Spring 2007

Exploring revenue management in spas: Yield management concepts in the spa industry today

Elaine M. Balkoulis
University of Nevada, Las Vegas

Follow this and additional works at: http://digitalscholarship.unlv.edu/thesesdissertations
Part of the Finance and Financial Management Commons, and the Hospitality Administration and Management Commons

Repository Citation
http://digitalscholarship.unlv.edu/thesesdissertations/597

This Professional Paper is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Theses, Dissertations, Professional Papers, and Capstones by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
EXPLORING REVENUE MANAGEMENT IN SPAS: YIELD MANAGEMENT CONCEPTS IN THE SPA INDUSTRY TODAY.

by

Elaine M Balkoulis

A professional paper submitted in partial fulfillment of the requirements for the

Master of Science in Hotel Administration
William F. Harrah College of Hotel Administration

Graduate College
University of Nevada, Las Vegas
May 2007
# TABLE OF CONTENTS

PART I ..............................................................................................................4
   The Research Problem ..............................................................................4
   Purpose of the Study ................................................................................5
   Justification ..............................................................................................5
   Limitation .................................................................................................6

PART II ..........................................................................................................7
   Introduction to Literature review..........................................................7
   Yield and Revenue Management ............................................................7
   Perception of Yield Management ...........................................................10
   Spa Software Review and Interview with Enablez Inc. President ..........12

PART III ........................................................................................................16
   Introduction to Research Design............................................................16
   Email Questionnaire ................................................................................16
   Personal Interviews ................................................................................17
   Spa Fairness Perception Survey ............................................................18
   Limitations and Pretests ..........................................................................19
   Introduction to Data Analysis and Results .............................................20
   Spa Directors’ Email Responses and Interview with Canyon Ranch Director......21
PART I

The Research Problem

The Spa Industry today has become one of the largest leisure industries in the United States as the spa visitor market has undeniably increased. The International Spa Association (ISPA), Lexington, Kentucky, reported in the ISPA Consumer Trends Report 2006, that 32.2 million U.S and 3.7 million Canadian spa patrons have visited a spa in the past year. The report also states that 15% of the U.S and 14% of the Canadian spa patrons have visited a spa for the first time in the last year. The number of people visiting spas is increasing significantly and the spa industry is becoming an important part of leisure tourism. Today spas have become significant revenue streams. “As the industry continues to develop, spas are becoming independent profit centers, responsible for providing detailed cost accounting to the hotel property and justifying their existence with bottom line income” (Foster, Wohlberg, 2006).

Spa operators in their attempt to stay abreast of competition are faced with many challenges. One of the challenges is efficiently utilizing the spa facilities, the spa staff and the booking system in order to yield maximum profits. “Yield” is the key word, as yield management is gaining popularity in the spa sector. Yield management is a valuable operational tool. According to the definition given by Wikipedia (2006), “yield management, also known as revenue management, is the process of understanding, anticipating and reacting to consumer behavior in order to maximize revenue”. In simple terms, yield management is the process in which you are selling a product, at the right price and at the right time. Yield management has been adopted in the airline and the hotel industry and has proven to be a revenue maximization
tool. Both industries have something in common with the spa industry: the product that is offered is perishable and the capacity in which the product is offered is fixed. The hypothesis whether yield management is suitable for spas, will be explored and supported by the literature analysis and the opinions of the spa industry professionals. Since one of the challenges that the airline and the hotel industry originally faced was the unfair perception of yield management practice, this potential issue will be also be investigated.

Purpose of the Study

The primary goal of this paper is to further explore the applications of yield management in the spa industry and identify the techniques that are currently used by spa operators. The paper will also evaluate the most popular spa software systems utilized. Furthermore, the paper will investigate the existence of yield management features in the current spa software systems. In addition an effort will be carried out to examine the spa patrons’ perception on yield management strategies in the spa environment.

Justification

The study of yield management applications in spas could provide information that possibly will be useful for the spa industry. As the hypothesis of the suitability of yield management in spas will illuminate the similarities of the hotel and spa industries, spa managers might consider yield management as a tool to increase revenues. According to Susie Ellis: “as profits get tighter, revenue management models will become more sophisticated”, (Ellis, 2006). A further examination of the spa industry indicates that yield management in spas is not used to
its full potential. Since this study will focus on yield management techniques that could maximize spa profits, the paper will highlight the significance of creating of a spa revenue manager position, with similar responsibilities to the hotel revenue manager position. Last but not least, the findings of this research study will be contributed to the spa industry as a basis for further research.

Limitation

Although there are many academic articles written about Yield Management in the hotel and airline industry, one of the challenges was finding articles and research studies on yield management in the spa industry.
PART II

Introduction to Literature Review

Part II consists of the literature review of the study. It refers to yield management in the hotel and airline industry and the similarities in the spa sector. Also presented are previous researches related to the qualifiers of yield and revenue management in the hotel and airline industry and once again the similarities in the spa industry. Lastly, this part also contains the literature review on the perception of yield management.

