Revenue Management in Hotel SMEs – a Resort Hotel Case Study

Bachelor Thesis for Obtaining the Degree
Bachelor of Business Administration in Tourism and Hospitality Management

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Affidavit

I hereby affirm that this Bachelor’s Thesis represents my own written work and that I have used no sources and aids other than those indicated. All passages quoted from publications or paraphrased from these sources are properly cited and attributed.

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Abstract

Revenue or yield management has become one of the top management priorities of international hotel companies in recent years. The volatile and ever changing business environment has also forced other independent hotels, which operate in direct competition with international brands, to implement said pricing schemes and strategies. The question is however, to what extent such revenue management practices can be applied to hotel businesses in the small and medium sized and especially resort hotel category. In order to stay competitive hotels of this type need to explore the possibilities and potential operational and financial benefits of implementing a more sophisticated pricing approach.

Existing literature on revenue management in small and medium sized hotels is somewhat limited and the few articles available only describe the concept on a rather theoretical level. Therefore, a noteworthy gap in knowledge can be identified and the need for a study with a practical approach that delivers tangible results is realized. By conducting a literature review the key components and conditions for revenue management were determined. The key components, described as the five pillars of revenue management, are as follows: Segmentation and Customer Knowledge, Capacity Management, Forecasting and Overbooking, Channel Management and Distribution and Pricing Strategies.

The investigation was conducted in form of a case study on the basis of two small and medium sized resort hotels within the Austrian and German leisure travel market. The aforementioned conditions and five pillars of revenue management were then analyzed in the business environment of both case hotels. The study has proven that resort hotels and small and medium sized hotels are indeed in the position to implement revenue management and possess great potential for revenue optimization through said practices.

Hotels in this category are able to successfully implement and executed sophisticated forecasting methods, channel management, distribution management and pricing strategies to almost the same extent as city hotels and international hotel companies. Only the workload, complexity and benefits from economies of scale differ. The components of segmentation, customer knowledge and capacity
management also prove to be beneficial for a hotel business in the SME category, but are only applicable to a slightly limited extent. As requirements for the application cannot be fulfilled or simply that the resulting benefits do not outweigh the disadvantages through additional workload or loss of customer satisfaction.

Nevertheless, the study was able to undoubtedly validate that revenue or yield management practices are applicable to small and medium sized businesses in the hotel industry and that such process indeed have the potential to positively influence revenue generation and profits.
# Table of Contents

1. Introduction ................................................................................................................. 10

2. Methodology ................................................................................................................ 10

3. Literature Review ......................................................................................................... 11
   3.1 Introduction .............................................................................................................. 11
   3.2 Revenue Management in the Hotel Industry ............................................................ 13
   3.3 Benefits of Revenue Management ............................................................................ 14
   3.4 Five Pillars of Revenue Management ....................................................................... 15
      3.4.1 Segmentation and Customer Knowledge ............................................................. 17
      3.4.2 Capacity Management ...................................................................................... 19
      3.4.3 Forecasting and Overbooking .......................................................................... 21
      3.4.4 Channel Management and Distribution ............................................................. 23
      3.4.5 Pricing Strategies ............................................................................................. 25
   3.5 Conditions for Revenue Management ....................................................................... 29
      3.5.1 Perishable Inventory ......................................................................................... 31
      3.5.2 Ability to Segment Markets .............................................................................. 31
      3.5.3 Product Sold in Advance .................................................................................. 32
      3.5.4 Fluctuating Demand ........................................................................................ 33
      3.5.5 Low Marginal Sales Costs and High Marginal Production Cost ...................... 33
   3.6 Revenue Management in SMEs in the Hotel Sector .................................................... 34
   3.7 Conclusion ................................................................................................................ 36

4. The Case Hotels ............................................................................................................. 36
   4.1 Case Hotel A ............................................................................................................ 36
      4.1.1 Company, Concept and Business Environment .................................................. 36
      4.1.2 Revenue Management Situation ..................................................................... 38
      4.1.3 Human Resources ............................................................................................ 38
      4.1.4 Technologies and Information Systems ............................................................. 38
      4.1.5 Strategic and Operational Decision-Making .................................................... 39
   4.2 Case Hotel B ............................................................................................................. 39
      4.2.1 Company, Concept and Business Environment .................................................. 39
      4.2.2 Revenue Management Situation ..................................................................... 41
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.3 Human Resources</td>
<td>41</td>
</tr>
<tr>
<td>4.2.4 Technologies and Information Systems</td>
<td>41</td>
</tr>
<tr>
<td>4.2.5 Strategic and Operational Decision-Making</td>
<td>42</td>
</tr>
<tr>
<td>5 Discussion</td>
<td>42</td>
</tr>
<tr>
<td>5.1 Segmentation and Customer Knowledge</td>
<td>42</td>
</tr>
<tr>
<td>5.2 Channel Management and Distribution</td>
<td>45</td>
</tr>
<tr>
<td>5.3 Forecasting and Overbooking</td>
<td>49</td>
</tr>
<tr>
<td>5.4 Capacity Management</td>
<td>51</td>
</tr>
<tr>
<td>5.5 Pricing Strategies</td>
<td>52</td>
</tr>
<tr>
<td>5.6 Four Questions to Consider before Implementing Revenue Management</td>
<td>60</td>
</tr>
<tr>
<td>5.6.1 Are the General Conditions for Revenue Management met?</td>
<td>60</td>
</tr>
<tr>
<td>5.6.2 Who will manage Revenue?</td>
<td>60</td>
</tr>
<tr>
<td>5.6.3 Which Pricing Strategy should be pursued?</td>
<td>60</td>
</tr>
<tr>
<td>5.6.4 Is the Business ready for Yield Management?</td>
<td>61</td>
</tr>
<tr>
<td>6 Conclusion</td>
<td>61</td>
</tr>
<tr>
<td>7 Bibliography</td>
<td>63</td>
</tr>
<tr>
<td>8 Appendices</td>
<td>69</td>
</tr>
<tr>
<td>8.1 Interview Questionnaire</td>
<td>69</td>
</tr>
</tbody>
</table>
List of Tables

Table 1 - Total Customer Worth (Tranter et al., 2009) ..................................................18

Table 2 - Total Customer Worth (Tranter et al., 2009) ..................................................25

Table 3 - Total Customer Worth (Tranter et al., 2009) ..................................................44

Table 4 - Calculations Total Customer Worth .................................................................45

Table 5 - Paid Online Traffic Calculations: Case Hotel A June 14 ...............................47

Table 6 - Full Channel Analysis: Case Hotel A and Case Hotel B ...............................48

Table 7 - Room Category Efficiency .............................................................................52

Table 8 - Adjusted Room Rate .......................................................................................56

Table 9 - Dynamic Room Rate Plan Case Hotel A .........................................................57

Table 10 - Dynamic Room Rate Plan Case Hotel B .........................................................58
List of Figures

Figure 1 - Differential Pricing (Hanks et al., 1992) ............................................................. 27

Figure 2 - Sub Segment Diagram ............................................................................................ 43

Figure 3 - Distribution Channels: Case Hotel A and Case Hotel B ........................................... 46

Figure 4 - Three Levels of Pricing Schemes/Strategies ............................................................. 53

Figure 5 - Case Hotel A BAR Levels .......................................................................................... 55

Figure 6 - Case Hotel B BAR Levels .......................................................................................... 55

Figure 7 - Pick Up Rate, Pick Up Rate Difference ..................................................................... 56
### List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>Average daily rate</td>
</tr>
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<td>ALOS</td>
<td>Average length of stay</td>
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<tr>
<td>BAR</td>
<td>Best available rate</td>
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<tr>
<td>GDS</td>
<td>Global distribution service</td>
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<td>GOPAR</td>
<td>Gross operating profit per available room</td>
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<td>IDS</td>
<td>Internet distribution service</td>
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<tr>
<td>LOS</td>
<td>Length of stay</td>
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<td>OCC</td>
<td>Occupancy</td>
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<td>OTA</td>
<td>Online travel agent</td>
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<tr>
<td>PMS</td>
<td>Property management system</td>
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<td>RevPAR</td>
<td>Revenue per available room</td>
</tr>
<tr>
<td>SME</td>
<td>Small and medium sized enterprises</td>
</tr>
</tbody>
</table>
1 Introduction

Revenue management or yield management is a wide spread practice of revenue optimization within chain hotels or privately owned city hotels of considerable size. Unfortunately, many industry professionals still believe that the methods of revenue management are not at all or not fully applicable to small and medium sized hotels and especially resort hotels.

The purpose of this study is to identify the potential for revenue management for small and medium sized enterprises in the lodging sector. The paper will examine the subject in reference to two case hotels and determine to what extent contemporary revenue management practices are applicable to such types of businesses. The two case hotels are located in Austria and Germany and both exhibit the usual characteristic of small and medium sized enterprises in the hospitality sector. The ownership and management company is seeking to implement revenue management into their operations within the near future; hence, this report should serve as a support tool for the upcoming decisions.

2 Methodology

The first part of the report consists of a thorough secondary literature review. Books and articles relevant to revenue management and yield management have been highlighted and discussed with the interest of providing the needed background information for the further sections of the paper. The articles have been chosen based on the relevancy to the general subject and relevancy to more in-depth issues of the problem.

A general overview of revenue management itself is provided and the current state of the art in revenue management, as demonstrated by industry leaders, will be assessed. The assessment will include an investigation on current revenue management practices in regards to the five pillars of revenue or yield management.

The third part of the study provides a thorough depiction and analysis of the two case hotels, in order to provide an understanding of the situation and business
environment. Then, the extent to which and how revenue management practices are applicable to the case hotels will be determined. The purpose of this section of the report is to again analyze the five pillars of revenue management, but in regards to the operations and business setting of both case hotels. The goal is to define if and how conventional revenue management methods need to be adjusted and then offer guidelines for the implementation.

3 Literature Review

3.1 Introduction

For the very first time, in 1988, the Cornell Hospitality Quarterly published an article on the practices of revenue management pertaining to the hotel industry. The article was titled ‘Boosting your bottom line with yield management’ and written by Eric B. Orkin. Thereafter not only the Cornell Quarterly, but also other scientific journals published numerous articles relating to revenue management applications in hotels, airlines, restaurants, theme parks, cruise ships, golf courses and even national parks (Anderson & Xie 2010).

As the name implies, the true purpose of revenue management or yield management is to optimize and increase the yield or revenue generated by an organization. The practices of revenue management are indeed complex and revolve around the subjects of demand and supply, forecasting, pricing strategies, capacity management, customer knowledge, market segmentation, channel management and distribution.

In fact, yield management practices arose in the United States in the 1970s as a result of the deregulation of the airline industry. During these times airlines began to offer heavily discounted airfares in order to fill empty seats on already confirmed flights. For the purpose of preventing high paying customers from switching to discounted air tickets, the air carriers only offered a limited amount of low-priced tickets and introduced further restrictions, such as advanced booking requirements and limited possibilities of changing the existing booking (Cross, Higbie, Cross 2009). Those rate restrictions will be hereafter referred to as rate or price fences.
Consequently, revenue management was identified as an effective strategy in the industry and many other airlines adopted the practices and experienced significant growths in their profits (El Haddad, Roper, Jones, 2008).

