An empirical analysis of the effectiveness of hotel Revenue Management in five-star hotels in Barcelona, Spain

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ABSTRACT

Many capacity-limited service industries have been reaping the benefits by employing Revenue Management (RM) concepts and techniques. Its application in the hospitality industry has enabled thousands of hotels worldwide to phase out the traditional hotel management models and to develop new strategies to more effectively manage these properties. This research aims at assessing the level of application of RM in five-star hotels in Barcelona (Spain), which was ranked the number one city in Spain in terms of international tourist arrivals. Thus, this exploratory study examines RM-related variables and analyzes the data obtained from the application of *MERMI (Model for Evaluating Revenue Management Implementation in the Hotel Industry)* in Barcelona as a case study. In addition, it provides RM practitioners with empirical evidence of the effectiveness of RM in the hospitality industry in Barcelona, useful insight in determining the challenges associated with its implementation and recommendations to improve the applied RM practices. In general terms, the findings are encouraging for the participating hotels because a high level of application of RM is been reached. However, some theoretical and practical aspects of RM performance in these hotels need to be improved in order to obtain better results in the future.

1. Introduction

Revenue Management (RM) has become an essential strategy for profit maximization and customer satisfaction. It is defined as a strategic and dynamic technique that optimizes product availability and price to maximize revenue profits and company growth by predicting consumer behaviour, forecasting and analysing information from different market variables that enable to make important decisions for the development of pricing strategies and distribution. In a nutshell, the primary aim of this discipline is to sell the right product or service (perishable) to the right customer at the right time for right price (Kimes, 1989). In practice, RM has meant determining pricing according to predicted demand levels so that price-sensitive customers who are willing to purchase at off-peak times can do so at favourable prices, while price-insensitive customers who want to purchase at peak times, will be able to do so (Kimes and Wirtz, 2013). Some professionals misunderstand that definition and focus on reducing and raising rates without having a solid foundation or pursuing an effective strategy, which results in a mistaken practice of RM (Lopez-Chicheri, 2011).

Even though it was launched by the airline industry in the decade of the seventies in United States (Littlewood, 1972), many service industries sharing similar characteristics (e.g., perishable product or service, relatively fixed capacity, price differentiation and distinct customer segmentation) (Chiang, Chen, & Xu, 2007) have been reaping the benefits by employing RM concepts and techniques. Thus, other companies of the tertiary sector of the economy such as hotels, car rental companies, cruise ships, rail and road transportation, catering and golf courses (Kimes, 2000a, 2000b) have successfully adopted and implemented RM techniques. Its application in the hospitality industry has enabled thousands of hotels worldwide to phase out traditional hotel management models and develop new strategies to manage these properties more effectively. As aforementioned, in the past 20

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years, RM has become an active area, but there are relatively few empirical studies in this field and considerable gaps between theories and practices (Li, 2012). Published research papers have widely addressed the effectiveness of RM in the hospitality industry (Weatherford & Bodily, 1992; Norman & Mayer, 1997; Jones & Lockwood, 1998; Kimes, 2000a, 2000b; Emeksiz, Gursoy, & Icoz, 2006; Queenan, Ferguson, & Stratman, 2011; Talon-Ballestero, Gonzalez-Serrano, & Figueroa-Domecq, 2014). However, research on RM-related topics in the hospitality industry in the city of Barcelona is extremely scarce and the current study has been conducted to fill that gap; hence the objective of this research is to assess the level of application of RM in five-star hotels in the city of Barcelona, which was ranked the number one city in Spain in terms of international tourist arrivals. In addition, this exploratory study examines RM-related variables and analyses the data obtained from the application of *MERMI (Model for Evaluating Revenue Management Implementation in the Hotel Industry)*. Also, it provides RM practitioners with empirical evidence of the effectiveness of RM in the hospitality industry in Barcelona (Spain), useful insight in determining the challenges associated with its implementation and recommendations to improve the applied RM practices.

2. Literature review

The literature on models to assess the application of RM in the hospitality industry is wide and relevant. Several RM implementation models have been proposed since this practice was adopted by the hospitality industry. At the late eighties, researchers were mainly focused on the analysis of RM concepts and its development into implementation models (Orkin, 1988; Rowe, 1989, pp. 65—66). However, based on interviews to hotels managers, the first seven-step RM implementation model was proposed by Jones and Hamilton (1992). The model comprised the following phases: development of a RM culture, demand analysis, price-value determination, market segmentation, demand-pattern analysis, declines-denials tracking and evaluation. They concluded that the introduction of new technology in the RM systems resulted in the need for developing a RM culture and a failure to acknowledge the importance of human resources in the implementation process.