Yield and Revenue Management

Yield management is definitely not a new concept. It is defined as “the dynamic pricing, overbooking, and allocation of perishable assets across market segments in an effort to maximize short term revenues for the firm” (Baker, Collier, 1999, p. 239). As Jauncey et. al summarize in their study: “yield management may be defined as an integrated, continuous and systematic approach to maximizing room revenue through the manipulation of room rates in response to forecasted patterns of demand” (1995, p. 26). Yield Management is defined by Lee-Ross and Johns as the process that focuses on profit maximization, by using the information on sales and the buyers’ behavior, in order to form prices and monitor inventory (Lee-Ross & Johns, 1987). Kimes (1989, p.15) has given the following definition for yield management: “Yield management is the process of allocating the right type of capacity to the right kind of customer at the right price so as to maximize revenue or yield”. It gained familiarity through success stories in the airline and hotel industry. “Yield management was one of the methods developed as a way
of increasing competitive advantage and increasing revenue” (Kimes, 1989, p.15). The economical results were significant. In the three year period of 1989-1991, American Airlines increased their revenue by 1.4 billion (Smith, Leimkuhler, & Darrow, 1992). Yield management strategies are very common in the hotel sector. “Most hotel managers understand the idea of lowering prices to stimulate sales when demand is weak and raising prices in response to excess demand” (Relihan, 1989, p.40). Relihan (1989) also mentions that yield management practices are considered a win-win situation for all: the business traveler can book a room during a high demand time on short notice, the leisure traveler can book a room in advance and receive a discounted rate and the manager has higher occupancy in the hotel and a higher than average rate. Vinod (2004, p. 178) stated that “the process of revenue management generates incremental revenues by accepting and rejecting reservation requests based on the value of the reservation request”. Jones and Hamilton (1992) mention in their study that a yield management system consists of the following seven steps: implementing a yield culture, analyzing demand, creating price-value relationships, segmenting markets, analyzing demand patterns, tracking no-shows and evaluating the yield management system.

According to Weatherford L. and Bodily S. (1992), yield management can be applied in situations that have the following common characteristics: perishable nature of the offered product, fixed capacity of allocated units and price-sensitive segmentation of the customers. Kimes and Wirtz (2003) also state that “the application of revenue management has been most effective when applied to operations that have relatively fixed capacity, demand that is variable and uncertain, perishable inventory, a high fixed cost structure, and varying customer price sensitivity”. In another study, Kimes (1989) also mentions one other important characteristic of a
yield management candidate: the product that is offered is sold to potential customers in advance. In the definition of yield management that is given by Lee-Ross and Jones (1997, p.66): “Yield Management is a procedure which is used by service organizations to maximize revenue under conditions of fluctuating demand where the product is perishable”.

The question that arises is if a spa is qualified type of business to apply yield management. In order to reach a justified conclusion, one must evaluate if a spa shares the common characteristics mentioned above. A spa service is considered a perishable product and a spa does have a fixed number of rooms available. McCarthy (2006) mentions that treatment rooms are similar to airplane seats and hotel rooms, since they are all items with inventory limitations. Once the treatment hour has paced, the opportunity to sell that room has been lost, which translates to lost revenue for the spa. In spas, similar to hotels and airlines, “financial success often depends on management’s ability to use capacity efficiently” (Kimes, 2002, p.22). According to Weatherford L. and Bodily, the high fixed cost structure is coupled with a “relatively low variable cost for the product or service, which allows a wide range of prices over which selling the product or service is better than to let it be wasted”. According to Kimes (1989, p. 17), “Once a certain number of hotel rooms are sold, it does not cost much more to sell another room. The hotel and staff are already in place, and one more room does not make much of a difference in terms of cost. Conversely, hotels face high marginal costs. For example, if a property is full and a customer wants a room, another room cannot be easily added onto the property because of the large fixed cost”. In a spa, the high fixed costs are the treatment rooms and the low variable costs are the treatment, the staff performing the treatments and the skincare or body products that are used during the service. One other characteristic that spas share with
airlines and hotels is the price-sensitive customer segmentation. “Similar markets segments exist in the spa industry as well. We may have some customers who want the time and service they desire regardless of cost, while other clients may be looking for a bargain and don’t mind off peak times” (McCarthy, 2006, p.60). In the hotel industry, the demand is uncertain. “Demand forecasting is a basic element of yield management that enables a hotel to identify potential low-demand days far enough in advance to take appropriate actions” (Lieberman, 1993, p.38). In Vinod’s study (2004), he explains the theoretical relationship between price and demand in a competitive environment and states that a property that offers a range of prices has more advantages since guests might chose the higher rates when the lower rates are not available. Similar in spas, according to Jeremy McCarthy (2006), demand may vary depending on the day of the week and the hour of the day. Last but not least, similar to the hotel industry, spa reservations are usually booked in advance.

Cross (1997) analyzed how revenue management can work successfully in businesses. Cross (1997, p.32) stated that “revenue management can apply to virtually all businesses. Applications range from simply adopting the revenue-management attitude and thinking about supply, demand, and pricing management in revenue-management terms to using high-powered algorithmic tools”.

Perception of Yield Management

Although spas are “qualified” to use yield management strategies, yield management is not utilized in the degree it should. One of the challenges that spa operators face is the guests’ negative perception of price differentiation. “Spas do not want to upset their guests with
confusing rules and pricing strategies” (McCarthy, 2006, p.60). Service providers fear that their guests might perceive price differentiation and revenue management applications as an unfair practice. In the recent years, a number of studies have focused on customers’ perception of yield management. “Many service businesses are reluctant to implement demand-based pricing because of potential customer backlash” (Kimes and Wirtz, 2003, p. 127). However, Choi and Mattila (2005) in a study of 120 travelers, argue that potential hotel guest will perceive revenue management as a fair practice when they are provided with adequate information on pricing variation according to the day of week, the number of nights of their stay, and when the reservation was made. By comparing three scenarios that were given to guests, in regards to the quantity of information on the hotel revenue management strategies, the scenario that was most informative was perceived in a positive light. Wirtz and Kimes (2007) emphasize in their recent study that the perception of revenue management is extremely important since prices for the same service are differentiated by revenue management. For the purposes of their study, two experiments were conducted by Kimes and Wirtz and their findings showed that when consumers were less familiar with revenue pricing practices, the consequences of framing prices as a discount or as a premium and placing the consumers in a fenced-advantaged or fenced – disadvantaged position had strong effects on the perception of fairness. On the other hand, when the consumers were familiar with the revenue pricing practices, the effects of framing and fencing were not strong on fairness perception.