Although airlines have always been the forerunner in exploring the issue of yield management, the research on revenue management relating to the lodging industry has strongly increased over the last 25 years and also more and more industry professionals got involved in the further development of revenue optimization strategies. The recent popularity of the subject of revenue management in the hospitality industry has once again accelerated and spurred the study of yield maximization. Since 1988, many different revenue and yield management definitions have originated and the main idea has moved from optimizing the average daily rate (ADR) to maximizing revenue (Anderson & Xie 2010). The next couple of lines of this literature review will be utilized to mention the most predominant definitions:

“Revenue management is the application of information systems and pricing strategies to allocate the right capacity to the right customer at the right price at the right time”
(Kimes & Wirtz 2003).

“Managing customer behavior at the individual level via price and availability of constrained resources to maximize profits”
(Anderson & Xie 2010).

“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. Revenue management does this through two main mechanisms: dynamic pricing and inventory control”
(El Haddad, Roper, Jones, 2008).

“The process of revenue management generates incremental revenues by accepting and rejecting reservation requests based on the value of the reservation request”
(Vinod, 2005).
“At its most basic level, revenue management is about a hotel’s ability to segment its consumers and price and control room inventory differently across these segments – in essence practicing some form of price discrimination”

(Kimes & Anderson 2011).

Kimes and Anderson (2011) further elaborate that the use of revenue management has typically resulted in an increase in income by two to five percent; as the hotel industry is generally defined by low variable cost and high fixed cost, most of those extra revenue usually flows directly into profits.

As we mentioned above in one of the definitions, a revenue manager is required to be able to sell the right product (room) to the right customer at the right time. In order to be successful at these tasks, yield management includes the acquisition of a sound understanding of the price sensitivity of all different market segments and the ability to forecast demand for the respective sub markets. Only then, a revenue manager will be able to adjust the various rates and control the capacity of rooms that will be available for sale (Kimes & Anderson 2011).

Of course nowadays, a manager responsible for the yield management process does not need to do all calculations and forecasts by hand. Most businesses, in this case hotels, make use of a so-called revenue management system or software, which is directly linked to the property management system. The revenue management application then analyses the historical and already existing booking data and thus provides the revenue manager with information, which should support him in making pricing or capacity decision. Nevertheless, we will take a deeper look into revenue management systems a bit further down the line.

3.2 Revenue Management in the Hotel Industry

Revenue management has made its way from the airline industry into the lodging sector in the mid 1980s and soon after first research articles emerged. Orkin (1988) marked the beginning of yield management research in the hotel business and introduced for the first time an “integrated measurement technique” (p.52), namely
yield management, which will be set in place to support a hotel’s decision makers in attaining the best mix of customers and to achieve the set revenue goals. His article revolved around a performance measurement model, which he termed the yield statistic (Orkin, 1988). The yield statistic is a forthright percentage efficiency measure and is computed by dividing total revenue realized by total revenue potential.

Orkin (1988) further revealed the need for two rudimentary although distinguished, differing on the state of guest-room supply and demand, revenue management approaches. Orkin argued that high demand in rooms would illustrate a necessity for strategies tuned to maximize the revenue of sold rooms through raising the room rate. On the other hand, the situation of surplus supply demands a focus on increasing room sales, even if a poorer average daily rate is the attributed disbenefit with this method. In order for hotel businesses to be able to successfully execute revenue management, managers need to focus on the following four essential areas: forecasting, systems and procedures, strategic and tactical plans, and feedback systems (Orkin, 1988).

Since Orkin’s article and the attributed findings in 1988 revenue management has evolved into a widespread business practice in the industry. All major hotel chains have recognized the potential of yield optimization and the position of revenue manager can be considered as one of the principal executive positions in a hotel. The revenue manager either reports directly to the general manager or might even be located in a cluster or corporate office overlooking several hotel properties simultaneously.

3.3 Benefits of Revenue Management

Revenue management can have, besides the principal goal of revenue maximization, several other benefits to an organization. Through properly designed revenue management strategies hotel businesses are in a position to decrease their operational cost by further improving the flexibility and utilization of their assets (El Haddad et al., 2008). Furthermore, there are several
different benefits to be considered with the application of market segmentation. Some authors, for example Vinod (2004), argue only on the profit-oriented side of segmentation. Vinod states that the division of customers into different segments based on characteristics is indispensable to guarantee a revenue optimization by accepting a suitable mix of clienteles. However, hotels can also gain more insights and knowledge about their various market segments and consequently are able to better select and accept reservations in the interest of having a well-balanced guest mix in house, with the aim of revenue optimization to come second.

Most authors (Hanks, Cross, Noland, 1992; Kimes, 2003; Aziz, Sale, Rasmy, Elshishiny, 2011) reason that the objective of price management in yield management is the ability to charge multiple customers different room rates. But often neglect the important fact that appropriate pricing in revenue management allows hotel businesses to better engage in competitive pricing and therefore give the company an edge over their competition. In certain markets, where competition is especially fierce, those hotels that fail to participate in competitive pricing, often find themselves unable to operate efficiently in the marketplace.

3.4 Five Pillars of Revenue Management

The components of revenue management are not a common set of tools and processes and differ from business to business, even in the hospitality sector. Each hotel needs to find the right mix of constituents and investigate what aspects of yield management are most important for their operations.

Vinod (2004) presents three main elements of a yield management process, which he considered to be the most important ones: (1) pricing, (2) revenue management and (3) product distribution.

Other authors however, for example Legohérel et al. (2013), offer a broader perspective on the issue and define the major components of revenue management as: (1) understanding demand and market segmentation, (2) pricing, (3) the consumer’s reaction, (4) performance indicators, (5) quota restrictions, (6)
overbooking, (7) itinerary or length of stay management and (8) distribution.

Again, Tranter, Hill and Parker (2009) introduce a different view on the subject. In their book ‘Revenue Management for the Hospitality Industry’, the authors divide the revenue management process into seven different modules: (1) customer knowledge and consumer behavior, (2) market segmentation and selection, (3) internal assessment and competitive analysis, (4) economic principles and demand forecasting, (5) reservations and channels of distribution, (6) dynamic value-based pricing and (7) channel and inventory management.

Hayes and Miller (2011) only propose four elements of revenue management in the hotel industry. The process of revenue management was divided into (1) forecasting demand, (2) inventory and price management, (3) distribution channel management and (4) performance measurements of revenue management efforts.

Nevertheless, a common line of thinking can be observed in yield management literature and many authors somewhat agree on similar key elements, with some deviations of course. For the development of this paper, the topic of yield management in the hotel industry was divided into five different chapters, which will be further analyzed in the upcoming passages of the paper.

Five components were chosen in the interest of including all key elements proposed by the examined literature, as listed in the paragraphs above.

The five pillars of revenue management are as follows:

1. Segmentation and Customer Knowledge
2. Capacity Management
3. Forecasting and Overbooking
4. Channel Management and Distribution
5. Pricing Strategies
3.4.1 Segmentation and Customer Knowledge

Market segmentation is a fundamental component of most revenue management systems. In pursuance of being able to offer better and personalized products to all different kinds of guests, hotels typically divide their market into various sub markets or segments. These sub markets are created in order to better serve and manage the individual needs of a group of customers. The segments include customers who share similar characteristics; the most important of all being willingness to pay. The business then tailors their marketing activities, pricing policies and product offerings around the requirements of a specific marketing segment. By applying segmentation a hotel business can ensure that the appropriate mix of customers is being attracted and the right rates are sold to optimize revenue generation (Vinod, 2004). Moreover, revenue managers will then go on with continuous evaluation and analysis in order to improve the segmentation strategies and to further maximize revenue potential (Tranter et al., 2009).

Tranter et al. (2009) further explain that dividing a market based on customer demographics is another common practice in the hotel industry. Demographics describe the characteristics of a population; e.g. gender, age, education, occupation etc.

Many hoteliers resort to the most basic segmentation technique, which is to simply divide the market into leisure and business customers. The next step for a more sophisticated segmentation approach, after determining which guest visits for leisure and which for business purposes, would be to establish if a guest belongs to transient or group business. Transient usually refers to individual guests, who are not affiliated with any group activity. Group business on the other hand, understandably, involves more than two individuals coming together for the same purpose; e.g. conference, banquet, weddings (Tranter et al., 2009).

Successful hotel companies nowadays split their market into numerous segments, often consisting of several sub segments and groups. The following represents an example of how a city hotel would apply market segmentation:

1. Business Transient
2. Business Group
3. Leisure Transient
4. Leisure Group
5. Tour and Travel
   a. Wholesalers
   b. Airline Wholesale Programs
   c. Tour Operators
   d. Voucher Programs
   e. Internet Wholesalers
6. Government Transient
7. Government Group
8. Contracts Transient
9. Association Transient
10. Association Group
(Tranter et al., 2009, p44-45).

Organizations, which employ revenue management, often also conduct a displacement analysis in the interest of controlling an optimal mix of business. Displacement in this case refers to replacing one customer for another. By managing a displacement analysis, an “organization needs to determine the total customer worth of two or more competing pieces of business and select the business which will generate the highest total customer worth” (Tranter et al., 2009, p. 172). In order to compute total customer worth a revenue manager needs to add together primary and ancillary revenue generated by a client, subtract the acquisition costs and then multiply by the Propensity Y (see Table 1). Propensity Y indicates the probability of a guest to purchase the same product in the future again (Tranter et al., 2009).

\[
\text{Total Customer Worth} = \left( \frac{\text{Primary Revenue} + \text{Ancillary Revenue}}{\text{Acquisition Cost}} \right) \times \text{Propensity Y}
\]

Table 1 - Total Customer Worth (Tranter et al., 2009)
3.4.2 Capacity Management

Capacity or capacity size relates to the maximum physical size of a facility, in the case of hotels it refers to the number of rooms, conference facilities, number of seats in a restaurant or quantity of treatment rooms in spa facilities (Pullman & Rodgers 2010). Looking closer at the application of revenue management in the lodging industry, a hotel company’s capacity refers to the room’s division capacity only. In other words, the total amount of bed nights the hotel business can sell at any given day. Carrying capacity on the other hand corresponds to the optimal use of the physical facility. A third common term in yield management literature is capacity flexibility, which links with an organization’s ability to counterbalance variations in demand by modifying its capacity (Stanislav & Zhechev 2012).

Capacity management, as defined by Armistead and Clark (1993), is the skill of matching demand from customers with the ability of the service delivery systems to satisfy the aforesaid demand. Moreover, capacity management focuses on understanding the forecasted demand and examining the various options for management to meet the predicted demand. Sasser (as cited in Armistead & Clark, 1993) presents two fundamental strategies of how services providers can manage their capacity. First, the level strategy, which is performed by limited capacity businesses, for example hotels and restaurants, where the emphasis is placed on influencing demand to be in line with the available capacity. Second the chase strategy, which focuses on modifying the available supply in order to stay in line with demand. Above all, revenue managers must understand the nature of their capacity and to what extent it can be modified.

Hotels are generally known as capacity constrained business types and have only limited potential to change supply in order to meet demand. Pullman and Rogers (2010) expound that in practice a hotel company has the possibility to decrease its room capacity by closing down rooms, entire floors or separate wings, or expand its supply by selling rooms also during the day, which is a seldom practice among upper class hotels, but sometimes performed by hotel properties in proximity to airports or other major transportations hubs. Nevertheless, hotel room capacity is considered to have limited flexibility.
Capacity decisions are one of the most crucial strategic operational matters and the proper development of a capacity strategy is a fundamental managerial responsibility in all service related businesses in the hospitality sector. The degree to which capacity meets demand has a direct effect on profitability, guest satisfaction, employee performance, long-range sustainability of resources, and future viability of the company itself (Pullman & Rodgers 2010).