Based on the previous model and their findings, Donaghy, Mcmahon, and McDowel (1995, 1997) developed a ten-phase RM implementation model that included: personnel, demand analysis, market segmentation, determination of optimal guest mix, trade-off analysis, establishment of capacity levels, introduction of the RM system, customer reorientation, operational evaluation and action. This model emphasized the importance of studying the hotel market segments and their behavioural patterns in order to meet or exceed daily demand forecasts and revenue results.

Jones and Kevin (1997) proposed the third model. They developed a Hotel Yield Management System Model that comprised six inter-related subsystems: strategic (decision making), operational (decision making), demand analysis, reservations, technology and human resources. As stated by McMahon-Beattie, Donaghy, and Yeoman (1999), this model grouped all the stages identified by Jones and Hamilton (1992) and Donaghy et al. (1995, 1997). Therefore, it is thought to be an effective explanation of the existing connection among the factors proposed in the previous models.

Yeoman and Watson (1997) designed a new RM implementation model based on forecasting, strategy and people. Their proposal suggested a systems theory framework for evaluating RM implementation based on the synergistic action of the above-mentioned patterns and identified the organizational, team and individual commitment as key elements to successful RM practices. This approach explains RM as a human activity system and enhances the people element as the cornerstone of satisfactory RM

implementation. Thus, accurate strategies and forecasting rely heavily on the convergence of experience, insights and skills of the professionals in the field.

Emeksiz et al. (2006) thoroughly analysed the previous models and agreed on both the proposed RM variables and the complexity of RM implementation process. They concluded that even though all models provided theoretical guidelines for the implementation of RM in the hospitality industry, their practical application was extremely limited. None of the above considered the hotel size, technological development and implication objectives. Consequently, they proposed a five-stage RM implementation model to overcome some of the limitations of the preceding ones. The stages are as follows: preparation, supply and demand analysis, implementation of RM strategies, evaluation of RM activities and strategy monitoring and revision. This model was developed for five-star lodging properties with or without a computerized yield management system and successfully tested in Turkey. However, as stated by Talon-Ballestero et al. (2014), essential phases of the RM process were not clearly outlined, given that important matters as segmentation and pricing were included under demand analysis.

Also, Tranter, Stuart-Hill, and Parker (2008) identified eight steps in the RM implementation process: customer knowledge, market segmentation and selection, internal assessment, competitive analysis, demand forecasting, channel analysis and selection, dynamic value-based pricing and inventory management. Ivanov and Zhechev (2012) suggested a seven-stage process: goal setting, information collection, data analysis, forecasting, decision, implementation and monitoring the whole RM process. In addition, Ivanov (2014) presented the RM in a hotel as a system that includes four structural elements: data and information, hotel RM centres, RM software and RM tools. This author made a significant contribution by analysing all hotel departments and other services that generate revenues (e.g., F&B, parking, spa/fitness/sauna, golf course, Internet/WIFI, minibar).

In spite of all previous contributions, implementation models need to be periodically revised, incorporating and updating activities and phases that are crucial to pricing or capacity allocation (Okumus, 2004). Therefore, Talon-Ballestero et al., 2014 proposed a new Model for Evaluating RM Implementation in the Hotel Industry (MERMI) that was successfully tested in three, four and five-star hotels in the city of Madrid (Spain).

2.1. Model for Evaluating Revenue Management Implementation in the hotel industry (MERMI)

The design of MERMI is based on the application of the Delphi method as a suitable technique to reach properly thought-through consensus among experts, by using a series of questionnaires. It is widely used for collecting data from a panel of respondents within their domain of expertise.

As described by Talon-Ballestero et al. (2014), the first step of the process consisted in selecting the panellists on the basis of accessibility and diversity. A range of business and academic experts was defined to establish the final sample, which comprised eleven Spanish and International panellists: five academics specialized in RM, three revenue managers from national and international hotel chains, two revenue managers from national and international hotels and a RM consultant.

The experts were asked to build the ideal archetype for RM development by including general categories and items, based on similar models. Afterwards, they rated the relevance of the items proposed under each category according to the Likert scale, ranging from 0 (irrelevant) to 4 (highly relevant) and ranked the general categories in order of importance for satisfactory RM application in the hotel industry. Thus, on the basis of the experts' responses and