According to Jeremy McCarthy, one other reason that spas are not utilizing yield management is the absence of software systems that incorporate yield management features. Hotels utilize software systems that have “pricing engines” that quotes the optimal rate
depending on availability. “Capable of measuring actual demand and forecasting future demand by considering buyer behavior, competitors’ prices, seasonal factors and other factors affecting sales, the software calculates the best and most accurate price point to deliver to consumers” (Johnson, p.44). Adams (2004) examined spa software systems and stated that software systems help spas operate efficiently. “Computerized systems allow us to measure the productivity of rooms and therapists, client reservation rates, inventory turns, responses to promotions, and numerous other ratios that indicate the health of the business” (Starr, 2005). However, unlike the software used in the hotel sector, the majority of spa software systems do not integrate yield management capabilities. As McCarthy (2006) mentions in his article, most of the current spa software have limited yield management abilities. With this research paper, a further attempt will take place in order to investigate the incorporation of yield management features in the current spa software.

Spa Software Review and Interview with Enablez Inc. President

According to the ISPA 2006 Spa Industry Update, in the year of 2005, $ 9.7 billion revenue was generated from the spa industry. This number once again proves that the spa industry has grown and captures a significant percentage of the American leisure market. The spa industry demonstrates many similarities with the hotel industry. One distinctive similarity between the two industries is the need for software systems that incorporate sophisticated management features. “When software applications for salons and spas were introduced 15 years ago, the programs were fairly primitive, and most weren’t even created by people with beauty industry expertise” (Starr, 2005, p. 69). In a recent article, Starr emphasizes the significance of
computers as business tools in spas (Starr, 2007). Today, as Yield Management is entering the spa business world and with the average treatment utilization in the hotel spas in the U.S has a 37% rate (Scoviak, 2006), many software companies are integrating yield management features into their software systems. “Yield management, or changing pricing according to demand to maximize profits, is already a well known practice in the hotel and airline industries, and has recently found its way into the spa world” (Starr, 2007, p.122). Canadian based Enablez Inc. is the provider of ResortSuite, a fully integrated, customer-centric management solution that includes a Spa module. Yield Management is one of the features that have been added in the spa module. According to ResortSuite, “the underlying technology developed to manage spa operations will also need to evolve along with the industry to support yield management initiatives” (ResortSuite, 2007). The ResortSuite spa software has the ability to track revenue per available treatment room and measures occupancy, resource utilization and revenue performance. In addition, ResortSuite spa software supports the Dynamic Availability technique, which by altering the types of services offered during peak periods, the spa sells higher margin services rather lower margin services. “We’ve put yield parameters into each service”, said Frank Pitsikalis, company president, ‘so they automatically turn on or off when you reach certain occupancy levels”. This is a way you can push guests into higher margin treatments when your occupancy levels go up, (as cited in McCarthy, 2006 pg 64).

In January 2007, PAR Springer-Miller Systems announced the addition of the Yield Management module in the SpaSoft spa software. The new yield management feature sets activity prices and capacity according to forecasts on demand. The Yield Management feature generates business analysis and forecasting reports that determine the most popular appointment
start times and days of week, the advance booking patterns of guests etc. The new version also incorporates a pricing strategy (tiered structure that offers favorable prices to price sensitive patrons that schedule appointments during non-peak times) and an availability strategy (enables only premium services to be booked during high demand times).

Last but not least, TAC IT Corp. is one more provider of software solutions for the spa industry that incorporates yield management features. When booking a treatment room, the Reservation Assistant Spa & Sport software will automatically suggest the most economically or time-wise suitable therapist to perform the service. The software system optimizes economically optimizes the allocated resources and significantly increases profits.

According to Frank Pitsikalis, president of ResortSuite Software, yield management is a hot topic in the spa industry today as yield management can help a business take advantage of revenue opportunities. As Frank Pitsikalis said, “yield management can really have a dramatic effect and could be the difference between winning and loosing, the difference between making a profit and leaving money on the table”. According to Frank Pitsikalis, when spas implement the concept of “dynamic availability”, they are not changing the prices; they are changing the services that will be available during certain times. By offering high margin services during peak times, with the same capacity, the spa will be “yielding” higher profits. “Dynamic availability” may as well be the answer to the ethical dilemma that spa operators are facing. It should highlighted that during the development session on “Yield Management in the Spa Industry” that Frank Pitsikalis presented at the 2006 International Spa Association Convention in Las Vegas, when Frank addressed the crowd of 300 spa professionals and asked how many of them had an
ethical dilemma with the implementation of yield management in spas; not one attendee raised their hand!

Frank also mentioned that if spa directors should base yield management decisions on forecasted occupancy levels and when make the treatment rooms more flexible as far as the services that they can support and train the staff to tell the guests what they want rather than the guests telling the staff.
PART III

Introduction to Research Design

This part of the paper describes the methodology and research design used in the research. Moreover it describes the methodology used in developing the questions used in the questionnaires and the methods used to collect the data from the spa patrons and from the spa professionals. The research methods that were applied were personal interviews, email questionnaires and a survey. The sampling for this research includes two very important parts: judgment and convenient sampling.

According to Zikmund (2003, p.382), “judgment or purposive sampling is a non probability sampling technique in which an experienced individual selects the sample based his or her judgment upon some appropriate characteristic required of the sample members”. In the particular judgment sampling the sample members were spa professionals and the appropriate characteristics were their experience and knowledge in spa operations. The sample of spa professional included spa directors of large scale spas and the president of a spa software system that includes yield management features.

