Consumers vs. Revenue Managers? The Case of Cancelations and No Shows

By Zvi Schwartz, P.h.D., Professor, Department of Hospitality and Sport Business Management in the Alfred Lerner College of Business and Economics at the University of Delaware

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About the Author

Zvi Schwartz, P.h.D., professor in the Department of Hospitality and Sport Business Management in the Alfred Lerner College of Business and Economics at the University of Delaware, has over a decade of lodging industry experience as a manager and an entrepreneur. His scholarly research and industry consulting focus on the core technical elements of the revenue management cycle: forecasting, optimization, and monitoring as well as decisions in advanced reservation environments. Profile and Publications. LinkedIn

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An increase in the rate of hotel reservation cancelations and no-shows caused concerns in recent years. Industry and academia pointed out that this trend is troublesome because it is causing significant financial losses (Duetto, 2016; Pederson, 2018). First is the rather obvious issue of losing potential revenues: when customers cancel close to their date of arrival, or when they do not show up on the date of stay, the hotel might not be able to resell the room. Given the last minute nature of the transaction, even if the room is sold, it might not be at an optimal price. In addition, cancelations and no shows present a challenge to the hotel's revenue management practices since they negatively affect forecasting and controls, the two fundamental elements of revenue management.

Forecasting. High rates of cancelation and no shows make forecasting considerably more challenging. To accurately predict daily demand by segment, a revenue manager needs to accurately predict the reservation pick up rate as time nears the date of stay. She also needs to subtract the predicted cancelations and no shows. As with any forecast, these added predicted elements reduce accuracy because they add errors to the final forecast. The larger the predicted levels (of cancelations and no shows), the larger their forecasting errors, and the larger the potential negative impact on the forecast accuracy. Moreover, as explained later,

cancelation and no show rates might be impacted by the revenue management pricing decisions. This results in a rather complex system that is difficult to predict.

Controls. The two main decisions in hotel revenue management are pricing and room's allocation to price levels and to distribution channels. That is, revenue managers set the daily BAR level and the various discount levels (price fences), and how much of the room inventory to make available at each one of the rate levels. The effectiveness of these two crucial revenue management decisions is as likely to be negatively affected by higher rates of cancelation and no shows. The pricing decisions for the inventory of cancelled reservations and no shows are by definition made later, that is, when the rooms is "returned" to the inventory. This is often suboptimal because, for example, a better rate decision could have been made for that room, had it been in the inventory earlier. Another controls example is overbooking. Higher rates of no shows and last-minute cancelations call for higher levels of overbooking. However, overbooking is a risky business. When things go wrong, that is, when hotels over sell, the cost of walking guests could be very high. Hence, higher rates of no shows and cancelations are associated with higher financial risk due to over selling. To summarize, the higher the cancelation and no-show rates, the less effective the revenue management system is.

Customers gaming the system and their impact on revenue management
Of particular concern are cancelations aimed at gaming the system. (Sawier, 2019). A growing number of customers have learned over the years that the strategy of "book and search" could be beneficial. They book a room, reduce their risk of not having a room, but then continue to search for a better deal. When they find a better deal, they cancel their initial reservation and book the better deal. Note that the new better deal reservation could be with a lower rate at the same hotel, or it could be a room in another hotel that the customer perceives to be of a better value.

This strategy of "book and search" is gaining popularity in part because it is supported by easy access to online information. The non-monetary cost (time and effort) of this book and search strategy has come down considerably with the advent of Online Travel Agencies (OTAs) and Meta Searches tools. Furthermore, some online tools provide consumers with relevant assessment of the price's "adequacy." For example, these online services indicate whether the room rate is higher or lower than what it "should be" according to some algorithm. Other online services provide predictions on whether the room rates are likely to come down or go up as the date of stay nears, and even when is likely to be the best time (lowest rate) to book this room. Armed with these tools, more customers are engaging in a "strategic" booking behavior of booking and continuing to search for a better deal.

