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Asymmetric preference in hotel room choice and implications on revenue management

Lorenzo Masiero[a,*], Bing Pan[b], Cindy Yoonjoung Heo[c]

[a] School of Hotel and Tourism Management, The Hong Kong Polytechnic University, Hong Kong
[b] College of Charleston, Charleston, SC, USA
[c] Ecole hôtelière de Lausanne, HES-SO/University of Applied Sciences Western Switzerland, Lausanne, Switzerland

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ABSTRACT

In selecting a hotel room, guests evaluate specific room characteristics. After their stay, these characteristics are used as reference levels in deciding which hotel room to stay in the future. According to prospect theory, the gains (i.e., upgrade or improving) and losses (i.e., downgrade or worsening) with respect to the reference level are perceived differently by individuals. In particular, losses are weighted more than gains. This research investigates the asymmetric preference in hotel room choice by performing a stated choice experiment among the guests of a hotel in Hong Kong. A mixed logit model is estimated by deriving different coefficients for improving and worsening conditions, and attribute-specific cluster analyses are performed to identify those segments with similar preferences. The results confirm the validity of reference-dependent specification in hotel room choice and provide insights for revenue managers in relation to their aim to maximize revenue for repeat guests.

1. Introduction

Modern hospitality revenue management (RM) practices are evolving quickly in an increasingly competitive business environment. Revenue managers must understand the behavior of decision makers when establishing their pricing strategies. For example, if a guest values a hotel room with an ocean view much more than one with a city view, managers may set up their room price fences accordingly (Masiero et al., 2015). Deriving a utility function from the decision makers can guide the construction of rate fences and help the hotel achieve maximum revenue (Goldberg et al., 1984).

However, the decisions of consumers are far from perfectly rational: they are affected by limited knowledge, emotions, and reference points (Gigerenzer and Selten, 2002). Prospect theory reveals several key aspects of consumer behavior, namely, reference dependence and loss aversion (Kahneman and Tversky, 1979). Theoretically, such diversion indicates the imbalance between the values that guests place on different gains or losses and on different hotel attributes. Such diversion allows the revenue managers of hotels to arbitrage between increased and decreased prices or to grant and remove certain hotel attributes or conditions. If the guests from different market segments have varying degrees of imbalance, hotel managers may set up more refined pricing fences on each segment to increase their revenues.

Stated choice experiments are widely implemented to calculate consumers' utility functions (Louviere et al., 2000). This study performs a stated choice experiment and utilizes discrete choice modeling techniques to investigate the applicability of asymmetric preference, as introduced by prospect theory, in choosing a room in a single hotel property. Hotel room choices were collected from 651 guests. The asymmetric preference of these guests across different hotel attributes is validated by considering their current room as their reference point. The results show that the weights of gains and losses also vary across different market segments. Hotel revenue managers can utilize these findings when setting up rate fences and making strategic pricing decisions.

2. Literature review

2.1. Prospect theory

Prospect theory has been applied in various areas, including economics, finance, decision sciences, organization management, and marketing management. A growing literature on economic behavior suggests that the preferences of consumers are reference dependent. The evaluation of an outcome is affected by comparison of the outcome with a reference point (Allen et al., 2014). Proposed by Kahneman and Tversky (1979), Prospect Theory posits

* Corresponding author.
E-mail addresses: lorenzo.masiero@polyu.edu.hk (L. Masiero), bingpan@gmail.com (B. Pan), cindy.heo@ehl.ch (C.Y. Heo).

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that individuals evaluate outcomes not on their absolute level, but on their deviation from the reference point. In other words, how an individual evaluates the outcome of a choice is often determined by its contrast with a reference point (Kőszegi and Rabin, 2006). This reference-dependent preference (Munro and Sugden, 2003; Tversky and Kahneman, 1991) suggests that individuals evaluate outcomes as gains or losses relative to a neutral reference point. Given that the reference point categorizes outcomes into gains or losses, the evaluation of outcomes differs above or below such reference point. Individuals react more strongly to losses than to gains (Kahneman and Tversky, 1979), thereby making asymmetric preference as a manifestation of loss aversion behavior. Many empirical studies have found evidence of loss aversion (e.g., Kahneman et al., 1990; Tversky and Kahneman, 1991; Barberis et al., 2001).

Several tourism and hospitality researchers have adopted the concept of reference point to explore various topics, including destination choice (e.g., Nicolau, 2011, 2012), human resources (e.g., Matzler and Renzl, 2007), customer satisfaction (e.g., Füller et al., 2006), online consumer reviews (e.g., Park and Nicolau, 2015), fairness adjustments in the airline and hotel sectors (e.g., Mathies et al., 2013), and price perception (e.g., Wirtz and Kimes, 2007). Mathies et al. (2013) examined how the simultaneous use of customer-centric marketing and RM affects the fairness perceptions of guests and their purchasing choices. They tested a choice model that incorporated reference-dependent fairness adjustments for both price and non-price attributes. The results showed that the reference-dependent adjustments depend on both the direction of and the degree to which an observed attribute level differs from its respective reference point. Nicolau (2011) examined the asymmetric effects of loss aversion by investigating whether individuals show interests in culture when choosing a destination and found that culture-interested tourists are less loss averse. Nicolau (2012) investigated the degree of loss aversion dispersion in the tourism sector and discovered the potential existence of groups of tourists that show varied asymmetric responses to price. By performing a stated choice experiment, Román and Martín (2016) found asymmetries in the hotel attributes preference formation of guests of various hotels in Gran Canaria (Spain).

