

Strategic Analytics in Hospitality: A Case Study on Marriott International's Revenue

Management Revolution | Unit 1

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Introduction

Marriott International, one of the top leaders in the hospitality industry, launched a significant transformation by implementing its **Group Pricing Optimizer (GPO)**. This initiative was designed to revolutionize how the company managed revenue for group bookings, using the latest advancements in operational research and analytics. The GPO system was launched in late 2006, marking a significant milestone in Marriott's approach to sophisticated revenue management (Hormby et al., 2010).

Using cutting-edge techniques like demand segmentation, price-elasticity modeling, and optimization strategies, the GPO system provided essential guidance to Marriott's staff for effectively pricing hotel rooms for group customers. Within the first two years of its operation, the GPO achieved its objectives and significantly enhanced the profitability and efficiency of Marriott's sales processes for its staff and customers (Hormby et al., 2010).

The GPO's impact on Marriott's revenue was outstanding. In 2007, just a year after its implementation, the system contributed an estimated \$46 million in revenue, indicating a 1.1% increase compared to the previous year. This surge in revenue was a direct result of the strategic implementation of GPO, which efficiently maximized profits without incurring additional operational costs. Despite the economic challenges faced in 2008, the system continued to demonstrate its effectiveness, contributing to a substantial increase in Marriott's profits, estimated to be over \$120 million. The success story of Marriott's GPO serves as a compelling testament to the power of strategic analytics in driving significant business achievements (Hormby et al., 2010).

Integration with One Yield

In conjunction with GPO, Marriott International also developed and utilized One Yield, a refined revenue management system tailored for individual bookings. One Yield is pivotal in Marriott's revenue strategy, offering detailed demand forecasts, optimal inventory allocations, and seamless integration with the reservation system. The synergy between GPO and One Yield showcases Marriott's comprehensive approach to revenue management across different customer segments (Hormby et al., 2010).

One Yield, in operation at 97% of Marriott's hotels, handles over 75 million transactions annually, offering a rich source of data about individual transactions. This system primarily functions as a batch system, generating demand forecasts for each rate category and length of stay for each arrival day up to 90 days in advance. It then establishes inventory allocations published to the reservation system, effectively managing the controlled inventory of hotel rooms (Hormby et al., 2010).

The collaboration between One Yield and GPO is a prime example of Marriott's strategic foresight in revenue management. While One Yield optimizes revenue for individual bookings, GPO focuses on group customer segments. Together, these systems provide a holistic solution to Marriott's diverse customer base, ensuring individual guests and groups receive optimized pricing and availability options (Hormby et al., 2010).

This dual-system approach enhances Marriott's operational efficiency and improves customer experience. By implementing these advanced revenue management systems, Marriott International demonstrates its commitment to leveraging technology and data analytics to stay at the forefront of the hospitality industry (Hormby et al., 2010).

Detailing Analytical Techniques

- **Descriptive Analytics**

Descriptive analytics is the foundational layer of Marriott's analytical approach, similar to cataloging historical events to narrate the company's operational story. It involved an in-depth analysis of transactional data collected from over 75 million interactions to outline trends, preferences, and demand cycles. This comprehensive historical review enabled Marriott to gain insights into customer booking patterns and seasonality, thus establishing a baseline for more complex analytical processes.

- **Diagnostic Analytics**

With diagnostic analytics, Marriott conducted an in-depth data analysis to determine the root causes of observable trends. This analytical phase sought to identify the underlying reasons for varying room demand, rate popularity, and cancellation rates. It leveraged performance metrics, such as the revenue-opportunity model, to assess the effectiveness of existing revenue-management strategies, isolating operational strengths and pinpointing areas for improvement.

- **Predictive Analytics**

Predictive analytics at Marriott harnessed statistical techniques to forecast future demand and booking behaviors. The One Yield system, integral to Marriott's predictive capability, provided forward-looking estimates on demand for different rate categories and lengths of stay. It projected a 90-day demand outlook, considering potential cancellations and additional group bookings, which was instrumental for inventory and pricing optimization.

- **Prescriptive Analytics**

Prescriptive analytics within Marriott's GPO transcended prediction to recommend actionable strategies. This advanced form of analytics synthesized the insights from predictive models to suggest optimal pricing and inventory decisions. The GPO system utilized a simulation-based methodology to assess the impact of dynamic pricing strategies on group bookings, guiding revenue management decisions in real-time.