Finally, recent anecdotal evidence indicates that some customers have learned to "enjoy" these attempts to counter the hotels' revenue management practices. It is suggested that when customers are engaged in behavior such as "book and search," their motivation is not only the expected monetary benefit of cost savings, but there is also a hedonic factor. The customers enjoy the process of finding ways to "outsmart" the hotel pricing strategies. For a discussion about the phenomenon and the model see Schwartz and Chen (2012).

How is this "gaming" approach challenging revenue management? From the hotel's perspective, the most desirable "reaction" to any quoted rate is a straight-forward booking decision that ends there. When customers employ a "book and search" approach, it means more shopping around activity. The more customers shop around, there is more competitive pressure to lower rates. A stronger competitive pressure leads to reduced rates, shrinking revenues and smaller net income for the hotels.

And this is just the beginning. The damage of the "book and search" approach is as profound when it comes to the effectiveness of dynamic pricing and price discrimination. These two pricing tactics are the most important tools in a revenue manager's arsenal of controls. Dynamic pricing is the practice of changing the rate fences, the Best Available Rate (BAR) and the discounts, in response to observed market conditions such as demand shifts. When consumers book-search-cancel-rebook in large numbers, it is likely to mask the "true" demand shifts and result in suboptimal dynamic pricing. Moreover, these sequences are challenging the two important elements of price discrimination, namely the identification (of customers' willingness to pay) and the enforcement (preventing customers with higher willingness to pay from benefiting from discounted rates).

Finally, there is the damage when customers are driven by that hedonic motivation mentioned earlier, that is, when customers might enjoy engaging in slightly risky activities such as "book and search." It was demonstrated (Schwartz and Chen, 2012) that when some of the well-crafted, commonly used, revenue management policies are used with hedonically motivated "gaming" customers, these practices might fail in that they will reduce instead of increase revenues. This happens because they might, inadvertently, encourage the customers and increase their motivation to engage in the "game."

What do Revenue Managers do about this?
The lodging industry appears to respond in two ways to this increasing threat. The obvious response is to tighten the cancelation policies (Miller, 2017; Schlappig, 2014; Wiener-Bronner, 2017). A typical cancelation policy has two elements, the cancelation fee and the cancelation window. Both elements have been tightened by leading hotel chains such as Marriott and Hilton. These and other hotel companies increased the cancelation fee, and shortened the free window, that is, the time before arrival when cancelation is still free of charge. A second recent

development is more sophisticated. Some hotels and OTAs are now treating cancelation terms as a tool in the price discrimination mechanism, and some qualifying discount rates are now associated with stricter cancelation conditions of fee and/or window. In other words, the cancelation policy terms are now a way to identify (willingness to pay) and enforce.
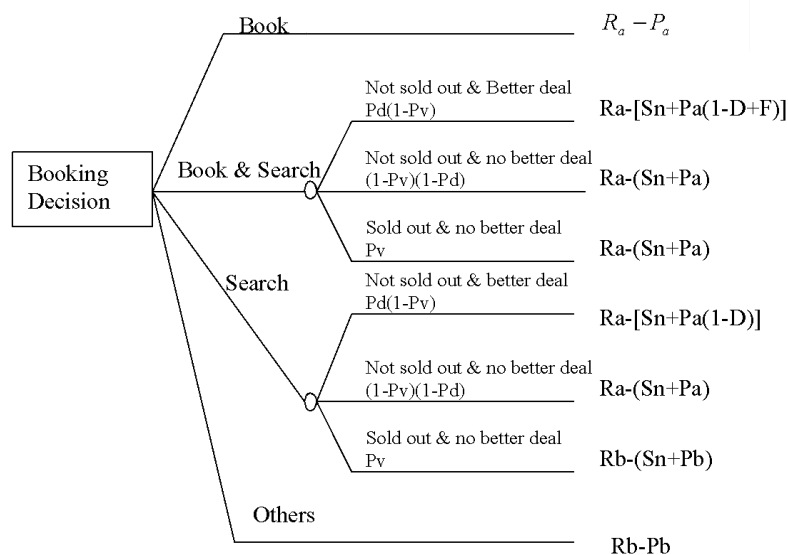
How well do these responses work for the hotels?
The jury is still out there on whether these cancelation policies nudge consumer behavior in a desirable manner, and more studies are needed before we can be more confident about the overall impact on performance. Anecdotal evidence from the industry suggests that tightening the cancelation policies might indeed curtail some of the search and book activity (Ogul, 2015).

