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Brand Extension and Customer Loyalty Evidence from the Lodging Industry

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Abstract

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"Lodging is a brand-equity business—(that) is the backbone of expansion. By building equity in its brand, a lodging company is able to “sell” its name to hotel owners and franchisors, and also able to reach consumers, thereby generating the demand to support expansion."

Consumers often base their hotel-stay decisions on their perception of a specific hotel's brand name. The United States now has over 200 hotel brands competing for business, more than in any other product category. Many of these brands are extensions of existing brand names. Brand extension is the practice of introducing a new brand (differentiated by market segment) using a well-established brand name as leverage.

Keywords

brand management, loyalty, hotel industry, brand extension

Disciplines

Hospitality Administration and Management | Marketing

Comments

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Brand Extension and Customer Loyalty

Evidence from the Lodging Industry

Hotel-brand extensions help retain customers—but only up to a point.

BY WEIZHONG JIANG, CHEKITAN S. DEV, AND VITHALA R. RAO

Building and successfully managing strong brands is considered to be one of the key drivers of success in the hotel industry. CEOs of hotel companies that own brands recognize that brand equity drives stock price and shareholder value. This sentiment is echoed on Wall Street, as the following comment indicates:

Lodging is a brand-equity business—(that) is the backbone of expansion. By building equity in its brand, a lodging company is able to “sell” its name to hotel owners and franchisors, and also able to reach consumers, thereby generating the demand to support expansion.¹

Consumers often base their hotel-stay decisions on their perception of a specific hotel’s brand name. The United States now has over 200 hotel brands competing for business, more than in any other product category. Many of these brands are

extensions of existing brand names. Brand extension is the practice of introducing a new brand (differentiated by market segment) using a well-established brand name as leverage. One of the earliest examples of brand extension in the hospitality industry occurred in 1981, when Quality Hotels (now Choice Hotels) diversified its line into product tiers, including Comfort Inns and Quality Royale (now Clarion).² Ramada inaugurated Ramada Hotels and Renaissance Hotels that same year. Radisson had already experimented with brand extension in the 1970s, with Radisson Inns, Resorts, and Plaza Hotels. The subsequent burst of brand extensions included Holiday Inn’s introduction of Holiday Inn Express and Holiday Inn SunSpree Resorts in 1991, the upscale Holiday Inn Crowne Plaza in 1983, followed by Holiday Inn Select in 1994,

² See: Joan S. Livingston, “A Burst of Tiers: The Scorecard,” *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 26, No. 3 (November 1985), pp. 36–38.

¹ Morgan Stanley, “Globalization: The Next Phase in Lodging” (a Morgan Stanley report), May 5, 1997.

and Staybridge Suites by Holiday Inn in 1998.³ Marriott introduced its successful Courtyard by Marriott brand extension in 1983,⁴ while Hilton added its name to the Homewood Suites line after Hilton's acquisition of Promus in 2000.⁵ The above examples are just some of the many hotel companies that have tried to capitalize on their brands' goodwill through brand extension. Most major hotel companies have at least one brand

The strategy of brand extension is aimed at encouraging customers to patronize a brand family on various occasions.

extension, implying that hotel chains consider the strategy to be successful. There are two dangers in creating multiple sub-brands, however. First, managing many brands can complicate and possibly overwhelm the core corporate structure. Second, having the same name on a large number of products can wear out the parent brand's equity. That second possibility is the topic of this article's study. Before considering a brand extension, a hotel firm must evaluate the potential influence on the brand as a whole. Specifically, this study is an attempt to estimate empirically whether brand extensions encourage guests to repeat their stay with a particular chain's brands.

Targeted markets. A brand-extension strategy allows firms to penetrate a variety of market segments with differentiated products that carry a single, well-established brand name. Hotel firms see several advantages to brand extensions, including quicker acceptance of new products by

consumers, economies of scale in marketing-support expenditures,⁶ lower risk associated with introduction of new products,⁷ and retention of guests. There are disadvantages in using brand extensions as well, however, including managerial complexities (e.g., establishing corporate structure to support multiple brands and determining the criteria for monitoring the performance of multiple operational units), marketing issues (e.g., positioning the brand and achieving clarity in the associated marketing message and avoiding cannibalization of one brand by another), and challenges in customer-relationship management (e.g., establishing and maintaining brand-specific customer-service quality standards).⁸

Despite many noteworthy contributions, the brand-extension literature suffers from two significant limitations. First, most of the existing studies are not based on actual sales data, but rely instead on laboratory experiments.⁹ In contrast, our study combines actual sales data collected via a survey of lodging customers' purchase experiences with secondary data gathered from business publications. Second, past studies inves-

⁶ David Arnold, *The Handbook of Brand Management* (Reading, MA: Addison-Wesley Publishing Company, 1992), p. 142.