Email Questionnaire

The spa directors were asked to answer a few questions via email and the data collected from the email questionnaire was used in order to assess the current status of yield management applications in the large spas of Las Vegas. The most important advantage of using an email questions in this particular research study is the speed of data collection. However, there are
many other benefits that an email questionnaire offers. “The benefits of incorporating a questionnaire in an email include speed of distribution, lower distribution and processing costs, faster turnaround time, more flexibility, and less handling of paper questionnaires” Zikmund (2006, p.220). The email questionnaire included open-ended response questions since the research is considered an exploratory research. All the questions were self-administered since there wasn’t questionnaire with spa related questions to use as an example. The directors were emailed a few questions which included nominal, interval and ordinal questions. The 3 nominal questions referred to the category of the spa, the yield management features that were integrated in the spa’s current software system and the yield management strategies that were currently applied at the spa. One of interval questions referred to the physical size of the spa, the number of treatment rooms and the number of service providers employed. The questionnaire was emailed to five directors of the large spas in Las Vegas. The disadvantage of using an email questionnaire as a research survey method is the non response error. However, an explanation of the research purpose of the questionnaire was included in the email in order to emphasize the significance of the response and the potential contribution of the respondents’ information to the spa industry as a whole. One other disadvantage of the email survey was that since an interviewer was absent, there was a high possibility that the directors could have misunderstood the questions.

Personal Interviews

The second research method that was used was personal interviews and the sampling method applied was judgmental. Two professionals in the spa sector were interviewed in order to
obtain precise information and significant feedback. First, Blake Feeney, the spa director of the Canyon Ranch SpaClub in Las Vegas was interviewed. Canyon Ranch SpaClub is one of the highest revenue spas in the U.S. The questions that the director was asked was for the most part open-ended. The interview also included the questions that were in included the questionnaire that was previously mentioned. Second, Frank Pitsikalis, the president of the Canadian software company Enablez was interviewed. Enablez is one the very few companies that have incorporated yield management capabilities in their spa software systems. During the 2006 International Spa Association Convention in Las Vegas, Frank Pitsikalis was one of the key speakers in the personal development sessions that took place. The subject of his development session was “Yield Management in the Spa Industry” and over 300 attendants were present in the session. The questions that Frank Pitsikalis was asked during the personal interview were open-ended questions.

Spa Fairness Perception Survey

According to the definition given by Zikmund (2006, p.380), “convenience sampling (also called haphazard or accidental sampling) refers to sampling by obtaining units or people who are most conveniently available”. In the particular convenient sampling, spa patrons at the Canyon Ranch SpaClub in the Venetian Hotel and Casino in Las Vegas were intercepted in the lobby area of the spa and given a questionnaire. The questionnaire that was used was a result of alternated questions that were used in a previous study on perceived fairness of yield management in hotels (Kimes, 2002). The questionnaire had two sections: section one and
section two. In section one the spa patrons were asked to rate spa pricing scenarios on a five point Likert scale, in which 1 is highly unacceptable and 5 is highly acceptable.

In Scenario 1, the spa patrons were asked to rate a scenario in which two guests receiving the same service are paying a different price depending on the time they booked their appointment. In Scenario 2 and Scenario 3, the spa patrons were asked to rate a pricing policy. In Scenario 2, the spa in the scenario has informed its guests about the pricing policy and in Scenario 3, the spa has not provided information. In Scenario 4, the spa patrons will be asked to rate a scenario, in which two guests are paying a different cancellation fee depending on the time they booked their appointment. In Scenario 5 and Scenario 6, the scenario based questions describes the price differentiated cancellation policy. In Scenario 5, the scenario describes a policy in which the spa charges a full service fee when appointments are not booked at least five days in advance. Lastly, in Scenario 6, the scenario describes a policy in which the spa charges a 50 % full service fee when appointments are booked in less than five days in advance.

In section two the survey includes five self administered questions. The spa patrons will be asked their gender, age, and the frequency of their visits at spas in general. They also will be asked if they are aware of the yield management terminology and the existence of yield management in spas.

Limitations and Pretests

In the design of this research paper, an attempt was made to reduce the limitations. However, there are some important limitations that need to be mentioned. First and foremost, the research findings of this paper may not represent the entire population, since a convenience
sampling process was used in order to collect the data from the spa patrons. Furthermore, during the spa survey, I (interviewer) was present, which may lead to bias in the responses of the spa patrons at Canyon Ranch SpaClub (Zikmund, 2006). On the other hand, my absence (interviewer), when respondents are answering the email questionnaire, might also be considered as a limitation. Since the interviewer was not present, the respondents did not have the opportunity to ask additional questions for clarification and complete comprehension of the email questions. In addition, some spa operators were reluctant to provide confidential information concerning the strategies that are currently applied at their spa. Last but not least, one other limitation that the email questionnaire did present was the nonresponse error.

In order to ensure that the content of the questionnaires were valid and the wording was clear and comprehensive, three pretests took place before the questionnaire distribution. First, the spa survey was pre-tested in group of the Canyon Ranch SpaClub managers that were asked to voluntarily participate. All Canyon Ranch SpaClub managers “act” as spa guests on a monthly basis as part of an internal effort to evaluate processes and procedures. Since the managers act as secret shoppers in their own spa facility once a month every month, they are all familiar with the process of “thinking” as a spa guest and not as a manager. Hence, in the spa survey, the managers were asked to answer the questionnaire as “spa guests”. Second, the email questionnaire and the personal interview questions were tested by the directors in the Operational Committee of Canyon Ranch SpaClub.
Introduction to Data Analysis and Results

The collected data was analyzed with the assistance of the Statistical Package SPSS, version 12. In addition, a descriptive statistics analysis was utilized to determine spa patrons’ perception of yield management strategies in spas.