Oh (2003) discussed several implications of prospect theory to the hospitality industry. A hotel that consistently provides quality service tends to be viewed more favorably than hotels that inconsistently provide better quality. This is because customers tend to overweight a decision outcome that can be obtained with certainty. Furthermore, the isolation effect of prospect theory suggests that customers do not seriously consider the product characteristics that are common to all alternative options in their choice set, thereby producing inconsistent context-dependent preferences (Oh, 2003). Few researchers in the hospitality field have further discussed the implications of the framing effect of prospect theory in the RM pricing context. Framing effect refers to the way in which a choice can be influenced by how such choice is presented to the consumers. Prospect theory implies that the changes from reference points may be valued differently depending on whether they can be classified as gains or losses. Specifically, individuals tend to be more sensitive to losses relative to their reference point than to gains. In other words, loss aversion indicates the asymmetric effects of gain and loss situations on various purchase-related evaluation situations. In RM pricing, Kimes and Wirtz (2003) validated that those price differences that are framed as gains are perceived as fairer than those that are framed as losses even if these situations are economically equivalent.

2.2. Repeat purchase behavior of consumers

Many service businesses are not only concerned with attracting new customers, but also with maintaining repeat customers because attracting a new customer requires more efforts than retaining an existing one. Long-time customers are more profitable to service providers as they tend to purchase more frequently and in greater quantity than new customers (Reichheld and Sasser, 1990). Depending on the industry, a 5% increase in customer retention leads to a 25% to 85% increase in profits (Kerin et al., 2009; Reichheld and Sasser, 1990). Given that the repurchase behavior of consumers leads to long-term profitability for the firm, service providers must identify those factors that influence the repurchase decisions of their customers. Therefore, consumer behavior is modeled on the basis of the choices of consumers and the repeat purchase of various consumer goods and services (e.g., Bawa, 1990; Chintagunta, 1993; Erdem, 1996; Guadagni and Little, 1983; Harris and Uncles, 2007; Petrick et al., 2006). Managers and researchers use customer satisfaction to understand and predict the future behavior of consumers. The perceived quality-satisfaction-behavioral model has also become an important tool in marketing research. Several researchers have found a direct and positive relationship between customer satisfaction and repurchase intention.

The relationship marketing literature suggests that despite its importance in encouraging repurchase intention, satisfaction does not automatically lead to repurchase behavior (Reichheld and Aspinall, 1993). Some scholars have emphasized the crucial role of commitment in building long-term relationships and encouraging repurchase behavior among consumers. Moorman et al. (1992) defined relationship commitment as an enduring desire to maintain a valued relationship. Morgan and Hunt (1994) argued that commitment is positively related to loyalty and repeated purchase because relationship performance is crucial in promoting repurchase decisions in a relational exchange. Achieving satisfaction can strengthen the loyalty of consumers, which in turn increases their tendency to repurchase services (Law et al., 2004; Hicks et al., 2005).

Other scholars have proposed value perceptions as superior indicators of repurchase intentions (Beng, 1999; Petrick, 2002). Cronin et al. (2000) stated that perceived value might be a better predictor of repurchase intention than either satisfaction or quality. Perceived value results from the pre-purchase expectations, transaction assessments, and post-purchase (after-consumption) evaluations of consumers and is critical to the success of consumer-service provider relationships (Lemon et al., 2001). Several researchers have asserted that repurchase behavior is achieved when the customers perceive their transaction with the service providers as valuable. Mittal and Sheth (2001) argued that those service providers that could deliver more value than their competitors would effectively encourage the repurchase behavior of their customers. Some researchers have examined how and why consumers repurchase particular products or services to predict their future behavior or to infer the effect of marketing strategies.

Scholars in the tourism and hospitality field have also examined the repurchase behavior of consumers. Most tourism studies on repeat visitation have investigated the satisfaction construct and its antecedents and found that revisit intention is a consequence of tourist satisfaction (Bigne et al., 2001). Many studies have also identified satisfactory travel experience as the major antecedent of revisit intention (Oppermann, 2000; Baker and Crompton, 2000; Petrick et al., 2001; Kozak, 2001; Jang and Feng, 2007; Alexandris et al., 2006; Chi and Qu, 2008). However, satisfaction with past experience may not be sufficient to explain re-patronage behavior because many customers do not always return to the same service providers despite their satisfaction. Satisfied customers may still switch to other service providers due to their attempt to receive better service or to try something novel or different for fun or thrill (Steenkamp and Baumgartner, 1992).

In summary, the consumer repurchase behavior literature shows that the past experience of consumers with the same product or service is a fundamental aspect of their repurchase decision. By