⁷ Jean-Noel Kapferer, *Strategic Brand Management* (New York: The Free Press, 1992), p. 113.

⁸ See: David A. Aaker and Kevin L. Keller, "Consumer Evaluations of Brand Extensions," *Journal of Marketing*, Vol. 54 (January 1990), pp. 27-41; Peter H. Farquhar, Julia A. Han, Paul M. Herr, and Yuji Ijiri, "Strategies for Leveraging Master Brands: How to Bypass the Risks of Direct Extensions," *Marketing Research*, September 1992, pp. 32-43; Barbara Loken and Deborah R. John, "Diluting Brand Beliefs: When Do Brand Extensions Have a Negative Impact?," *Journal of Marketing*, Vol. 57 (July 1993), pp. 71-84; David A. Aaker, *Building Strong Brands* (New York: The Free Press, 1996), p. 240; and Byung-Do Kim and Mary W. Sullivan, "The Effect of Parent Brand Experience on Line Extension Trial and Repeat Purchase," *Marketing Letters*, Vol. 9, No. 2 (1998), pp. 181-193.

⁹ For example, in one type of lab test subjects (often students) are exposed to (usually fictitious) brands and brand extensions and are then asked to respond to them. See: Loken and John, *op.cit.*; Peter A. Dacin and Daniel C. Smith, "The Effect of Brand-portfolio Characteristics on Consumer Evaluations of Brand Extensions," *Journal of Marketing Research*, Vol. 31, May 1994, pp. 229-242; and Susan M. Broniarczyk and Joseph W. Alba, "The Importance of the Brand in Brand Extension," *Journal of Marketing Research*, Vol. 31, May 1994, pp. 214-228.

³ See: Laura Bly, "Come Inn off the Highway," *USA Today*, May 24, 2002, p. 1D.

⁴ See: Christopher W.L. Hart, "How Marriott Developed Courtyard," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 27, No. 3 (November 1986), pp. 68-69.

⁵ Coopers & Lybrand LLP, "Product Differentiation and Innovation in a Maturing Lodging Industry: A Review of Brand Introductions in the 1980 to 1996 Period," *Coopers & Lybrand Hospitality Directions*, February 1997, pp. 25, 27.

tigated what we consider to be an insufficient breadth of brand extension (typically, one brand and one extension). That limitation reduces the applicability of those studies to actual corporate brand extensions, which often involve multiple brands. Our study, on the other hand, examines multiple brand extensions within several chains.

Our research seeks to provide insights into the brand-extension phenomenon in the lodging industry by testing whether hotels can increase customer loyalty by introducing brand extensions. We posit that brand extensions can increase customer loyalty by increasing the switching costs from a particular brand family to a competitor's brand. With extensions, firms can reach distinguishable groups of consumers with diverse needs. Customers familiar with a brand are more likely to patronize an extension of that brand rather than take risks with an unfamiliar brand (which risk is part of switching costs). If there is an "extension effect," the probability of a customer's staying within a corporate brand family (or, equivalently, a brand system or a brand portfolio) will be proportionally greater than the number of brands offered by that corporation, all other factors being equal.¹⁰

In the sections below we present the findings of our work in this area and discuss their relevance and potential applications in the lodging industry. First, we develop a model and relevant research questions based on the extant literature. Next, we describe the data used in estimating and validating our model, followed by a section in which we describe the analysis. After presenting our results and discussion, we note the limitations of our study, suggest directions for further research, and propose managerial implications. In this study, we looked at consumers' lodging choices as a way of evaluating brand extension.