Pullman and Rodgers (2010) divide the issue of capacity management into two distinctive segments, the strategic or long-term aspect versus the tactical or short-term aspect. Long-term strategic capacity decisions are made during the development stages of a property and concern macro-level economic assessments like evaluating the amount of hotel rooms needed in an area and examination of the required infrastructure. On the other, hand short-term or tactical capacity decisions revolve around the determination of the number of service staff needed and the best mix of room allotments.

When managing supply and demand hoteliers or revenue managers are confronted with several issues arising from the interaction between capacity management, quality management and productivity or efficiency management. Those issues can affect the quality level of the offered services while trying to meet the budgeted financial targets. Armistead and Clark (1993,) describe the problem in three parts:

1. The limited ability of the organization to alter capacity in terms of both the extent of the change and response time to make the change while having to deal with rapid fluctuations in demand.
2. The need to deliver consistent levels of customer service.
3. The varying degrees of uncertainty in demand.

(Armistead & Clark, 1993, p. 6)

The general options for operational control cannot be applied in the typical hotel business, as the real time element of a hotel product does not allow storing inventory or producing the service package in advance. Hence, capacity management is a crucial component of any successful yield management system and
includes, among others, allocating the right amount of rooms to the right amount of customers and occasionally holding back inventory in anticipation of future demand.

### 3.4.3 Forecasting and Overbooking

Forecasting is the process of “estimating, calculating or predicting conditions in the future” (Tranter et al., 2009 p.92), hence demand forecasting refers to the procedures of estimating, calculating or predicting the consumer’s future demand for a specific product or service (Tranter et al., 2009).

Forecasting is a vital aspect of any business, whether it is in the hospitality or any other industry, and especially important within hotel revenue management. Accurate arrival or room night forecasts and predictions are one of the key inputs for an effective hotel yield management system, because without precise forecasts, the revenue management software may propose vastly inaccurate availability and price recommendations. The data behind forecasting models includes two different types of information, firstly information about when the booking was made and secondly when the product or service was consumed. This provides the revenue manager and therefore also the revenue management system with insights on the booking behavior in addition to actual historical data (Weatherford & Kimes 2003).

Tranter et al. (2009) explain that the very first phase of calculating and forecasting demand is to examine the overall demand by assessing the existing demand generators within the destination, which can be anything from convention centers, to sporting arenas and military or government installations. Once the market environment has been evaluated an organization will have a closer look at “date-specific demand generators” (Tranter et al., 2009, p. 92) or demand drainers for the upcoming period to be forecasted.

Generally, forecasting methods can be classified into three different categories namely advanced booking models, historical booking models and combined booking models. Advanced booking models consider information on the pick up of reservation over a pre-determined period of time for a particular day of the year and
can be broken down into additive and multiplicative models. Additive models are based on the hypothesis that the already existing amount of reservations does not influence the final number of sold rooms, whereas the multiplicative approach assumes that the present amount of bookings on hand and booking pace is an indicator for the expected volume of future reservations for the same day. Historic booking models use actual data from previous years and can employ several different forecasting models, like Naïve one and two, Moving Average and Exponential Smoothing. Combined booking models, as the name implies, make use of a weighted average of both the historical and advanced booking model (Weatherford & Kimes 2003).

Another central concept, which needs to be discussed in relation to forecasting, is the issue of unconstrained demand. Tranter et al. (2009) define unconstrained demand as naturally occurring demand in an environment where no constraints or restrictions on consumption are present. In hotels, room sales are typically constrained by the limited capacity of the property or by booking limits, which have been put in place by revenue managers. It is crucial to calculate and incorporate the true, unconstrained demand in forecasting models, especially within the yield management process, in order to determine the correct capacity and pricing strategies. To calculate unconstrained data hotel organizations often use denial reports or various mathematical models. A denial report registers all reservation requests, which have been denied due to the unavailability of the service product (Weatherford & Kimes, 2003).

Hotel businesses have learned over time that no shows, last minute cancellations and early departures have an undesirable effect on their financial performance, as those kinds of situations limit the opportunities of using the hotel’s capacity to its full extent. In order to counterbalance such occurrences hoteliers resort to overbooking. In some cases, the overbooking of a hotel is unintentional and a result of various types of failures in the reservation process, but within the settings of revenue management overbooking is recognized as a fundamental part of most inventory management strategies (Hayes & Miller 2011).
Hotel companies estimate the number of cancellations, no shows and early departures by analyzing historical data and consequently overbook the hotel property to compensate for the given amount of rooms. The acceptable percentage of overbooking is calculated on the basis of both the sales volume analysis and the analysis of the incremental benefit through the overbooking. However, if a hotel is indeed fully booked to capacity and a guest who has duly booked his/her room is rejected and needs to be walked to a different property, it can have critical negative consequences on the company’s reputation and customer goodwill (Legohérel et al., 2013).

Although overbooking is nowadays a wide spread technique of optimizing the utilization of a hotel’s constraint capacity among city hotels of considerable size, it is only limited applicable to resorts or small and medium sized hotel enterprises. In the case of resorts the no show rate is quite low and hoteliers consider the possibility of walking a high paying resort hotel customer to a different hotel too much of a risk to a hotel’s reputation (Hayes & Miller 2011). Also small and medium sized hotels have only limited opportunities for the application, as the small number of rooms and the resulting no shows or cancellations do not leave much leeway for an efficient overbooking strategy.

3.4.4 Channel Management and Distribution

Abraham Pizam (2005) defines distribution channels as “the vehicle utilized to make a product or service available to the consumer” (p.367). Middleton and Clarke (as cited in O’Conner & Frew, 2004) explain that hotel distribution channels comprise two distinct but interconnected functions; to help customers in their buying decision by providing relevant information and to enable the purchase itself. Therefore, channel management in the hospitality sector involves the sale of inventory (rooms, seats, conference facilities) at the highest possible rates, while also trying to stimulate bookings through the lowest cost channels. In order to successfully manage those tasks, a revenue manager or reservation manager needs to have a thorough understanding of the wide variety of distribution channels available (Pizam, 2005).
Before the global spread of the internet, distribution channels in the tourism and hospitality industry were mostly travel agencies and call centers operated by the supplier (hotel, airline, rental service). Nowadays, hospitality businesses, particularly lodging businesses, utilize many different nonelectronic and electronic distribution channels, of which numerous are online-based reservation networks. TripAdvisor, Booking.com and Travelocity are on of the most popular ones and have become key players in the distribution environment. Other intermediaries are travel agents, tourism agencies, tour operators, wholesalers and consortia (Pizam, 2005). The goal of channel management is to best deliver the value proposition to the target markets, which represent the different customer segments of a hotel business. The desired result is an increase in revenue by facilitating an efficient exchange of information, most importantly price, towards distinct market subsets.

Distribution channels involve different kinds of cost and the assessment of the respective costs and fees has become more complex over time. Hayes and Miller (2011) categorized distribution fees into three distinctive classes: intermediary commissions, central reservation systems (franchise) and electronic distribution fees (GDS and IDS). A supplier needs to continuously observe the cost incurred by different channels in order to ensure the profitability of the various distribution options. In the lodging industry, the calculation of the net ADR yield is used to measure the cost-effectiveness of a distribution channel. Effective distribution channels produce a great number of room sales, but the best channels deliver those rooms with a high net ADR yield. The net ADR yield is the proportion of the normal room rate, which is essentially received after subtracting the cost of the distribution channel from the sales prices (Hayes & Miller 2011). Comparably, Pearce and Taniguchi (2007) examine the net revenue produced by channels, which is expressed as the difference between total distribution and marketing costs and total channel revenue per room night.

Other distribution channel performance measures discussed in yield management literature include channel production, which refers to the total number of bookings produced by one channel and channel contribution, which comprises the revenue
made from a single transaction. The average channel contribution is derived by dividing the total channel revenue by the total number of room nights produced. Another key indicator for distribution channel performance is channel contribution percentage, which is computed by dividing the total channel revenue by the total revenue generated by all channels (Tranter et al., 2007).

When it comes to channel selection the obvious first step is to analyze the various performance indexes mentioned in the lines above. However, Tranter et al. (2007) explain that the most important element in channel selection is the customer. Therefore, one of the main tasks in channel selection is to define the worth of the customers to which the value proposition is delivered. The formula for total customer worth, as already explained in previous chapters, is as follows:

\[
\text{Total Customer Worth} = \left( \frac{\text{Primary Revenue}}{\text{Acquisition Cost}} + \frac{\text{Ancillary Revenue}}{\text{Propensity Y}} \right) \times \text{Propensity Y}
\]

Table 2 - Total Customer Worth (Tranter et al., 2009)

### 3.4.5 Pricing Strategies

Price is one of the most effective instruments that revenue managers can use in the interest of shaping demand in the short-term. Price is a variable that hotel managers can control to either boost or dampen the demand for hotel rooms. From the consumer’s perspective price represents the value that a customer exchanges when purchasing services or products (Tranter et al., 2009). On the other side, from a business’s perspective, price is the most important component of any product, as decisions on price directly affect an organization’s profitability (Alper, 2013).

Yield management systems suggest a variety of different prices in accordance with the forecasted demand for the corresponding time period. When demand is strong only high rates will be open for sale and various restrictions applied, then again rates will be decreased and restrictions eased in times where demand is soft (Cross et al., 2009).
Hayes and Miller (2011) differentiate between two general methods of pricing, cost-based and market-based pricing. Cost-based pricing describes the means of calculating the price of a product or service according to the cost of said product. Meaning that a company sums up all the cost incurred in the production of one unit and then adds a markup or percentage profit margin to arrive at the actual selling price. Market-based pricing corresponds to the laws of supply and demand. The price is therefore generated according to the demand situation and the competitive environment. Naturally, most hotel businesses resort to the practice of market-base pricing, nonetheless the laws of supply and demand only pertain as long as the sales price of one unit exceeds the actual cost of creating the product (Hayes & Miller, 2011).

However, Tranter et al. (2009) suggest a different approach to pricing, unalike to the two methods discussed in the preceding lines of this chapter; namely value-based pricing. Value-based pricing describes a “customer-centric approach to pricing” (Tranter et al., 2009, p.116) and relates to the discipline of creating pricing policies in accordance with the attitude and purchasing behaviors of the customer. The essential idea behind value-based pricing is that it tries to capture the value that a consumer attributes to a specific product, while cost-based and market-based pricing more or less neglect this notion. Tranter et al. further clarify that the perceived value of a product or service varies based on different characteristics of the consumer. Age or generation, income, culture, descent and many other attributes influence the attitude towards value.

When examining pricing strategies in regards to hotel revenue or yield management, two very important concepts are frequently discussed in the respective literature: differential pricing and dynamic pricing. The demand for a hotel’s product or service is rarely consistent, and, as already discussed in the previous chapter on segmentation, a hotel caters to different groups of customers with different willingness’s to pay and various attitudes towards the value of a product. Hayes and Miller (2011) state that “the true value of a product or service is equivalent to what a buyer will willingly pay for it” (p93). The
strategy of differential pricing therefore makes use of price discrimination and charges different prices and room rates to different segments of the business’s customer base. The following figure (Figure 1) explains the concept of differential pricing and presents how several different room rates are able to capture more revenue by also serving more clients (Hanks et al., 1992).