Spa Directors’ Email Responses and Personal Interview with Canyon Ranch Spa Director

The email questions were sent to the spa directors of the five largest and most popular spas in Las Vegas. Four spa directors replied to the email and provided their information and feedback. According to the answers, the size of the facilities, number of treatment rooms, number of therapists and estheticians were the following:

<table>
<thead>
<tr>
<th>Facility size and number of technicians</th>
<th>Spa A</th>
<th>Spa B</th>
<th>Spa C</th>
<th>Spa D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (square feet)</td>
<td>69,000</td>
<td>50,000</td>
<td>30,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Number of treatment rooms</td>
<td>62</td>
<td>51</td>
<td>26</td>
<td>20</td>
</tr>
<tr>
<td>Number of therapists and estheticians</td>
<td>160</td>
<td>70</td>
<td>62</td>
<td>30</td>
</tr>
</tbody>
</table>

As far as the yield management strategies that are applied, all four spas offer promotional and seasonal discounts and three spas initiate employee service sales contests and two spas have tiered pricing during weekends. None of the spas offer only selective services during peak times and none of the spas modify the service rate depending on the prevailing occupancy.
Table 2

*Applied yield management techniques*

<table>
<thead>
<tr>
<th></th>
<th>Spa A</th>
<th>Spa B</th>
<th>Spa C</th>
<th>Spa D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiered pricing during weekends</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Promotions and seasonal discounts</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Employee service sales contests</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

However all four spas practice some type of yield management. Reservation agents and Front Desk representatives offer guests service enhancements (massage and facial add-ons for an additional $20 charge) and seasonal services by participating in daily contests with monetary compensations. In addition, Spa A offers a discount on early appointment slots during slow times and has offered a $50 discount for services that were booked from 6pm until 8pm. Spa B maintains a designated number of service blocks throughout the day that is offered to high end customers. The service blocks are monitored closely and released within a two-hour window. The open service times are then offered to guests on a waitlist. Spa C increases the use of the facility prices on weekends. Spa D offers “Early Bird” specials (discounted prices) for the appointments booked on Sunday through Thursday at 8am and 9am.

According to the directors’ responses, spa patrons’ perception would definitely depend on the type of clientele, for example non local patrons versus local patrons.
As far as technology goes, three spas are currently using RIO software system and one is using Spa Soft. Out of the three spas using RIO, two spas are planning to invest in new software in the near future. According to the spa directors, the yield management features that their software currently incorporates are similar and none of them have the Best Available rate module.

According to Blake Feeney, the Spa Director of Canyon Ranch SpaClub at the Venetian Hotel Resort and Casino in Las Vegas, yield management is the next step of maximizing revenue in the spa industry. Canyon Ranch SpaClub “yields the price down” by offering discount services on slow times of the day and “yields the price up” by offering additional enhancing body and facial services in addition to preexisting booked services. In the near future, “Deluxe Services” will also “yield the price up” by offering a combination of a service with a retail product component. However, some concerns may arise if the yield management strategies are not carefully implemented. The Spa Director emphasized that spas should educate their staff on a consistent basis and train the staff to use the power to suggest versus using the power to deceive. Says Blake Feeney, “if yield management is not done right, it could be counterproductive, only because of the human element involvement. In the airline and hotel industry, a seat is a seat and a room is a room. In the spa industry, the massage is an experience that is created by a massage therapist and price differentiation may raise the following question for guests: will my experience be less today since the price is less?” As far as staff education, the Spa Director points out that an integral part of training is explaining to the staff the reason behind yield management strategy applications. Once the Front Desk and Reservation staff understands the reason, they will automatically feel that they are involved in the “yield management” process.
Spa Patrons’ Fairness Perception Survey Data

The following are the outcomes of the statistical analysis performed based on the answers of the sixty spa patrons that participated in the survey. These are resulting from the quantitative analysis of the spa patrons’ answers. The results are divided into four sections, each of which contains: Perception of the six pricing scenarios, awareness of yield management terminology and application in spas, demographic characteristics and frequency of spa visits.

Perception of Pricing Scenarios

Table 3
Pricing Perception (%)

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Highly Acceptable 1</th>
<th>Acceptable 2</th>
<th>Neutral 3</th>
<th>Unacceptable 4</th>
<th>Highly Unacceptable 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>3.3</td>
<td>28.3</td>
<td>21.7</td>
<td>33.3</td>
<td>13.3</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>33.3</td>
<td>51.7</td>
<td>5.0</td>
<td>8.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>1.7</td>
<td>5.0</td>
<td>5.0</td>
<td>53.3</td>
<td>35.0</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>5.0</td>
<td>13.3</td>
<td>13.3</td>
<td>40.0</td>
<td>28.3</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>11.7</td>
<td>28.3</td>
<td>16.7</td>
<td>38.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Scenario 6</td>
<td>10.0</td>
<td>33.3</td>
<td>25.0</td>
<td>25.0</td>
<td>6.7</td>
</tr>
</tbody>
</table>

In Scenario 1, the spa patrons were asked to rate a scenario in which two guests receiving the same service are paying a different price depending on the time they booked their appointment. This practiced was perceived unacceptable by 33.3% of the spa patrons. However in Scenario 2, the spa continues to offer a discount on services that are booked in advance and advertises this pricing policy. This was perceived by 51.7% as an acceptable practice.