¹⁰ First, it is assumed that customers have at least some information about whether a brand is an extension of a given corporation. Otherwise, the extension is meaningless. Secondly, the meaning of a "proportional" draw is as follows: Suppose the market has two corporations, where one has two brands and the other has three, assuming all brands are equivalent. If there is no extension influence, the first corporation will draw a 2/5 portion of customers and the other 3/5, *ceteris paribus*. If there is a positive effect of the extension length (i.e., the number of sub-brands) of the second corporation, it will draw more than 3/5 of the total customers. If the extension effect is negative, the second corporation will draw less than 3/5 of the total customers.

Corporate Extension

The literature on brand extensions suggests that firms could use brand extensions to influence consumers' brand choices. Since product differentiation allows markets to be segmented based on varieties, less inter-variety competition takes place as differentiation increases.¹¹ Thus, for example, the old one-size-fits-all full-service hotel finds itself losing customers at the margin, as they seek carefully targeted products. The result of increased differentiation is that new entrants may be deterred by the barrier of learning costs.¹² Brand extensions are believed to be an appropriate approach to breaking the entry barriers between product categories through the carryover of a brand's reputation.¹³

Corporate extension occurs when a corporate brand is the endorsing brand (or master brand) that launches sub-brands (or, differentiated brands) into various product-quality levels.¹⁴ Examples of such extension include DKNY by Donna Karan, Chaps by Ralph Lauren, Holiday Inn Express by Holiday Inn, and Courtyard by Marriott. Based on the variables defined above, we developed the "extension and brand switching" (EABS) model to estimate customer-retention rates for a firm with brand extensions.

We also examine the "extension effect" by market segment. There is some support in the

¹¹ Norman J. Ireland, *Product Differentiation and Quality: The New Industrial Economics*, ed. G. Norman and M. La Manna (Brookfield, VT: Edward Elgar, 1993), p. 84.

¹² Jean Gabszewicz, Lynne Pepall, and Jacques-Francois Thisse, "Sequential Entry with Brand Loyalty Caused by Consumer Learning-by-using," *Journal of Industrial Economics*, Vol. XL, December 1992, pp. 397–416.

¹³ See: Bruce Lyons, "Barriers to Entry," in *Economics of Industrial Organization: Surveys in Economics*, ed. Stephen Davies and Bruce Lyons with Huw Dixon and Paul Geroski (New York: Longman Group UK Limited, 1988), pp. 45–46; Arnold, *loc. cit.* (p. 142); C.J. Choi and Carlo Scarpa, "Credible Spatial Preemption through Reputation Extension," *International Journal of Industrial Organization*, Vol. 10 (1992), pp. 439–447; Henry G. Grabowski and John M. Vernon, "Brand Loyalty, Entry, and Price Competition in Pharmaceuticals after the 1984 Drug Act," *Journal of Law and Economics*, Vol. 34, October 1992, pp. 331–350; Richard J. Gilbert and Carmen Matutes, "Product-line Rivalry with Brand Differentiation," *Journal of Industrial Economics*, Vol. 41, No. 3 (1993), pp. 223–240; and Aaker, pp. 277, 295.

¹⁴ Farquhar *et al.*, *op. cit.*

Data Sources

1. Sources for parent-company information

- (a) *AD \$ SUMMARY*, January–December 1994, Competitive Media Reporting & Magazine Publishers of America.
- (b) *AD \$ SUMMARY*, January–December 1995, Competitive Media Reporting & Magazine Publishers of America.
- (c) “The Chain Report,” *Lodging Hospitality*, August 1994, pp. 43–46.
- (d) “Economy Lodging: Not Just a Cheap Room,” *Lodging Hospitality*, August 1994, pp. 52–53.
- (e) “The Chain Report,” *Lodging Hospitality*, August 1995, pp. 53–56.
- (f) “The Brand Report,” *Lodging Hospitality*, August 1996, pp. 53–56.

Notes: Direct parent companies, instead of ultimate parent companies, were used. Data for some brands were cross-validated by consulting the internet.

2. Sources for advertising data

- (a) *AD \$ SUMMARY*, January–December 1994, Competitive Media Reporting & Magazine Publishers of America.
- (b) *AD \$ SUMMARY*, January–December 1995, Competitive Media Reporting & Magazine Publishers of America.

Notes: The advertising expenditure is the sum of ad expenditures by a product line or a parent company in 1994 and 1995 on all major media. Advertising expenditures for brands that do not appear in *AD \$ SUMMARY*, (owing to negligible spending) were set to zero.