![Figure 1 - Differential Pricing (Hanks et al., 1992)](image)

In this case, D represents the discount rate, C the corporate rate, R the rack rate or full rate and P the premium rate. 20 customers are charged the discount rate of $20, another 20 customers pay the corporate rate at $40 per room, additional 20 clients purchase a room at the rack or full rate of $60 and finally 20 premium guests pay a rate of $80 per room night. This amounts to a total of $4000 dollars in realized revenue. Hanks et al. (1992) point out that the key to successful differential pricing schemes lies in a meaningful segmentation of the market, which separates consumers who are willing and capable to pay higher room rates from those consumers who are prepared to change their behavior in the interest of paying a lower rate. In differential pricing, several restrictions are introduced, which serve as a barrier to prevent high paying customers from trading down to discounted rates. Such restrictions, commonly termed rate fences in revenue management literature, can be either physical or non-physical. Non-physical rate fences describe customer or transaction characteristics and can be anything from advanced booking
requirements, to bulk discounts, cancellation fees and length of stay policies. Physical rate fences comprise, among others, type of room view (ocean, garden, city), room type, room floor and included amenities (Kimes, 2002).

Price fences need to be clear and reasonable to the customer, easy to communicate and above all difficult to bypass. Otherwise, inadequate rate fences can cause misunderstandings among consumers and employees, which should be avoided, as customers who feel being taken advantage of will most likely not revisit a hotel business again. Consequently, hotels should focus on carefully designing their rate fences or booking restrictions and thoroughly educate their front desk and reservations staff to ensure that all rate fences are meticulously incorporated into the reservation system. Well-developed price fences allow the hotel business to optimize room rates to better meet customer needs, while concurrently maximizing room revenues (Kimes, 2002).

Dynamic pricing, on the other hand, simply relates to the strategies and tactics of modifying prices in accordance with the demand for the respective time period. Meaning that revenue managers amend room rates, due to changing inventory levels and time left in the selling period (Fleischmann, Hall & Pyke 2004). Legohérel et al. (2013) specify that dynamic pricing is a holistic and systematic approach to optimizing room revenues through adjusting the offered room rates to the customers in consideration of the predicted demand and available supply. In simpler terms, dynamic pricing is aimed at capturing the “diversified willingness to pay customers” (Legohérel et al., 2013, p. 100). Moreover, dynamic pricing defines a flexible pricing scheme that modifies prices not only from product to product, but also amongst different customers and different transactions. Thus, the value or the price of the service or product being traded is not consistent and especially not inherent with the service or product sold, but is rather shaped by the customer’s willingness to pay. (El Haddad et al., 2008).

When discussing pricing strategies in yield management one needs to examine the different outcomes and benefits for organizations as well as the perceived fairness by customers in relation to the various pricing schemes in the hotel industry.
Customers seem to tolerate the various schemes of yield management in the airline industry, but only little research has been conducted on their perception of said practices in the hotel hospitality sector. Kimes (2002) has further examined the issue of fairness in revenue management and states that the principle of dual entitlement holds true in this particular case, meaning that consumers think that an organization is eligible to reasonable profit whilst customers are eligible to a reasonable rate. On the basis of this principle, Kimes presented the following three hypotheses: (1) If the organization needs to raise their prices in the interest of maintaining profits, it is fair. In other words, in the situation where costs increase it is fair to raise the price; (2) On the other hand customers feel that the practice of raising the price, solely in the interest of increasing profits, is unfair; (3) However, customers believe it is fair if companies maintain their rates if costs decrease. This thinking is explained by the perception of the clients that they pay what they think they should pay, or because the consumer believes that management needs to be rewarded for their cost-cutting measures.

El Haddad et al. (2008) further argue that due to the complicated and less transparent pricing structure of yield management methods in the hospitality industry, customers perceive a higher financial and also non-financial burden. Although research was able to observe a more or less behavior of habituation, rate discrimination still results in perceptions of inequality among consumers, which consequently decreases customer goodwill (El Haddad et al., 2008).

In evaluating the effectiveness of the revenue management pricing strategies, hotel managers typically use well-established hotel financial ratios like average daily rate (ADR), occupancy (OCC) and especially revenue per available room (RevPAR), although some companies also like to monitor the gross operating profit per available room (GOPAR).

### 3.5 Conditions for Revenue Management

Many authors have a different view on the conditions for revenue management to be applicable to a business. Those conditions either describe characteristics of the
business or industry, attributes of the consumer or even features of the market place. Kimes (1989) stated that revenue management also finds application in the hotel industry as the offered service or product shares several similarities with those of the airline industry. Kimes (1989) further specified that yield management techniques could be considered for a hotel when the company operates with (1) a fixed capacity, (2) when demand can be “segmented into clearly identified partitions” (p.15), (3) when inventory is perishable, (4) when sale of products is conducted in advance, (5) when fluctuations of demand are present and (6) when low marginal sales cost along with high marginal products cost are involved.

The above-mentioned list of six conditions for yield management by Kimes (1989) has gained widespread popularity in revenue management research and was often repeated and cited by other various authors. For instance, Hanks et al. (1992) summarized the six conditions as “low variable costs, high fixed costs, perishable inventory, variable demand patterns, ability to forecast future demand and ability to segment customers on their varying needs, behavior and willingness to pay” (p. 17). Multiple other examples where Kimes conditions for revenue management were cited in literature can be found (e.g., Hayes & Miller, 2011; Legohérel, Poutier, Fyall, 2013)

Cross et al. (2009) also claim that lodging businesses and air carriers face comparable difficulties in their industries. Both businesses have to operate with a somewhat fixed capacity of a perishable service or product, which is generally sold in advance.

Still, none of the aforementioned authors truly challenged Kimes (1989) views on the environment needed for successful yield management. Nonetheless, Weatherford and Bodily (1992,) stated that they prefer to use the term “perishable-asset revenue management” (p. 173), short PARM, instead of revenue or yield management. The main idea of their paper, ‘Perishable-asset Revenue Management: Generic and Multiple-price Yield Management with Diversion’, revolved around the idea that the only necessary requirement for the application of revenue management is the
presence of a perishable asset or product (Weatherford & Bodily, 1992). Lieberman (1993) also argued the same point and stated that the sale of a perishable product is the only true condition required for yield management. Lieberman (1993) further offers his own definition for revenue management; “yield management is the practices of maximizing profits from the sale of perishable assets, such as hotel rooms, by controlling price and inventory and improving service” (p. 35).

The following paragraphs will further analyze all six conditions for revenue management provided by Kimes (1989) and the necessity of the respective requirements will be evaluated.

3.5.1 Perishable Inventory

Undoubtedly, the main product offered by the lodging industry, which is hotel rooms, can be described as a perishable product. If a hotel company is unable to sell a room for a night, that revenue is lost forever and no hotel manager is able to store the product for sale at some later time. As examined in the lines above, all authors agree that the presence of a perishable product, good, service or asset is one of the conditions, if not the main requirement, for the implementation of yield management (Kimes 1989; Weatherford & Bodily 1992; Lieberman 1993; Schwartz 1998)

3.5.2 Ability to Segment Markets

The ability to segment markets describes the division of the entire market into several smaller sub markets. Kimes (1989) represented the ability to segment markets as a vital part of any operational revenue management system. As per Kimes the main idea of market segmentation is the capability to develop different marketing strategies for the various types of consumers a hotel property attracts. For example, a hotel would try to offer reduced prices for leisure travelers, conjoining with various restrictions (advanced bookings, cancellation policy etc.), and high room rates with preferential conditions for business travelers. Nevertheless, Schwartz (1989) asserted that a precise segmentation of a market is only then necessary if a hotel business is pursuing the pricing strategy of rate
discrimination. As rate or price discrimination is not part of all yield management systems, which are known to be used, it can be argued that in fact the ability to segment markets is not an essential part of revenue management.

### 3.5.3 Product Sold in Advance

Depending upon type and class of a hotel the lead-time of a booking differs according to the various market segments a hotel caters to. Transient guest usually book their rooms a couple of days in advance, whereas rooms for larger groups or negotiated block of rooms are sold weeks, months or even years in advance. In the case of resort hotels, the booking lead-time is notably higher for transient guests than for hotels in urban areas.

Kimes (1989) exemplified that a manager responsible for room sales is always confronted with uncertainty when selling rooms in advance. Whether a low rate group reservation should be accepted or whether the rooms should be kept available for sale at a higher price at some later time.

The question whether to accept or decline advance reservations is indirectly affected by the beforehand-developed forecast for the respective period, which also represents a key element of any revenue management system. However, as Schwartz (1989) depicts, advanced bookings also contribute indirectly to the accuracy of forecasts for future periods through the combination of existing booking data and historical occupancies. Schwartz further presents a second main approach of how advance bookings can be employed in a hotel’s yield management model. It also facilitates price discrimination, since the willingness to pay of potential guests changes as the arrival date for the stay moves closer.

Let’s recall again that Kimes (1989) stated that the sale of the products in advance is a key requirement for the application of revenue management. Though, Schwartz (1989) argued that again not all different revenue management models make use of price discrimination. It can be therefore determined that the ability to accept reservations in advanced is not a principal condition for yield management, but merely a contributing factor.
3.5.4 Fluctuating Demand

In the tourism industry, it is common knowledge that businesses, especially hotels, encounter fluctuating demand. The season of the year, time of the month and even day of the week can affect demand in both ways. A proper use of yield management techniques serves to stimulate demand in low seasons by decreasing the rate and to maximize revenue in peak seasons by increasing the room price (Kimes 1989). Schwartz (1989) further outlines that the situation of fluctuating demand relates to changes in demand over a period of time. As the product is perishable and a hotel company is unable to store unused inventory, yield management is utilized to respond to changing demand more efficiently. Again the condition of fluctuating demand does not constitute a crucial requirement for the successful application of revenue management.

3.5.5 Low Marginal Sales Costs and High Marginal Production Cost

Kimes (1989) clarifies that low marginal sales costs refer to the incremental cost associated with the sale of an additional room. At the point where a certain number of rooms were sold, the cost attributed to the sale of any additional room can be considered as insignificant, as the cost of infrastructure and labor was already covered by the previous bookings. Schwartz (1989) argued that by this context, readers are led to believe that revenue management models are essentially more effective the lower the marginal cost. However, Schwartz further justifies that revenue management enhances the profitability of a business with any level of marginal cost and that the extent of the increase in revenue is simply depended on the measurement model, which is chosen.

“If the increased profitability is measured in absolute terms, it is independent of the variable costs. If the increased profitability is measured in percentages, it is actually lower the lower the marginal costs” (Schwarz, 1989, p. 416).

In contrast to low marginal sales cost, hotels, and many other businesses in the hospitality sector, face abnormal high marginal production cost. The capacity of any
lodging business is commonly constrained, as it is practically impossible to add an additional room to the property or dining room to a restaurant if demand is high (Kimes, 1989). Therefore the cost associated with the production of every additional unit (room, dinning area, conference facility) is exorbitantly high.