It is a bit more complex when it comes to assessing the direct link between the policies and the hotel performance. A study using the pre-pandemic data suggests that when it comes to performance, an overall approach of moderation (both with the fee and the cancelation window or deadline) is most likely to generate the best performance. In that study, performance was measured using the Revenue Per Available Room (RevPAR) Index, that is, comparing the hotels' RevPAR to the average of their primary competitive set. Finally, anecdotal evidence suggests that cancelation policies work well when they are integrated as a price fence. They appear to function well as an identification and enforcement price-discrimination tool but at this time there are not enough published studies to fully assess the advantages, disadvantages, and the overall impact on the hotel performance.

What else can be done?
Research suggests that hotels might have several more tools in their disposal to combat the "book and search." That is, beyond setting the levels of cancelation fees and windows, and connecting the two to price fences, as outlined earlier, hotels could consider other potentially effective actions. Consumer decision models (Schwartz 2000, 2006, 2008) suggest that customers have four alternatives when they react to a quoted room rate. These four actions include book, book and search, search, and other (where other means booking with another hotel or not booking at all). Customers select the strategy such that their utility is maximized given probabilities of outcomes. The decision tree shows that they depend on the hotel quoted rate, Pa, the expectation about a better deal being offered in the future, Pd, and their expectation about rooms' availability, Pv. In addition when selecting the action, the customers consider the cost of search, Sn, and the cost of an alternative hotel (Rn) if while searching for a better deal without first booking, the first hotel is sold out.

Book
$R_a - P_a$

Not sold out & Better deal
Pd(1-Pv)
Ra-[Sn+Pa(1-D+F)]

Booking Decision

Book & Search

Not sold out & no better deal
(1-Pv)(1-Pd)
Ra-(Sn+Pa)

Sold out & no better deal
Pv
Ra-(Sn+Pa)

Search

Not sold out & better deal
Pd(1-Pv)
Ra-[Sn+Pa(1-D)]

Not sold out & no better deal
(1-Pv)(1-Pd)
Ra-(Sn+Pa)

Sold out & no better deal
Pv
Rb-(Sn+Pb)

Others
Rb-Pb

A series of empirical studies and laboratory tests (Chen and Schwartz, 2006, 2008a, 2008b; Chen, Schwartz, & Vargas, 2011) confirmed that hotels can nudge customers to book by controlling these factors. The hotel can create a sense of scarcity (e.g., by stating that few rooms are left at this price) and reduce customers' expectations that a better deal is likely to be offered. That is, the hotel can create the impression that rates are only going to go up in the future and therefore reduce incentive to keep searching. This could be achieved in various ways. For example, by limiting the number of times the hotels offer last-minute discount rates, by crafting messages that allude to the pricing going up overtime time, creating a notion of scarcity (e.g. last three rooms available at this price) etc.

A note on pre/during/post pandemic conditions
Some of the relevant cancelation policies practices have shifted during the pandemic. The expectation, however, is that as the travel industry is returning to normalcy, things will shift back to pre-pandemic settings in general, and in particular in regards to cancelations, no-shows, and the challenge they pose. Furthermore, many hotels removed or lessened cancelation restrictions during the pandemic, that is, consumers enjoyed lenient cancelation policies. This temporary shift could very well lead to customers being even more comfortable with cancelling, and specifically with playing the "book and search" game. If true, it underscores the need to better understand the motivational factor behind this behavior in order to curtail it more efficiently.

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