Information on the pricing strategies plays once again an important influence on fairness
perception as one can see from the statistical results on Scenario 3. The majority of the spa patrons perceived negatively the unadvertised pricing policy: 53.3% thought the policy was unacceptable and 35% claimed the policy was highly unacceptable. In the scenario has informed its guests about the pricing policy and in Scenario 3, the spa has not provided information. In Scenario 4, the spa patrons will be asked to rate a scenario, in which two guests are paying a different cancellation fee depending on the time they booked their appointment. In Scenario 5 and Scenario 6, the scenario based questions describes the price differentiated cancellation policy. In Scenario 5, the scenario describes a policy in which the spa charges a full service fee when appointments are not booked at least five days in advance. Lastly, in Scenario 6, the scenario describes a policy in which the spa charges a 50% full service fee when appointments are booked in less than five days in advance. In the fourth Scenario, 40% of the spa patrons thought it was unacceptable for the spa to impose a full fee cancellation policy for the appointments that were booked in advance at a lower price. In Scenario 5, the spa applied the same policy, however in the scenario the comparison between the two cancellation policies was not highlighted like it was previously in Scenario 4. Scenario 5 was rated as unacceptable practice by 38.3% of the patrons and as an acceptable practice by 28.3% of the patrons. Lastly, in Scenario 6, similar to Scenario 6, the comparison between the two cancellation policies was not highlighted and this time the refund policy was half the full fee. Scenario 6 was rated by 33.3% of the spa patrons as an acceptable practice. In conclusion, spa patrons value the communication of pricing policies and the discounted prices as a tradeoff for a more stringent cancellation policy needs to be further examined.
From the results we can see that 60% of the spa patrons were not aware of the term “yield management” and 73.3% were not aware that Yield Manage was being implemented in spas today.

Demographic Characteristics and Frequency of Spa Visits.

Table 5
*Age categories of respondents*

<table>
<thead>
<tr>
<th>Age categories</th>
<th>Respondents</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 29</td>
<td></td>
<td>19</td>
<td>31.7</td>
</tr>
<tr>
<td>30 – 39</td>
<td></td>
<td>20</td>
<td>33.3</td>
</tr>
<tr>
<td>40 – 49</td>
<td></td>
<td>10</td>
<td>16.7</td>
</tr>
<tr>
<td>50 – 59</td>
<td></td>
<td>9</td>
<td>15.0</td>
</tr>
<tr>
<td>60 – 69</td>
<td></td>
<td>2</td>
<td>3.3</td>
</tr>
<tr>
<td>70+</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>60</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Out of the 60 survey participants, 71.7% were female and 17% were male. According to the information in the table below, 65% of the participants’ age was between 18 and 39. Last but not least, 23.3% of the respondents visit a spa every six months.

Table 6

<table>
<thead>
<tr>
<th>Frequency of spa visits</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>More than two times per week</td>
<td>6</td>
</tr>
<tr>
<td>Once a week</td>
<td>3</td>
</tr>
<tr>
<td>Every two weeks</td>
<td>4</td>
</tr>
<tr>
<td>Once a month</td>
<td>13</td>
</tr>
<tr>
<td>Every three months</td>
<td>12</td>
</tr>
<tr>
<td>Every six months</td>
<td>14</td>
</tr>
<tr>
<td>Once every year</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
</tr>
</tbody>
</table>

Conclusions

This research has contributed in highlighting the characteristics yield management strategies in large spas of Las Vegas. The majority of the spa professionals that were interviewed have been in the spa industry for decades and they have a true understanding of the uniqueness of
the spa business world. Undoubtedly, yield management is a hot topic in the spa industry today, as spas are following the business and financial strategies of the hotel sector. Spas today are part of the lucrative beauty industry and they should be run like any other leisure business in order to maximize profits.

Recommendations

Being able to understand the concept of yield management in general, allows spa directors and spa managers to adapt enhanced revenue strategies in order to not only increase revenue, but also to maximize profits. Therefore, spa directors and spa managers need to familiarize themselves with yield management applications that will be a good “fit” for their spa. Hence, the findings from this research may have some interesting recommendations for spa operators.

Undeniably spas today have become significant revenue streams and as they are starting to follow and practice hotel business strategies, yield and revenue management are also gaining popularity in the spa sector. Since spas share common characteristics with hotels and airlines, there is a place for revenue management in the spa business. According to Cross (1997), “revenue management can apply to virtually all businesses”. Undeniable a focus on revenue management could prove beneficial and lucrative to a spa business. In his study, Cross (1997), mentions that a company can implement revenue strategies and change the uncertainty of the market into a probability which ultimately means financial gain.

However, revenue generating responsibilities are usually part of a spa director’s job description. Today, as spas are becoming larger entities with significant financial growth, the
entire management team of a spa more or less plays an influential role in revenue maximization. For example, the Front Desk at a spa can increase the Skin Care department revenue by simply verbally promoting one of the facials to all the guests that are checking in for their massage. Similar, the Reservation department can maximize the room utilization by offering a discount for services that are booked during the non-peek hours. Revenue management responsibilities must be taken seriously in the spa day to day business activities. Spas should follow the example that is set in a hotel environment. According to Kimes (1989, p.19), in the hotel environment, “for a yield management system to work, the hotel manager must a strong commitment to it, have the necessary data, and have a strong information system”.

However, revenue management could not be implemented in one day and without the proper planning and coordination between the management team. Yeoman and Watson (1997) argued in their study that people are an important part of yield management, holding the same significance as forecasting and strategy. Yeoman and Watson (1997), describe yield management in their study as a human activity system.

The importance of a team approach is mentioned by Doharty et al. (1997), where upper management, department managers and staff are involved and working together. There is also a strong need of appointing the revenue generating responsibilities to one manager, the “Spa Revenue Manager”. The Spa Revenue Manager would coordinate the revenue management processes with the ultimate intension of maximizing the treatment rooms’ revenue. The Spa Revenue Manager would monitor and adjust sales and pricing strategies, and continuously analyze demand. The Spa Revenue Manager would “keep a close eye on the books” and complete forecasts that would determine whether to discount services when demand is low or
offer higher priced seasonal services when demand is high. According to Jauncey *et al.* (1995), “the ability to manipulate rates and therefore to maximize revenue is dependent on accurate predictions of future patterns of demand”. In order to forecast future demand and supply trends successfully, the spa revenue manager will heavily depend on historical financial data. The Spa Revenue Manager would always be aware of the treatment room occupancy levels and plan on maximizing utilization and profits by proactively initiating service discounts and service combinations/packages on expected slow days. However, the Spa Revenue Manager could also practice yield management techniques by “offering the right service at the right time at the right price”. For example, reservation staff could be trained to initially offer the “Valentine’s Facial” (which has a higher price than the ordinary facial), a promotional service during Valentine’s season could be offered at a higher price than the ordinary service price.

