Cost Minimization in Hotel’s Service Recovery

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Abstract

As delivering consistent quality service is important in preserving customer’s satisfaction, service failures are unavoidable in hospitality industry because of human frailties. Service failures can be dire to service providers as it may lead to customer complaints, bad word-of-mouth, reduces of customer’s loyalty and erodes of firm’s reputation. In this paper, the aim is to develop a Service Recovery Compensation Model based on integer programming to determine optimal recovery solutions for each tier of consumers. At the end an example is provided to show that a lower cost can be achieved using this model in a hotel while keeping the level of customer satisfaction.

Keywords: Service Recovery, Service Recovery Compensation Model, Integer Programming

Introduction

In recent 2008 global financial crisis which is consider the worst in 75 years, it had led to collapse to major institution and government, depreciation of Eurodollars and prolonged unemployment. However, as the service industry has progressed, it has concurrently shifted into a period of maturity or stagnant which resulted in lower gross profit rates (Lin, 2011). Service industry, especially the hotel industry comes across an extremely competitive environment worldwide nowadays (Chen, 2007). The success of the organizations depends greatly on how well they deliver consistent
service (Webster & Sundaram, 1998; Patterson, Cowley & Prasongsukarn, 2006) to meet or exceed customer’s expectation (Miller, Craighead & Karwan, 2000) in every moment of truth in order to achieve customer satisfaction. As maintaining customer satisfaction is crucial to survival of any business organization, service failures are unavoidable due to human frailties (Kau & Loh, 2006). Despite the efforts and precautions a company may take to avoid errors or breakdowns during service delivery, failures are inevitable especially in medium and high contact services such as hospitality industry (Mattila & Cranage, 2005). Hence, the aim of this study is to develop and demonstrate a practical and versatile decision making models that combine marketing theory with mathematical rigor that assists managers in evaluating and optimizing service recovery strategy in an economically justified manner.

**Proposed Model**

Cost of compensation can be calculated as follows:

Cost of compensation = Cost of refund + Cost of correction plus + Cost of discount + Cost of replacement

Cost of Compensation for Room in process failure (PF) = Cost of refund + Cost of discount (room discount) + Cost of correction plus (Cost of Room Upgrade + Cost of Late Check-out + Cost of Complimentary of amenities + Cost of Complimentary Limousine + Cost of Taxi + Cost of Complimentary of laundry + Cost of F&B Complimentary )

Cost of Compensation for Room in outcome failure (OF) = Cost of refund + Cost of discount (room discount + F&B discount) + Cost of correction plus (Cost of Room Upgrade + Cost of Late Check-out + Cost of Complimentary of amenities + Cost of Complimentary Limousine + Cost of Taxi + Cost of Complimentary of laundry) + Cost of replacement (room move)

\[
\min Z_{\text{RPF}} = a_1CR_1 + a_2CR_2 + a_3CR_3 + a_4CR_4 + a_5CR_5 + a_6CR_6 + a_7CR_7 + a_8CR_8 + a_9CR_9
\]

\[
\min Z_{\text{ROF}} = a_1CR_1 + a_2CR_2 + a_3CR_3 + a_4CR_4 + a_5CR_5 + a_6CR_6 + a_7CR_7 + a_8CR_8 + a_9CR_9 + a_{10}CR_{10}
\]
As illustrated in the model, $Z_R$ captures the costs incurred to produce service recovery as a result of defects occurred during service delivery process in room division which lead to customer’s complaint. Meanwhile, PF and OF referred to the types of failures which were involved defects on interaction of service delivery (process failures) or the defects on core services or product (outcome failures). If the service delivery process was perfect or the service failure could be recovered by apology or correction, $Z_{RPF}$ and $Z_{ROF}$, =0 as there were no compensation given. The users of a model, in this case managers and front-line staff who involved complaint handling, are ultimately interested in knowing “what to do.” In BIP model, the decision variables represent unknown decisions to be made. As similar to all Binary Integer Programming Model, there were only two decision variables involved in this study: to give (1) or not to give (0). The decision variables involved in room was named as $a_i$ and in each of the defects reported, only one type of compensation would be selected. In each condition based on the failure type, bill value, classification of the customer, and many other conditions some limitations will be added to the general model. For example if the customer’s bill is 300$ and the cost of having the customer is 100$, then it is not reasonable to let the hotel pay more than 200$ for the recovery of complaint.

**Result & Discussion**

In the following example the recovery cost is evaluated for the special case that the customer is the gold class customer and failure was a process failure about room with low severity meaning that the customer is not very dis-satisfied.

**Model 1: Gold-Process Failure-Low Severity-Room Type SRA (GPLSA)**

\[
\begin{align*}
\text{Min } & \quad Z_{Ri} = 50CR_1 + 10CR_2 + 53.9 CR_3 + 30CR_6 \\
\text{Subject to:} & \quad CR_1 + CR_2 + CR_3 + CR_6 = 1 \\
& \quad CR_1 + CR_2 + CR_3 + CR_6 \leq Rb - 105
\end{align*}
\]

The solution of the model is (0, 1,0,0) which means the hotel will pay 10 $ room discount to the customer to recover the failure happened. The same process can be performed for the rest of the conditions may happen in the hotel. Multiplications of the model are coming from hotel information and for different hotels may be different.
**Conclusion**

In this paper, an effective service recovery compensation model which aimed at reducing cost operation of hotel industry was proposed. However, there were few limitations of the model that worth to be pinpointed. Firstly, the constraints set in the model were based on the information obtained from Hotel ABC in 2011.

**References**


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