Kimes (1989) further claims that the processes of yield management were developed for businesses with limits on capacity, as other companies can offset the effects of fluctuating demand by using their inventory. Schwartz (1989) again disagrees with Kimes point of view and counter argues with the proposition that all kinds of industries and companies have to deal with some kind of constrained capacity, as “one can always define a short enough time frame during which it is difficult to exceed a certain level of production” (p. 418). So if the situation of inventory in the hotel industry is discussed, one needs to keep in in mind that it is not the constrained capacity what keeps business from using inventory to counterbalance fluctuating demand, but rather the perishable nature of the service industry’s product (Schwarz, 1989).

We have learned in the paragraphs above that in fact not all but only one (perishable inventory) of the six conditions provided by Kimes (1989) is actually necessary or required for the application of revenue management in a hotel business. The other five conditions mentioned by Kimes and maybe even more requirements and settings introduced by numerous other authors can therefore be considered as more or less contributing factors, rather than actual requirements for yield management (Schwartz, 1998). This knowledge is of great importance for the further development of this paper, as small and medium sized enterprises in the hotel sector often are unable to meet all of the six conditions prominent in yield management literature.

### 3.6 Revenue Management in SMEs in the Hotel Sector

The issue of revenue or yield management in SMEs in the hotel sector is a widely untouched field of hospitality research, only a handful of researchers have studied the subject.
While the practices of yield management are fairly common in city hotels and chain hotels, they are rather unpopular in small to medium sized hotels. Most hotel SMEs are privately owned and therefore do not need to report to various shareholders, which means that the organization’s aim of profit maximization often comes second, after the provision of quality service (Lee-Ross & Johns, 1997). Lee-Ross and Johns further elaborate on the limitations of revenue management in hotel SMEs and explain that small lodging businesses usually dislike overbooking in order to avoid damages to the reputation and loss of customer goodwill. Also, SMEs in the hotel sector are generally distinguished by season, interaction of staff with guests and location, which again limits the possibilities to differentiate the product and the capability to segment. Furthermore, the organizational structure of SMEs can be an obstacle to the implementation of revenue management, as the small number of staff often restricts the additionally required labor time and changes are often treated with suspicion.

Edgar (1998) investigates the differences between big hotel companies and SME hotel businesses and explains that in relation to operational strategies small hotel companies are more concerned with cost, while larger hotel organizations are more oriented towards the market and customer. Meaning that big hotel groups utilize a combination of strategies that put emphasis on revenue generation and maximization, whereas smaller hotel properties focus on more conventional cost and management elements of yield management.

The European Commission General Report (Arthur Andersen & Co. European Commission. Tourism Unit, 1997) illustrates several kinds of obstacles to revenue management implementation in small and medium sized hotels. The authors of the report distinguish between internal and external obstacles; internal obstacles include insufficient management skills or expertise, no awareness of yield management, resistance to formalization of information technology, cost of revenue management software; external obstacles contain insufficient infrastructure to support diversification and market segmentation, insufficient sharing of information, lack of appropriate off-the-shelf revenue management software and rigid seasonality of demand. Nonetheless, the European Commission General Report also
presents several opportunities where the introduction of revenue management in SMEs hotels can be of positive nature. Despite the somewhat limited applicability, the appropriate utilization of yield management strategies could promise high revenue maximization potential.

3.7 Conclusion

The small amount of current literature on revenue management in hotel SMEs only examines the theoretical framework of the possible application of revenue management. In the light of this gap in research, it is to investigate and identify the practical potential of revenue management methods in said group of small and medium sized hotels. The report will be built on the case of two hotels within the Austrian and German market and determine to what extent revenue management practices are applicable to such businesses. As a final result, the paper will provide insights, guidelines and tips on the implementation of yield management strategies.

4 The Case Hotels

4.1 Case Hotel A

4.1.1 Company, Concept and Business Environment

Case Hotel A is a luxury family resort located in the Austrian Alps (Tirol). The property is situated in an alpine setting within close proximity to the local ski / hiking resort and attracts visitors in winter as well as in summer. The local economy is primarily shaped by tourism, which represents the main industry and sources of income. Several more upper class hotels, restaurants and other lodging or hospitality businesses can be found at the destination. Domestic as well as foreign tourists frequent the village all year round, although peak seasons in winter, from December to March, and in summer, from May to September, can be observed. Case Hotel A is open in high as well as in low season and achieves a respectable occupancy during the entire business year.
The property has been established as a small bed and breakfast business in the 1960s and then extended and rebuild threw out the years. The business has always been in family ownership and is in its current state since the year 2007. The hotel operates under a distinctive concept as of 1989 and is specialized solely on upscale vacations for families with children. Thus, the resort offers various out of the order facilities and amenities, as for instance bigger rooms with additional children’s bedrooms and comprehensive childcare, to cater for this particular traveler segment.

Case Hotel A comprises 95 rooms, in sizes from 45 to 200 square meters, divided into multiple different room categories. The property employs approximately 145 people and is operating 365 days of the year. Apart from the common resort facilities in upper class hotels, such as spa, fitness, dining and pool facilities, the hotel furthermore includes, among other amenities, a cinema/theater, gym hall, adventure pool and waterslide, soft play area, indoor go kart circuit, outdoor play area and climbing wall.

The hotel is still in family ownership, yet employs a general manager who is responsible for day-to-day operations, compliance and budgetary control. Other key management figures are the heads of the following departments: front office, accounting and controlling, reservations, food and beverage, housekeeping and childcare.

The hotel operates in collaboration with two separate strategic marketing alliances, which cover certain promotional activities, additional web presence and govern various operational as well as design guidelines. One of the alliances promotes family friendly hotels within Europe and the other markets several upper class family hotels on an international level. The hotel exclusively sells rooms over their private channels (property website and reservation hotline) and the websites of the respective marketing alliances. The hotel and its unique selling proposition are not challenged by any competitors in the near vicinity, nevertheless a handful of similar properties can be found throughout Austria and northern Italy.
4.1.2 Revenue Management Situation

As previously described in the methodology, several key personnel of the respective hotel properties have been asked a series of questions in order to assess the existing knowledge on and usage of revenue or yield management in the company. In Case Hotel A the General Manager and the Asst. Front Office Manager (responsible for reservations) have been interviewed.

The interviewees understand the background and conception of revenue management in the hotel industry. Both the General Manager and the Asst. Front Office Manager were furthermore more or less familiar with other key concepts of revenue management like customer segmentation, different pricing strategies and distribution management, although these concepts are only partially (distribution management, pricing strategies) or not at all (customer segmentation) in use.

4.1.3 Human Resources

As already described in the Case Hotel description the hotel is family owned, but employs a General Manager who is responsible for the day-to-day business activities. Revenue management does not play a substantial role in the operation yet and therefore there has not been a need to change the organizational structure accordingly. The Asst. Front Office Manager is overlooking all activities involved with bookings and reservations and in the case of further pursuance of revenue management the same employee (Asst. Front Office Manager) would assume the respective duties and responsibilities.

4.1.4 Technologies and Information Systems

The hotel currently uses a property management system by Micros, namely Fidelio Suite 8. The PMS partially supports simple revenue management activities like dynamic pricing schemes based on occupancy rates, which, nevertheless, are not being used. More important revenue management activities, like demand forecasting, are not being supported by the system.
Historic booking data is extracted from Fidelio Suite 8 and analyzed in Microsoft Excel; also a weekly pick up report is created. The amount of no-shows is very low and therefore no data on these incidents is collected. However, declines and cancellations are automatically recorded by the property management system.

4.1.5 Strategic and Operational Decision-Making

The customer base is not being segmented in a way that would support the proper use of certain revenue management activities, as the company only allows families with children to stay at the hotel in accordance with the specialized concept.

The prices are being made one year in advance and increased by a percentage rate, which is determined by the owner and at the minimum equal to the inflation rate. Rates change during the year according to the season of the year, school holidays, public holidays and festive seasons.

The optimum guests for the hotel are parents with young children, as these families are not bound to school holidays and stay within the hotel’s target market for a longer period. Excess capacity in situations of soft demand is offered on special rates, discounts and with additional amenities.

4.2 Case Hotel B

4.2.1 Company, Concept and Business Environment

Case Hotel B is a resort situated in the Allgäu Alps (Bavaria, Germany) and again oriented towards families with children. The hotel is located in the highest alpine region of Germany, which, a part from its ski resort reputation, is also known as a climate health resort due to its superior air quality. Again, tourism receipts make up the main sources of income in the local economy, however the local alpine sanatorium should not be overlooked. A few other hospitality businesses, ranging from upper class hotels to bed and breakfasts and restaurants, are also to be found in the alpine village. By comparison, it can be observed that the demand patterns are very similar to the Austrian counterpart destination. Summer high season ranges
from May to September and peak season in winter lasts from December to March. Case Hotel B operates all year round and is also able to achieve a decent occupancy during the entire business year.

The hotel was opened in the early 1930s and experienced many ownership changes throughout the years. Around the 2000s the hotel operated in close cooperation with the local alpine sanatorium and was fully booked by the associated health resort guests throughout the year. Changes in the German health care system in the years of 2006/2007 and the subsequent loss of health resorts guests have pressured the management company to amend their concept in order to cater for other travel segments as well, namely families and convention travelers. The current owning company acquired the hotel in late 2011 and reopened the hotel after 9 weeks of renovation and restructuring work in 2012. Case Hotel B is also completely focused on providing services to families with children only, although operates in a more affordable price range compared to Case Hotel A.

The property offers 145 rooms, in sizes from 45 to 80 square meters, divided into multiple different room categories. The hotel company employs around 125 people (housekeeping outsourced) and is opened 365 days a year. As well as Case Hotel A, Case Hotel B offers several additional facilities and amenities oriented towards families with children; for example: cinema/theater, gym hall, adventure pool and waterslide, soft play area, indoor go kart circuit, bowling alley, outdoor adventure playground and mini petting zoo.

As already mentioned in the lines above, Case Hotel B is owned by the same family business since 2011. A general manager is in place and overlooks day-to-day business, budgetary control, business development, finances and recruitment. Other key management figures include the heads of the following departments: food and beverage, front office and reservation, accounting and controlling, housekeeping and childcare.

The hotel cooperates with one strategic marketing alliance, which represents several hotels specialized on families with children within the European market. Again, Case Hotel B exclusively sells rooms via its private channels (website and reservation hotline) and through the strategic marketing alliance’s website. The hotel does not
face fierce competition by other hotels in the area, although multiple similar properties can be found in Austria, Germany, and northern Italy.

4.2.2 Revenue Management Situation

In Case Hotel B, the General Manager and the Front Office Manager have been interviewed and again asked the same series of questions. Both interviewees have a good understanding of revenue management and its key concepts and recognize the need of RevPar optimization as a business goal. The Front Office Manager also displays knowledge of different pricing schemes and strategies. The management has valuable knowledge on customer segmentation from previous experience, but again empathizes that segmentation is no longer pursued under the new specialized concept, which was adopted in 2012. Also distribution management is a familiar concept but is only used fractionally in Case Hotel B.

4.2.3 Human Resources

Case Hotel B also employs a General Manager who overlooks all aspects of the operation. All activities involved with bookings and reservations fall under the Front Office Manager’s area of responsibility. However, an additional reservations department supervisor is in place to control the processes. In the case of revenue management being implemented into operations, a new person would need to be appointed or alternatively revenue management activities need to be directed on a corporate level.