The proposed Spa Revenue Manager job description was based on a combination of a Hotel Revenue Manager, Spa Front Desk Manager, a Spa Reservation Manager and a Spa Operations Supervisor. For the “Spa Revenue Manager” job description, the Hotel Revenue Manager description responsibilities were based on the “Consolidate Revenue Manager” job description at the Hilton Hotels Corporation and the spa job descriptions were based on the current Canyon Ranch SpaClub job descriptions (Appendix C).

Since yield management is prevailing in spas, a strong recommendation for spa operators would be to invest in an advanced computerized system that will incorporate yield management features and to invest in front line staff education and training. Financially successful spas will need to depend on the combination of an intelligent software system and staff that comprehend and support a yield management culture. “Indeed, we need to go so far as to say that a successful
yield-management system can be operated without a computer, but that no computerized system will ever be successful without a wide range of skilled personnel who are involved in the process” (Jones & Hamilton, 1992, p.91). Jones and Hamilton (1992) examined the seven steps that need to be implemented in order to obtain a successful yield management system. The seven steps include cultivating a yield environment, thoroughly analyzing demand, creating price-value relationships, segmenting markets, analyzing demand fluctuation, tracking declines and denials and last but not least, revisiting revising the yield management system. The seven steps above could be implemented by the Spa Revenue Manager and executed by the trained staff with the assistance of an intelligent spa software system.

Furthermore, this study could be the first step of a larger scale academic research that will represent a larger population of the spa sector. Potential future studies should consider this point and include spas across the nation and even spas in other countries. Future studies could enlarge the scope of the research by covering more spas of all categories.
APPENDIX A

Email Questionnaire
1. Please indicate in which category(s) your spa belongs to:

- Resort and Hotel Spa
- Destination Spa
- Day Spa
- Medical Spa
- Connoisseur Spa
- Casino Spa
- Other. (Please specify_______)

2. Please answer the following questions:

- What is the size of your spa? (Sq.Ft.) _____________
- How many treatment rooms does your spa have? _____________
- How many Therapists are currently employed? _____________
- How many Estheticians are currently employed? _____________

3. Please check all the yield management strategies that are currently applied at your spa:

- Tiered pricing during weekends and holidays
- Promotions and seasonal discounts
- Selective service offerings during peak times
- Employee service sales contests
- Rate modification depending on prevailing occupancy

- Is your spa using any other yield management strategies that have not been mentioned? Please elaborate
4. Please check all the yield management features that your spa software currently incorporates:

- Best Available Rate module
- Automated Price Discounting
- RevPAR Tracking
- Revenue Performance Reports
- Multiple service bookings per person

- What Spa Software system are you currently using __________

5. Please indicate how you believe yield management applications (different price quotes depending on availability) will be perceived by your spa patrons:

- (7) Very fair
- (6)
- (5)
- (4)
- (3)
- (2)
- (1) Very unfair

6. Please indicate which of the following situations your spa patrons would most likely prefer:

- Booking appointments in advance at a discounted rate
- Booking on the day of the appointment at a higher rate
- Same prices are quoted at any given time
7. Your thoughts and opinions on yield management in spas today
APPENDIX B

SURVEY OF PERCEPTIONS ON YIELD MANAGEMENT PRACTICES
Survey of Perceptions on Yield Management Practices

Thank you for participating in my study. This survey will only take 8 minutes or less to complete. Your responses will be kept CONFIDENTIAL and will remain anonymous. Yield management is a strategy adopted relatively recently in the spa industry to control prices for services provided. I am interested in understanding how YOU perceive price adjustments (similar to the pricing of hotel rates and airline fares) in the services you receive at a spa. Please read each of the short scenarios described below and indicate the extent to which you perceive the situation described to be fair/acceptable or unfair/unacceptable. Rate the scenarios on a five point acceptability scale in which 1 is highly acceptable and 5 is highly unacceptable.

**Section 1**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Highly Acceptable</th>
<th>Acceptable</th>
<th>Neutral</th>
<th>Unacceptable</th>
<th>Highly Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two spa guests are sitting in the Lounge having a conversation. It seems that Shane’s massage cost $150, but Paul only paid $130. Shane made his appointment on the day of the service and Paul made his appointment a week in advance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A spa increases its prices 10% if an appointment is made 5 days or less before the desired appointment date. The spa has advertised this policy and always informs guests that they can receive a lower rate if they book in advance. Lisa calls 10 days before her visit and receives a lower price. LeAnn calls the day before her visit and is quoted a price 10% higher than Lisa.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A spa increases its prices 10% if an appointment is made 5 days or less before the desired appointment date. The spa has not advertised this policy and has not informed guests that they can receive a lower rate if they book in advance. Lisa calls 5 days before her visit and receives a lower price. LeAnn calls the day before her visit and is quoted a price 10% higher than Lisa.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Mary books her facial a week ahead of time &amp; is quoted $135. Cora books her facial the day before her service &amp; is quoted $150. On the day of their service they both decide to cancel. Mary pays a $135 fee &amp; Cora pays a $67.50 fee.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A spa charges 10% less for reservations that are made at least 5 days in advance. In exchange for this discount, the spa may impose a no refund penalty for cancellations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>A spa charges 10% more for reservations that are made 5 days or less before the desired appointment date. For the higher priced appointments, the spa may impose a 50% refund penalty for cancellations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Section 2

