide the benefits of yield management on their business operations based on their experience.

It was revealed from the interview that yield management has improved cash-in - flows, reduced operation cost, and improved their level of efficiency, performance, profit level and competitive advantage.

All the managers interviewed cited improved cash- in-flows as one of the benefits experienced from implementing yield management. One manager noted that:
since we started implementing yield management, we have experienced significant improvement in our cash - in- flows situation and has helped in the management of our working capital and day-to-day running of the hotel.

This statement almost ran through the responses given by the interviewees. Thus YM has improved the cash-in- flows situation of the hotels captured under the study.

YM implementation has also enhanced cost reduction. The interviewees indicated that since YM was implemented, the number of rooms that were not usually booked has been reduced, thus reducing the cost of transaction especially that arising from fixed cost automatically incurred ever when there was no reservation. The response implied that YM has the benefit of reducing running cost of hotel.

The managers also revealed from the interview session that YM has improved efficiency level of their operation. This emanates from the fact that YM has improved cash inflows and reduction in transaction cost. Again the implementation of YM has reduced the number of rooms that go perish as results of no shows or reservation. These have improved the efficiency level of management.

Improved performance was also cited as the outcome of YM implementation. From the managers experience, YM implementation has improved their revenue generation and capacity utilization, thus leading to increase in the overall performance of their business.

On profitability, it was deduced from the managers during the interview session that YM has actually reflected in their bottom line of their business. This obviously is driven by improved performance in cash-in- flows, cost reduction and high level of operation efficiency.

Finally it was inferred from the managers that YM has improved their operational efficiency and performance, making them able to compete favourably in the hotel industry in their operating environment.

4.2 The Level of Impact of Yield Management Application in Hotel Operations

Factor Attribute	Very high	High	Fairly high	Low
Profitability	19(43%)	14(32%)	12(25%)	0.00
Competitive Advantage	8(18%)	17(38%)	18(40%)	2(4%)
Operation Efficiency	16(35%)	19(42)	10(23%)	0
Productivity	19(42%)	20(45%)	6(13%)	0
Cost saving	14(30%)	15(33%)	10(23%)	7(15%)

Frequency = 45

Source: Authors' Field Survey, (2013)

4.2 The Level of Impact of Yield Management Application in Hotel Operations

The responses from the interview session were further subjected to quantitative evaluation to find out the extent to which each of the benefits perceived to be the outcome of yield management implementation on their business operations. The 45 respondents were asked to indicate the related effect of each perceived benefits of YM on their business operations.

From table 4.1, it can be discerned that 43%(= 19) and 32% (= 14) of respondents perceived that effect of YM on profitability was very high and high respectively whilst 25%(= 12) indicated that YM has fairly high effect on profitability. On competitive advantage, 18% (=8) and 38% (=17) of the respondents indicated very high and high effect respectively as the extent to which YM implementation has on it.

However, 40% (= 18) of the respondents rated it fair whilst 4% (=2) low impact. In terms of operational efficiency, 35% of respondents perceived that YM is very high whilst 42% (= 19) indicated high. However,

23% (=10) of them rated YM impact on efficiency fair. In terms of productivity, respondents believed that YM has high impact on increased productivity as 42% (=19) and 45% (=20) of the respondents rated it very high and high respectively although few of them, constituting 13% (=6) rated it fair. Finally 30% (=14) and 32% (=14) of the respondents indicated that YM implementation has very high and high impact on cost saving respectively whilst 23% (10) rated it fair. The results clearly show that YM implementation has positive effect on business operations in the hotel industry in the Kumasi Metropolis in terms of profitability, competitiveness, operational efficiency, productivity and cost savings.

5. Conclusion

The study was set out to evaluate the effects of yield management practices in the hospitality industry in the Kumasi Metropolis of Ghana. The results from the study revealed that the implementation of yield management has positive impact in their hotel business operations in the Kumasi Metropolis in terms of:

- profitability
- competitive advantage
- operational efficiency
- productivity and
- cost saving.

This was confirmed by the results from the quantitative analysis.

Recommendations

It has been established by this study that application of Yield Management principles in the management of hotels within the study area was quite good. In order to improve on the benefits that come along with YM implementation, it is recommended that the hotel industry should invest in information technology education as well as staff training to improve their skill capacity since effective practices YM depends on information management system. We also recommend that the Association of the Hotel Industry should encourage their members to adopt YM practices in their business operations for improved performance. capacity of s should be carried throughout the hospitality industry to ensure accurate data management

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