4.2.4 Technologies and Information Systems

Case Hotel A and Case Hotel B have adapted the same property management system in 2013, as mentioned before: Fidelio Suite 8 by Micros. The system supports few simple yield management activities to a limited extent, but fails to provide forecasting and other important revenue management tools. Case Hotel B uses the same Microsoft Excel reports as Case Hotel A to analyze historic occupancy/booking data and a weekly pick up report is created also. Again, the amount of no shows is
considerably low and not recorded; nevertheless declines and cancellations are recorded by the PMS automatically.

4.2.5 Strategic and Operational Decision-Making

The interviewees stated that 99% of their guests are families with children and customer segmentation does not play a huge role in their market analyses. However, the segment of families with children is divided into several distinct groups, which differentiate customers by the age of the children and origin. This information is utilized to analyze and enhance marketing activates during different seasons of the year.

Prices are being created very similarly to Case Hotel A. The owner provides a percentage rate, by which prices are increased, consequently rates are revised and different rate seasons are established in relation to school holidays, public holidays, festive seasons and time of the year. Fewer guests are willing to book full weeks in the hotel and therefore more emphasis has been put on pricing weekends higher than weekdays in response to the different changes in guest behavior.

The General Manager described that the optimum guests for the hotel business are families with young children. Partly for the same reasons as in Case Hotel B (higher potential for guest retention, no commitment to school holidays) but also because other major competitors on an international level (Robinson, ClubMed) are not capable of providing full services for this guest segment. In periods of low demand, excess capacity is offered on special rates or in combination of additional services or amenities.

5 Discussion

5.1 Segmentation and Customer Knowledge

Customer segmentation is one of the key features of many revenue management systems and can be considered to be the most important deciding factor that enables companies to price discriminate between several distinctive groups of
customer. It is not a secret that large hotel companies sell rooms at multiple different rates to various different consumer segments in order to maximize revenues. Different perceptions of values, changing buying behaviors, distinctive individual needs and a varying willingness to pay offer the opportunity for hoteliers, and of course for other businesses as well, to sell the same core product (hotel room) at different rates.

Both Case Hotel A and Case Hotel B operate under a special concept and in cooperation with different marketing alliances that restrict the hotel business from accepting any other guests than families with children. This condition limits the ability to accept other segments of customers and does not allow a strategic division of the market, which is essential to pursue a differential pricing strategy. The guest segment of families with children could be further divided into sub segments (families with children, single with children, grandparents with children, families with young children, single with young children and so on), but those sub segments or sub markets do not exhibit the necessary differences in buying characteristics to be able to offer varying rates. See Figure 2 for the respective sub segments of Case Hotel A and Case Hotel B. Most small and medium sized hotels and especially resort hotels face the exact same challenge, as their ability to segment, due to concept or location (rural area or pure leisure destinations), is also rather restricted. Also the size of a hotel business can be a factor that reduces a business’s ability to segment, as the small amount of clients does not promise an effective application of customer segmentation.

![Figure 2 - Sub Segment Diagram](image-url)
However, after analyzing the interviews it can be concluded that both Case Hotels place a higher value on the sub segments of families with young children (higher potential for retention, no commitment to school holidays) and on guests within their loyalty program. This situation provides an opportunity to conduct a displacement analysis and to calculate the total customer worth of the different sub segments (see Table 3 and Table 4). The resulting information will illustrate the optimal guest mix in a financial and quantifiable way and support the hotel management and especially reservation department with the displacement decision. In other words, to determine which customer should be replaced by a different customer of greater value to the business, in periods of high or excess demand.

From experience, the management knows that the multiple sub segments have very similar to equal spending behaviors and that family demographics do not notably influence the amount of primary revenue generated. However, data shows that returning guests tend to generate on average 10% - 15% more in ancillary revenue, resulting from the fact that these types of customers are already familiar with the hotel’s services and additional offerings. In this particular situation, besides the slightly varying ancillary revenue figures, the most significant variable of the total customer worth calculation is the Propensity Y. This variable represents the probability of a guest to return to the hotel and purchase the product in the future again. Within the settings of Case Hotel A and Case Hotel B, the Propensity Y is calculated by multiplying the probability of a guest returning the following year/season (60% for return guest and 20% for new guest) by the average amount of years left for the children to stay within the target market (0 – 16 years). The acquisition cost for all guest segments are the same since the same booking and distribution channels are being used.

\[
\text{Total Customer Worth} = \left( \frac{\text{Primary Revenue}}{\text{Ancillary Revenue}} - \frac{\text{Acquisition Cost}}{} \right) \times \text{Propensity Y}
\]

Table 3 - Total Customer Worth (Tranter et al., 2009)
<table>
<thead>
<tr>
<th>Sub Segment 1</th>
<th>Sub Segment 2</th>
<th>Sub Segment 3</th>
<th>Sub Segment 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Revenue</td>
<td>1,000,00</td>
<td>1,000,00</td>
<td>1,000,00</td>
</tr>
<tr>
<td>Ancillary Revenue</td>
<td>112,50</td>
<td>112,50</td>
<td>100,00</td>
</tr>
<tr>
<td>Acquisition Cost</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Propensity Y</td>
<td>((0.6 \times 12) = 7.8)</td>
<td>((0.6 \times 5) = 2.7)</td>
<td>((0.3 \times 12) = 3.6)</td>
</tr>
<tr>
<td>Total Customer Worth</td>
<td>7,938,00</td>
<td>3,307,50</td>
<td>3,924,00</td>
</tr>
<tr>
<td>Rank</td>
<td>(1)</td>
<td>(3)</td>
<td>(2)</td>
</tr>
</tbody>
</table>

Table 4 - Calculations Total Customer Worth

The total customer worth calculation reveals the following ranking for the multiple sub segments: (1) sub segment 1 (returning guest – families with children 0-5 yrs), (2) sub segment 3 (new guest – families with children 0-5 yrs), (3) sub segment 2 (returning guest – families with children 6-16 yrs) and (4) sub segment 4 (new guest – families with children 6-16 yrs).

Most small and medium sized enterprises in the hotel industry are not in the position to conduct an effective segmentation of their target market. Several internal and external factors, ranging from size of business to location and type of concept, reduce the potential to divide the customer base and consequently hinder the management in applying certain revenue management techniques. However, dividing the presented clientele by certain demographics and characteristics can offer insights on differences in the value of a customer, which opens the opportunity of conducting a displacement analysis. In the given situation of Case Hotel A and Case Hotel B, returning guest with young children represent the sub segment with the highest total customer value and therefore should be prioritized when making booking and denial decisions in times of strong demand.

5.2 Channel Management and Distribution

Distribution channels work in two ways. On the one hand a distribution channel provides the potential customer with relevant and timely information and on the
other hand is considered to be the vehicle utilized to drive bookings and enable the purchase itself. Many different kinds of distribution channels, from telephone hotlines to online booking agents (OTA), coexist in the current hotel business environment. Booking or distribution channels can be able to transact complete purchases or lead the consumer towards the property’s website or telephone hotline. Hotels nowadays utilize multiple different distribution channels at the same time; however, Case Hotel A and Case Hotel B make use of only a limited number of available channels. This is because the policies and guidelines of the different marketing alliances restrict the use of mainstream channels, for example OTAs and conventional travel agents. Also, the management of both case hotels prefers that potential guest use the properties website or affiliated marketing alliance’s website, in order to be able to best deliver the relevant information and give a good description of the specialized concept.

Case Hotel A utilizes four distribution channels; (1) the in-house reservation hotline, (2) the property’s website, (3) marketing alliance #1 website and (4) marketing alliance #2 website. We have learned above in the case hotel descriptions that Case Hotel B is only affiliated with one marketing alliance and therefore only resorts to three channels; (1) the in-house reservation hotline, (2) the property’s website, (3) marketing alliance’s website (see Figure 3)

Figure 3 - Distribution Channels: Case Hotel A and Case Hotel B
However, when looking at bookings generated via the property’s website one needs to distinguish between unpaid and paid traffic. Bookings made from unpaid traffic only incur the usual website, booking engine and labor costs. Paid traffic however, generated thru Google Adwords or Microsoft Bing Ads, needs to be further analyzed. In order to calculate the additional cost incurred thru search engine advertising the cost per click, conversion rate and total online advertising fee per time period need to be factored into the computation. Therefore, a hotel company is required to analyze bookings made thru unpaid and paid traffic separately (see Table 5). In the situation of Case Hotel A and Case Hotel B the distribution channel Property Website is further divided into (2.1) Property Website unpaid and (2.2) Property Website paid.

Table 6 illustrates the full channel analysis for both Case Hotels. This information helps the management and especially the revenue manager in evaluating a distribution channel’s performance. A revenue manager will decide if certain channels should be closed and if more or less capacity should be made available for a channel. Thru distribution channel management, Case Hotel A and Case Hotel B are now in the position to observe the effectiveness of the different online campaigns and can therefore better command and direct the respective person or third party responsible for paid online traffic.

<table>
<thead>
<tr>
<th>Online Campaign</th>
<th>Clicks</th>
<th>Cost</th>
<th>Conversion Rate</th>
<th>Cost Pro Conversion</th>
<th>ALOS</th>
<th>Cost per Booked Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.031</td>
<td>1.168,06 €</td>
<td>2</td>
<td>€ 584,03</td>
<td>5,7</td>
<td>€ 102,46</td>
</tr>
<tr>
<td>2</td>
<td>185</td>
<td>167,31 €</td>
<td>0</td>
<td>€ 0,00</td>
<td>5,7</td>
<td>€ 0,00</td>
</tr>
<tr>
<td>3</td>
<td>2.318</td>
<td>1.946,64 €</td>
<td>3</td>
<td>€ 648,88</td>
<td>5,7</td>
<td>€ 113,84</td>
</tr>
<tr>
<td>4</td>
<td>1.002</td>
<td>1.132,50 €</td>
<td>3</td>
<td>€ 377,50</td>
<td>5,7</td>
<td>€ 66,23</td>
</tr>
<tr>
<td>5</td>
<td>1.024</td>
<td>642,09 €</td>
<td>2</td>
<td>€ 321,05</td>
<td>5,7</td>
<td>€ 56,32</td>
</tr>
<tr>
<td>6</td>
<td>66</td>
<td>317,70 €</td>
<td>2</td>
<td>€ 158,85</td>
<td>5,7</td>
<td>€ 27,87</td>
</tr>
<tr>
<td>Average</td>
<td>937,67</td>
<td>895,72 €</td>
<td>2</td>
<td>€ 348,38</td>
<td></td>
<td>€ 61,12</td>
</tr>
</tbody>
</table>

Table 5 - Paid Online Traffic Calculations: Case Hotel A June 14
### Case Hotel A Jun-14

<table>
<thead>
<tr>
<th>Channel</th>
<th>Sell Rate</th>
<th>Net Rate</th>
<th>Commission</th>
<th>Transaction Fee</th>
<th>ALOS</th>
<th>Cost</th>
<th>Net ADR</th>
<th>Net ADR Yield</th>
<th>Channel Production</th>
<th>Channel Contribution</th>
<th>Channel Contribution Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel (1) T</td>
<td>€ 407,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,7</td>
<td>€ 8,00</td>
<td>€ 399,00</td>
<td>98%</td>
<td>43</td>
<td>€ 2.274,30</td>
<td>11%</td>
</tr>
<tr>
<td>Channel (2) W Unpaid</td>
<td>€ 407,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,7</td>
<td>€ 7,00</td>
<td>€ 400,00</td>
<td>98%</td>
<td>302</td>
<td>€ 2.280,00</td>
<td>81%</td>
</tr>
<tr>
<td>Channel (2) W Paid</td>
<td>€ 407,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,7</td>
<td>€ 61,12</td>
<td>€ 345,88</td>
<td>85%</td>
<td>19</td>
<td>€ 1.971,52</td>
<td>5%</td>
</tr>
<tr>
<td>Channel (3) MA (1)</td>
<td>€ 407,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,7</td>
<td>€ 30,00</td>
<td>€ 377,00</td>
<td>93%</td>
<td>10</td>
<td>€ 2.148,90</td>
<td>3%</td>
</tr>
<tr>
<td>Channel (4) MA (2)</td>
<td>€ 407,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,7</td>
<td>€ 7,00</td>
<td>€ 400,00</td>
<td>98%</td>
<td>1</td>
<td>€ 2.280,00</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Case Hotel B Jun-14