- Prior to this study, did you ever hear about the term ‘yield management’? YES NO
- Did you know yield management was being implemented in the spa industry? YES NO

**Gender:**
- □ M
- □ F

**Age:**
- □ 18-29
- □ 30-39
- □ 40-49
- □ 50-59
- □ 60-69
- □ 70 and over

**Frequency of spa visits:**
- □ More than 2 times per week
- □ Once a week
- □ Every two weeks
- □ Once a month
- □ Every three months
- □ Every six months
- □ Once a year

Thank you for your time and I genuinely appreciate your effort. 😊
APPENDIX C

SPA REVENUE MANAGER JOB DESCRIPTION
JOB DESCRIPTION

Job Title: Spa Revenue Manager

Department: Operations

Immediate Supervisor (Job Title): Director of Treatment Operations

Position(s) Supervised: Guest Relations supervisors, Guest Relations Training Coordinator, Skin Care Retail Supervisors, Guest Relations Staff, Skin-Care Retail Staff

This job description serves as a guide for establishing the criteria to fill a specific job, and to assist in employee evaluation related to that job. The description is subject to change at management's discretion, and may include additional or different duties as assigned or directed.

I. Job Summary

Primarily responsible for the planning and implementation of promotional discounts and upgrades, maximize utilization and revenue of the rooms. Responsible for monitoring sales and pricing strategies and preparing accurate forecasts. Also responsible for all aspects of new service promotions and internal sales contests and works in cooperation with Guest Relations Managers in order to set monthly sales goals. Responsible for the daily revenue operations of the spa departments and acts as a liaison between the Spa Director, Operations Committee and spa departments. Demonstrated ability to analyze and interpret business forecast demand and plan accordingly in order to increase revenue.
II. Essential Job Functions

• Oversee the Body Work, Beauty and Skin Care departments and general service booking and retail operations

• Coordinates in the operations with the Massage, Skin Care, Salon, Wellness and Café Departments.

• To know and understand the service room sheet on a daily basis and proactively plan on promotional activities and sales that will increase sales

• Develop, monitor and adjust sales and pricing strategies:
  o Conduct a weekly Revenue Management Meeting (with the Spa Director and Director of Operations) where the appropriate booking period is evaluated for proper rate and availability control. The Spa Revenue Manager will provide a synopsis of results vs. decision from the previous week and lead discussion on future issues such as booking pace, pricing strategies, marketing opportunities and the competitive environment.

• Competitive and Demand Analysis
  o Review all competitive shops on a consistent basis (at least once per week) and identify selling strategies and market trends.
  o Review Demand calendars, convention calendars and city event calendars to keep abreast of all demand generators.
  o Maintain historical data on events and performance on any promotions during these demand-generating events.
• Responsible for training the Guest Relations Supervisors and Managers (Front Desk, Locker Rooms, Reservations) on all new promotional discount and upgrades and on all seasonal service promotions and new service kick-offs

• Responsible coordinating and training (in cooperation with Guest Relation Management team and Training Coordinator), the Reservation and Front Desk front line staff all new service on all new promotional discount and upgrades and on all seasonal service promotions and kick-offs

• Oversees promotional sales reports, discount and up-selling and works in conjunction with Operations Director regarding promotional sales analysis and reports.

• Conducts monthly department promotional sales performance appraisals

• Maintains all policies in relation to current Spa policies.

• Reports and documents any observed or known safety hazards, conditions or unsafe practices and procedures to appropriate personnel as needed.

Additional Duties

• Serves on various management committees as needed.

• Updates all Guest Relations Training manuals.

• Updates the Intranet with new service promotion information.

• Maintains documentation and administrative records associated with these tasks.

• Utilizes the computer to book services.
• Performs quick bookings, additions, changes or cancellations that may arise, in person or over the phone, on the computer for the guest’s personal services while at the Spa.

• Facilitates group tours of the Spa as needed.

• Adheres to all the Spa standards for guest service.

• Performs and assigns other reasonable related duties to ensure total guest satisfaction and the smooth operation of the Spa as a facility.

• Performs other job-related duties as necessary.

III. Education, Experience and Skill Requirements

• 4 year college degree required

• Must possess excellent communication, organizational and business skills

• Must possess 2-3 years management experience, preferably at a resort or health facility

• Demonstrated ability to analyze and interpret business practices in order to improve current systems and develop new approaches.

• Maintains confidentiality.

• Must have a strong understanding in the yield management concept

• Must demonstrate a professional, efficient demeanor with the ability to handle stressful or emergency situations
• Must display the ability to work with a variety of people, remain calm and professional during stressful situations, must be able to analyze and resolve guest and staff related problems

• Must possess strong quantitative, supervisory and public relations skills

• Ability to develop and maintain a budget and expense goals

IV. Working Conditions

A. Environment applicable for the job:

- Heat
- Cold
- Noisy
- Odors
- Outdoors
- Dust/Fumes
- Chemicals
- Humidity

B. Requirements and Activities:

<table>
<thead>
<tr>
<th>Requirements/Activities</th>
<th>Sometimes 0-29%</th>
<th>Frequently 30-50%</th>
<th>Constantly &gt;60%</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bending/Pushing/Pulling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climbing Ladders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climbing Stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collating/Filing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digging</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifting/Carrying 25lbs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifting/Carrying 50lbs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifting/Carrying 75lbs.or&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manual Dexterity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stretching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained Mental Application</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustained Visual Application</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using a Keyboard</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
References


Feeney, B., personal communication, February 10, 2007


ISPA 2006 Spa goer study (n.d.). Retrieved February 1, 2007 from


Pitsikalis, F., personal communication, November 4, 2006


SpaSoft Springer Miller Systems

http://www.springermiller.com/spasoft/010307.htm