Integrating these analytics into Marriott's GPO represented a holistic approach to data-driven decision-making. By interpreting historical data, diagnosing contributory factors, forecasting future trends, and prescribing actionable solutions, Marriott enhanced its revenue management practices, setting a new standard in the hospitality industry's approach to strategic analytics (Hormby et al., 2010).

Describing Process and Roles

The development of GPO was a collaborative effort involving multiple departments at Marriott. Data analysts were central in this process, working closely with marketing, sales, and revenue management teams. They played a critical role in interpreting complex data and turning it into actionable insights. The IT department ensured that GPO integrated seamlessly with existing systems. This synergy between different departments was vital for successfully implementing and operating the GPO system (Hormby et al., 2010).

Explaining Actionable Business Insights

The implementation of GPO provided Marriott with actionable business insights that significantly influenced its revenue strategies. Based on real-time data, the system's dynamic pricing model allowed Marriott to optimize room rates effectively. Insights into customer booking behavior led to more targeted marketing strategies. The system also streamlined the negotiation process, making it more efficient and data-driven (Hormby et al., 2010).

Significance to the Field

The case of Marriott International's GPO is significant in understanding the development of business analytics. It showcases how a well-implemented analytics system can transform an essential business function – in this case, revenue management. The success of GPO highlights the potential of analytics in strategic decision-making and its impact on business performance. This case is a valuable addition to the history of business analytics, showing the practical application and benefits of analytics in a real-world setting (Hormby et al., 2010).

Legacy

In recent years, the hospitality industry has adopted data analytics innovatively, drawing parallels to Marriott International's successful implementation of the Group Pricing Optimizer. These advancements highlight the increasing role of analytics in enhancing customer experiences and operational efficiency.

The case of Red Roof Inn's innovative use of predictive analytics to enhance its business model during a particularly challenging winter is a notable example in the hospitality industry. Established in 1973, Red Roof Inn is a well-known chain of affordable hotel accommodations across the United States, boasting over 600 locations primarily in the Midwest and Eastern states ("Red Roof Inn Case Study," 2022).

In this project, titled the "Flight Cancellation Coup," Red Roof Inn harnessed publicly available data, including government statistics, nationwide weather data, and historic flight delay and cancellation data. They identified that approximately 2 to 3% of flights, or around 500 flights each day, were either delayed or canceled, leading to about 90,000 passengers being stranded daily. Many of these passengers were likely searching for last-minute lodging near airports ("Red Roof Inn Case Study," 2022).

Red Roof Inn's strategy involved partnering with the digital company 360i to create a technology that processed live cancellation data. This data was filtered through a conditional algorithm that automatically increased bids to display ads targeting stranded passengers. These ads were mainly aimed at mobile users searching for immediate accommodation. The algorithm considered current weather conditions, time of day, and volume of cancellations to predict the best times for placing these ads ("Red Roof Inn Case Study," 2022).

The results of this innovative approach were noteworthy. During the harsh winter of 2013-2014, Red Roof Inn observed a 10% increase in business, a substantial gain considering that winter usually sees reduced activity for hotels. Their strategy also led to the first position in 75% of critical last-minute hotel searches, a 266% increase in non-brand mobile bookings, a 115% increase in non-brand mobile investment, and a 650% increase in share-of-voice for key travel search queries ("Red Roof Inn Case Study," 2022).

This case study exemplifies how data-driven strategies, particularly in leveraging predictive analytics, can create significant competitive advantages and business opportunities in the hospitality industry. Red Roof Inn's success showcases the potential for businesses to utilize readily available data to identify and capitalize on market opportunities, especially in scenarios where quick decision-making is critical ("Red Roof Inn Case Study," 2022).

Conclusion

The Group Pricing Optimizer project at Marriott International serves as a powerful example of the impact of analytics on business strategy and performance. Through its effective use of descriptive, diagnostic, predictive, and prescriptive analytics, Marriott enhanced its revenue management and set a new benchmark in the hospitality industry. The collaboration between different departments and the actionable insights derived from the GPO system demonstrate the transformative power of data-driven decision-making. The

success of this project underlines the significance of analytics in the modern business landscape, offering valuable lessons and insights into the field of business analytics.

References:

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