<table>
<thead>
<tr>
<th>Channel</th>
<th>Sell Rate</th>
<th>Net Rate</th>
<th>Commission</th>
<th>Transaction Fee</th>
<th>ALOS</th>
<th>Cost</th>
<th>Net ADR</th>
<th>Net ADR Yield</th>
<th>Channel Production</th>
<th>Channel Contribution</th>
<th>Channel Contribution Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel (1) T</td>
<td>€ 297,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,2</td>
<td>€ 7,00</td>
<td>€ 290,00</td>
<td>98%</td>
<td>84</td>
<td>€ 1.508,00</td>
<td>11%</td>
</tr>
<tr>
<td>Channel (2) W Paid</td>
<td>€ 297,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,2</td>
<td>€ 6,50</td>
<td>€ 290,50</td>
<td>98%</td>
<td>510</td>
<td>€ 1.510,60</td>
<td>69%</td>
</tr>
<tr>
<td>Channel (2) W Unpaid</td>
<td>€ 297,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,2</td>
<td>€ 69,12</td>
<td>€ 227,88</td>
<td>77%</td>
<td>11</td>
<td>€ 1.184,98</td>
<td>1%</td>
</tr>
<tr>
<td>Channel (3) MA (1)</td>
<td>€ 297,00</td>
<td>N/A</td>
<td>0.00</td>
<td>N/A</td>
<td>5,2</td>
<td>€ 25,53</td>
<td>€ 271,47</td>
<td>91%</td>
<td>137</td>
<td>€ 1.411,64</td>
<td>18%</td>
</tr>
</tbody>
</table>

Table 6 - Full Channel Analysis: Case Hotel A and Case Hotel B
The practices of distribution channel management can be exploited by small and medium sized hotel enterprises as well as by big hotel companies. Merely, the workload and complexity change according to the size of business and consequently number of channels. Case Hotel A and Case Hotel B only make use of a limited number of distribution channels, but can still capitalize on the information resulting from the channel analysis.

5.3 Forecasting and Overbooking

As already discussed in the literature review, a business needs to choose between several different approaches (historic, advanced, combined) of forecasting and on many other factors (time series, variable to forecast, forecasting model), which will eventually affect the forecasting process and outcome. Demand forecasts represent key inputs of revenue management systems and the process of creating forecasts can be very time consuming and complex; consequently the first question to ask oneself when implementing forecasting procedures is to whether these tasks should be completed manually or by automated software. Big hotel chains usually have revenue analysts who’s main responsibility is to create accurate forecasts for several hotel properties. However, in the situation of small and medium sized hotels it is often impossible to put in this much time and effort into revenue management, let alone forecasting. Therefore, hotel SMEs should resort to the use of stand-alone forecasting software or revenue management software that includes these tools.

Currently, Case Hotel A and Case Hotel B do not put much emphasis on the discipline of demand forecasting and only use the simplest forecasting model, namely Naïve 1. Furthermore, a pick up report is maintained and updated on a weekly basis, which is intended to help the management and especially sales team to observe booking patterns and to manipulate demand if needed. However, if revenue management should be implemented into operations more time and effort need to be put into creating forecasts. If done manually, it would be necessary to use several more complex forecasting methods that are able to deal with seasonal data, for example Seasonal Naïve or Holt-Winters. With the aid of error measurements (preferably Mean-Absolute-Error or Mean-Absolute-Percentage-Error) the management then
needs to select the most accurate model. Also, a denial report would need to be maintained in order to be able to create unconstrained demand forecasts.

Anyhow, as mentioned above, it is recommendable to use automated software, which directly connects to the property management system. The software will automatically fetch data from the PMS and generate combined forecasts, created by analyzing historic data and pick up rates for the respective time period. Moreover, a automated system will analyze its own predictions and improve over time. However, a user is not able to examine the software’s computations and therefore it is often difficult to fully reconstruct and understand the outcomes.

Although most city hotels, that apply revenue management, use overbooking, it is not applicable to Case Hotel A and Case Hotel B. The no-show rate for both properties is far below 1% and therefore does not promise a successful application of overbooking. Additionally, it is very uncommon to apply overbooking in resort hotels due to the nature of the resort product and the inability to walk the customer to a similar property in the near vicinity. The same applies to other hotels in the small and medium sized category, as loss of customer goodwill and limited application possibilities do not promise efficient outcomes of overbooking practices.

In conclusion, the process of forecasting in large hotel companies and small and medium sized hotel companies only differs in two minor ways. First, the complexity, big hotel chains and city hotels often manipulate demand predictions manually as they need to account for additional demand generators or demand drainers, which could be anything from city wide conventions to sporting events. Hotel SMEs and especially resort hotels rarely experience such demand variations. Second, the workload; small and medium sized hotel enterprises often do not have the necessary labor force to create complex demand predictions by themselves and therefore should use automated software.
5.4 Capacity Management

As already discussed in the literature review, hotel businesses have generally very limited operational control over capacity. Therefore, businesses with constrain capacity pursue the level strategy, which describes the means of influencing demand to be in line with the available capacity. Pullman & Rodgers (2010) described two kinds of capacity decisions, strategic long-term and tactical short-term decision, which still can be analyzed for both case hotels.

Long-term or strategic capacity management decisions in Case Hotel A and Case Hotel B revolve around the analysis of the existing capacity for future reference. In other words, the optimal rooms mix and most efficient room types need to be defined in the interest of making data driven decision for upcoming renovations, restructurings, expansions and new property developments. In the case of Hotel A and Hotel B the RevPar per square meter for all room categories was computed and thus the most and least financially efficient room types defined. It is here worth to mention that both case hotels have significantly more room types than other hotels of comparable size, which is the result of the continuous expansion of both properties during the last decades. We can see in Table 7 that the most efficient (in financial terms) room types are category number 5 in Case Hotel A and room category number 2 in Case Hotel B. This knowledge provides the basis for making sound decision for future evaluations of possible reorganizations of the structure or new property developments.

<table>
<thead>
<tr>
<th>Case Hotel A</th>
<th>Case Hotel B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td><strong>Category</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>
On the other hand, tactical or short-term decision making in capacity management refers to the determination of the best mix of room allotments. However, as we learned in the chapter of segmentation and customer knowledge it is not feasible for Case Hotel A and Case Hotel B, and most other hotel SMEs or resort hotels, to effectively segment their market and offer varying prices to different customers. Consequently, it is also impossible to determine an optimal room allotment to different consumer segments. Nevertheless, the question of how many rooms should be offered on which rate level will be dealt with in the next chapter on pricing strategies.

### 5.5 Pricing Strategies

Pricing is the most important component of any successful yield management system. The variable of price is the one element that hotel managers can effectively control with the interest of manipulating demand in the short term. The right price

<table>
<thead>
<tr>
<th>Room</th>
<th>Category</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENZIA</td>
<td>11</td>
<td>€ 3,90</td>
</tr>
<tr>
<td>FRAUE</td>
<td>12</td>
<td>€ 4,03</td>
</tr>
<tr>
<td>FURST</td>
<td>13</td>
<td>€ 3,67</td>
</tr>
<tr>
<td>GRANA</td>
<td>14</td>
<td>€ 3,03</td>
</tr>
<tr>
<td>GRUBI</td>
<td>15</td>
<td>€ 4,26</td>
</tr>
<tr>
<td>KAISE</td>
<td>16</td>
<td>€ 3,01</td>
</tr>
<tr>
<td>KONIG</td>
<td>17</td>
<td>€ 3,73</td>
</tr>
<tr>
<td>KRIST</td>
<td>18</td>
<td>€ 2,89</td>
</tr>
<tr>
<td>LAVEN</td>
<td>19</td>
<td>€ 3,13</td>
</tr>
<tr>
<td>MAIGL</td>
<td>20</td>
<td>€ 4,27</td>
</tr>
<tr>
<td>MARIE</td>
<td>21</td>
<td>€ 3,81</td>
</tr>
<tr>
<td>MAXMO</td>
<td>22</td>
<td>€ 3,13</td>
</tr>
<tr>
<td>ORCHI</td>
<td>23</td>
<td>€ 4,07</td>
</tr>
<tr>
<td>PINOC</td>
<td>24</td>
<td>€ 3,25</td>
</tr>
<tr>
<td>RELAX</td>
<td>25</td>
<td>€ 3,45</td>
</tr>
<tr>
<td>ROTKA</td>
<td>26</td>
<td>€ 2,72</td>
</tr>
<tr>
<td>SCHNE</td>
<td>27</td>
<td>€ 2,82</td>
</tr>
<tr>
<td>SONNE</td>
<td>28</td>
<td>€ 4,09</td>
</tr>
<tr>
<td>STERN</td>
<td>29</td>
<td>€ 3,11</td>
</tr>
<tr>
<td>STRUW</td>
<td>30</td>
<td>€ 2,55</td>
</tr>
<tr>
<td>VITAL</td>
<td>31</td>
<td>€ 3,42</td>
</tr>
<tr>
<td>WETTE</td>
<td>32</td>
<td>€ 4,27</td>
</tr>
<tr>
<td>ZUGSP</td>
<td>33</td>
<td>€ 4,43</td>
</tr>
</tbody>
</table>

Table 7 - Room Category Efficiency
or rate is also the most significant ingredient of a revenue management strategy that will affect the overall profitability of a business in the long term.

Naturally, all hotel businesses and most other businesses in a free capitalistic society pursue a market based costing and pricing strategy. Meaning that prices of goods are created in accordance with the laws of demand and supply. In hotel revenue management two additional pricing strategies exist; namely differential pricing and dynamic pricing. Hence, three different levels of pricing strategies can be discussed (see Figure 4).

![Figure 4 - Three Levels of Pricing Schemes/Strategies](image)

Dynamic pricing relates to modifying prices in accordance with changes in short-term demand and general demand patterns. Differential pricing on the other hand describes the practices of offering different rates to different types of clients. A business is able to pursue such strategies, as the demand for the hotel’s product is rarely consistent. A revenue management system will be most effective if all three pricing strategies can be applied successfully. However, not every business is able to apply all three pricing schemes, as certain conditions are necessary in order to effectively apply dynamic or differential pricing.

The one requirement necessary for efficient price discrimination in a differential pricing strategy is the ability to segment the consumer market in a meaningful way.
As already mentioned multiple times before in this report Case Hotel A and Case Hotel B are not capable of fulfilling this requirement, as the specialized concept does only allow one customer segment to buy the hotel’s services. Meaning that Case Hotel A and Case Hotel B can only apply pricing strategies in yield management up to Level 2 (dynamic pricing).

Dynamic pricing in a practical setting means adjusting prices correspondent to the number of bookings on hand and the booking pace. Hotels typically establish several rate levels, which are referred to as BAR levels (best available rate level), and then jump from one level to the next when a predetermined occupancy threshold is crossed. For example, rooms would be sold at BAR level 5 if the occupancy on hand is below 50%; if the occupancy however reaches 51% the rate changes to BAR level 4. This would continue upwards until reaching the rack rate. How those thresholds are set is up to the hotel or revenue manager, but it is generally advisable to sell the majority of rooms at lower BAR levels and only increase the rate in small percentage increments with every BAR level. The following graphs (Figure 5, Figure 6) illustrate how Case Hotel A and Case Hotel B can establish BAR levels. Note that in Case Hotel B fewer rooms will be sold at the lowest BAR level, this is because the business is still in the growth phase and has not reached market saturation yet. Case Hotel A is already an established business within the market and price increases are more difficult to enforce in comparison to a company (Case Hotel B) that is still in the growth phase. The increase in price between each BAR level is 2% in both case hotels; generally the markup between BAR levels is higher in hotels that already apply revenue management, but again it is advisable to begin with small incremental increases.
When pursuing a dynamic pricing strategy it is also crucial to observe a second element; the pick up rate or pick up pace. A higher than usual pick up rate indicates higher than usual demand and the consequent action should be an additional increase in price. Meaning that if the pick up rate for one period is considerably higher than the average (3-month, annual or 2-year average) of all other periods, the next higher BAR level should be selected. For this action, a set of rules can be defined which govern when the next BAR level will be selected. The following graph (Figure 7) visualizes a pick up rate for Case Hotel A in 2013; Month X and the
Average (all months last year) for 25 weeks before the end of the month are being compared.

![Figure 7 - Pick Up Rate, Pick Up Rate Difference](image)

A second way of factoring the pick up rate in the price computation is increasing the base price or rack rate according to the increase of the pick up rate. Additionally, it is also possible to put a lower weight (<100%) on the pick up rate increase percentage, which can be done by revenue managers if the growth of the pick up pace/rate seems out of line or coincidental (see Figure 8)

<table>
<thead>
<tr>
<th>Room Rate</th>
<th>Increase in Pick Up Rate</th>
<th>Weight</th>
<th>Adjusted room rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>(1 + 30%)</td>
<td>X 50%</td>
<td>115</td>
</tr>
</tbody>
</table>

Table 8 - Adjusted Room Rate

Table 9 and Table 10 illustrate a possible dynamic room rate plan for Case Hotel A and Case Hotel B. Both hotels sell their rooms with a 10% markup if the LOS (length of stay) is below 3 nights.
<table>
<thead>
<tr>
<th>Category</th>
<th>Room Code</th>
<th>RACK 10% - 90%</th>
<th>BAR 1 95% - 86%</th>
<th>BAR 2 85% - 76%</th>
<th>BAR 3 75% - 66%</th>
<th>BAR 4 65% - 0%</th>
<th>% Variation</th>
</tr>
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<td>€ 102.00</td>
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<td>AQUA</td>
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<tr>
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<tr>
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</table>

Table 9 - Dynamic Room Rate Plan Case Hotel A
<table>
<thead>
<tr>
<th>Category</th>
<th>Room Code</th>
<th>RACK 100% - 95%</th>
<th>RACK 95% - 85%</th>
<th>RACK 85% - 75%</th>
<th>RACK 75% - 65%</th>
<th>RACK 65% - 55%</th>
<th>RACK 55% - 50%</th>
<th>Base Rate 50%</th>
<th>Pick Up Weight 50%</th>
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<td>CARPE</td>
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</table>

Table 10 - Dynamic Room Rate Plan Case Hotel B
Managing room rates manually requires a lot of experience, the right gut feeling and of course available labor time. This is the reason why small and medium sized hotels and resorts should resort to the use of an automated revenue management or pricing systems. Many of these businesses are not able to have a full-time revenue manager or cannot afford to spend time on extensive rate calculations and number crunching. Automated yield management systems can be very simple pieces of software that only track occupancy on the books and then suggest raising the BAR rate when certain thresholds are crossed. More complex systems on the other hand, not only track the occupancy on the books, but also analyze the pick up rate/pace, the rates of the competitive set and even the online ratings of the property and its competitors. However, if the system’s rate recommendations seem out of line or not adequate the hotel manager or person in charge has always the opportunity to override the system’s rate suggestion. Furthermore, as mentioned in previous paragraphs, such yield management systems also provide tools for other revenue management tasks (forecasting, channel management, etc.). Moreover, companies who provide professional yield management systems posses the needed know-how, record of success and provide assistance and support.

To conclude the chapter on pricing one can clearly see that both case hotels have potential to apply pricing strategies of modern yield or revenue management systems, although only up to level two (dynamic pricing). When implementing dynamic pricing for the first time it is recommendable to start with small incremental price increases for each BAR level and also put very little weight on changes in the pick up pace, in interest of preventing too much confusion for the guest and the reservations department. Furthermore, a business needs to determine if those tasks should be completed by an individual in the organization or by an automated system, which works in sync with the hotel’s property management system. Generally, for small and medium sized operations it is recommendable to use an automated system, as, apart from other before mentioned advantages, those systems are less prone to errors in calculations and analytical measurements.
5.6 Four Questions to Consider before Implementing Revenue Management

The following four questions and the corresponding answers will provide a manager or business owner with the information needed to make sound decisions on the implementation of revenue management. The questions will help to answer if revenue management is right for the respective SME business and guide the way towards the appropriate revenue management strategy.

5.6.1 Are the General Conditions for Revenue Management met?

As discussed in the literature review there are five common conditions for revenue or yield management. However, only one of them is truly necessary for revenue management concepts to be applicable; namely perishable inventory. The presence of perishable inventory is the basis for most revenue management disciplines, as the perishable nature of the tourism product demands for more sophisticated ways of selling and marketing the hotel product.

The remaining four conditions for revenue management are not necessary requirements, however the more conditions are met the higher the chance for yield management to be successful.

5.6.2 Who will manage Revenue?

The question of who will manage the revenue process is of upmost importance. As the entire implementation process, preparatory work and executing depends on it. A business needs to evaluate if it is capable of managing revenue manually, meaning setting one individual aside to assume the new tasks and responsibilities or hiring a revenue manager. If a business is unable to manage revenue manually, due to the small size of the business or lack of knowledge or expertise, the management needs to consider automated revenue management systems.

5.6.3 Which Pricing Strategy should be pursued?

A business needs to determine which level of pricing strategies can be reached. The underlying question here is if a hotel company is able to segment its market in a meaningful way. If yes, pricing strategies can be pursued up to level three
(differential pricing). If the answer is no, then pricing strategies can only be applied up to dynamic pricing (level two).

5.6.4 Is the Business ready for Yield Management?

The implementation of revenue management practices will have a great impact on the work processes of a hotel and especially the reservations and front office department. Changing rates daily will not only affect the way rooms are offered, but also lead to more work in regards to customer communication. Also, a business owner or manager needs to assess if they company’s customer base is ready and open towards the change to dynamic rates, in interest of preventing customer confusion and dissatisfaction. It is also imperative to properly train and inform staff of the new practices and policies and that key management personnel is fully supportive of the move to yield management.

6 Conclusion

The preceding chapters of this report have undoubtedly validated that revenue or yield management practices are applicable to small and medium sized businesses in the hotel industry and that such process indeed have the potential to positively influence revenue generation and profits.

A literature review on the concept and main components of revenue management was conducted and the five key elements of a successful revenue or yield management system were identified. After a careful evaluation of the company, concept and business environment of both case hotels, the aforementioned five pillars of revenue management have been analyzed and studied in the practical setting of both hotels. Various possibilities for a successful application of revenue management strategies were demonstrated and both case hotels have shown to be capable of implementing and executing yield management processes within their operations. Therefore, one can conclude that yield management in small and medium sized enterprises in the hotel industry does indeed have potential for the optimization of revenue generation, however only to a somewhat limited extent. As
those types of business are often constraint in its revenue management capabilities
due to specific concepts, size of business, available labor force and available budget.

Nevertheless, apart from all its financial benefits, one should not neglect the non-
monetary benefits of revenue management such as improved customer knowledge,
new gained business intelligence on distribution processes and new possibilities to
assess forecasted demand, which are often side effects of optimizations in revenue
management.

The complexity of the hotel marketplace and the competition within the hospitality
industry grows steadily. Therefore, business owner and managers need to find ways
of optimizing processes within their operations, with the interest of becoming more
efficient and gaining a competitive edge over their competitors. Revenue
management has been one of many business and revenue optimization techniques
and has been in use by key players within the hospitality industry for quite some
time. It is important that small and medium sized enterprises follow this lead, in
order to stay innovative and competitive.
7 Bibliography


doi:10.1177/001088048903000309


doi:10.1016/S0010-8804(03)90117-0


doi:10.1177/1094670503257038


8 Appendices

8.1 Interview Questionnaire

General RM/YM:
1. Please explain in a few sentences what revenue management or yield management in the hotel industry means to you?
   • Key concepts:
     • What is customer segmentation?
     • What is differential and dynamic pricing?
     • What is channel and distribution management?

Allgemein RM/YM
1. Beschreiben Sie mir bitte in ein paar Sätzen, was Revenue / Yield Management (Ertragsmanagement) für Sie bedeutet.
   • Konzepte
     • Was verstehen Sie unter Kunden Segmentierung
     • Was ist differentielle und dynamische Preisgestaltung
     • Was ist Kanal und Distribution Management?

Human Resources
2. How is your organization structured?
   • Who is responsible for reservations/bookings?
   • Who would take over the duties and responsibilities of a revenue manager?
   • If RM is already implemented: Did you change your organization’s structure? When and how?

Human Resources
2. Wie ist Ihre Organisation strukturiert?
   • Wer ist verantwortlich für Reservierungen und Bookings?
   • Wer würde die Verantwortungen und Aufgaben eines Revenue Managers übernehmen?
• Wenn RM schon implementiert wurde: Haben sie Ihre Unternehmensstruktur diesbezüglich geändert? Wann und wie?

Technologies & Information Systems
3. Which property management system are using?
   • Does it support RM/YM processes?
   • Do you use RM/YM processes?
   • Do you use any other technologies, which help you with executing RM?

4. How is past data analyzed and how are forecasts being created?
   • Do you collect data about no-shows, declines, denials, and cancellations?

Technologien & Information Systeme
3. Welches „Property Management System“ benutzen Sie?
   • Werden RM/YM Aufgaben von Ihrem Programm unterstützt?
   • Benützen Sie RM/YM Vorgänge?
   • Benützen Sie andere Technologien, die Ihnen bei RM/YM Vorgängen helfen?

4. Wie werden historische Buchungsdaten analysiert und Forecasts (Vorhersagen) erstellt?
   • Sammeln Sie „No-show-‘, ‚declines-‘, ‚denials-‘ und ‚Absagen- bzw Stornierungs-‘–daten?

Strategic and operational decision-making
5. Do you segment your customer base?
   • How are prices determined? (Pricing strategies.)
   • Have you defined an optimum guest mix?
   • How do you manage capacity?

Strategisches und operative Entscheidungen
5. Wird der Kundestamm segmentiert?
   • Wie werden Preise gestaltet?
   • Was ist Ihr optimaler Gäste-Mix?
• Wie wird Kapazität gehandhabt?