3. Sources of data for physical-availability measure

- (a) 1994 Directory of Hotel & Motel Companies, American Hotel & Motel Association.
- (b) 1995 Directory of Hotel & Motel Companies, American Hotel & Motel Association.
- (c) 1996 Directory of Hotel & Motel Companies, American Hotel & Motel Association.
- (d) “The Chain Report,” *Lodging Hospitality*, August 1994, pp. 43–46.
- (e) “Economy Lodging: Not Just a Cheap Room,” *Lodging Hospitality*, August 1994, pp. 52–53.
- (f) “The Chain Report,” *Lodging Hospitality*, August 1995, pp. 53–56.
- (g) “The Brand Report,” *Lodging Hospitality*, August 1996, pp. 53–56.

Note: Availability was measured by the average number of properties from 1994 through 1996.

literature for treating business and leisure travelers differently because customers in those two segments have distinct needs and respond differently to marketing stimuli.¹⁵ Therefore, we analyze the relationship between extension and brand switching for both the business and leisure segments.

Controls. Finally, the literature on brand switching has shown that many other factors in addition to brand extension affect brand switching.¹⁶ While we don't explicitly address control variables in this study, we did include these in our analysis and report the data on them.

Various determinants of brand-switching behavior can be classified into four groups: branding variables, pricing variables, context characteristics, and customer characteristics. Among branding variables, brand reputation and distribution are important factors as customers choose a brand.¹⁷ A brand's reputation is created, recognized, and managed largely through advertising.¹⁸ Distribution includes availability and the number of choices available via brand extensions.¹⁹ Price variables influence brand choices through price competition via reference price, current price, and market concentration.²⁰ Context vari-

¹⁵ Michael S. Morgan, “Traveler's Choice: The Effects of Advertising and Prior Stay,” *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 32, No. 4 (August 1991), pp. 40–49.

¹⁶ Michael S. Morgan and Chekitan S. Dev, “An Empirical Study of Brand Switching for a Retail Service,” *Journal of Retailing*, Vol. 70, No. 3 (1994), pp. 267–82.

¹⁷ Jacob Jacoby, George J. Szybillo, and Jacqueline Busato-Schach, “Information Acquisition Behavior in Brand Choice Situations,” *Journal of Consumer Research*, Vol. 3, March 1977, pp. 209–216.

¹⁸ See: Pauline M. Ippolito and Alan D. Mathios, “Information, Advertising, and Health Choices: A Study of the Cereal Market,” *RAND Journal of Economics*, Vol. 21, Autumn 1990, pp. 459–480; Joseph P. Guiltinan and Gordon W. Paul, *Marketing Management: Strategies and Programs* (New York: McGraw-Hill, 1991), p. 262; Morgan, *op. cit.*; and Jan S. Hogendorn, *Modern Economics* (Englewood Cliffs, NJ: Prentice-Hall, 1995), p. 210.

¹⁹ Philip Kotler, *Marketing Management: Analysis, Planning and Control* (New York: Prentice-Hall, 1999).

²⁰ See: George J. Stigler, “The Economics of Information,” *Journal of Political Economy*, Vol. 69, No. 3 (1961), pp. 213–225; Lattin and Bucklin, *op. cit.*; Rajiv Grover and V. Srinivasan, “Evaluating the Multiple Effects of Retail Promotions on Brand Loyal and Brand Switching Segments,” *Journal of Marketing Research*, Vol. 29, February 1992, pp. 76–89; and Morgan and Dev, *op. cit.*

ables include satisfaction²¹ and customers' incentives and costs for market search,²² while customer characteristics embrace such factors as income and occupation.

Based on the literature cited in the above discussion, we identified the following control variables that could potentially influence a customer's choice among alternative brands: brand availability, switching cost, extension, price, preference, and search costs.

Measuring Brand Names

We measure the main effect of the brand-extension variable by the number of brand names in the product line. We expect that as the number of brands within a family rises, the probability of switching to brands outside the family decreases. That effect can be attributed to the dominance of the parent brand caused by the synergy of promoting a common name across a number of market segments. Alternatively, however, extension could dilute the brand, and we could find that as the number of extensions increases, switching out of the brand would also increase. If that were true, we would see a non-linear effect of the number of brand extensions on brand switching. We investigated empirically whether brand switching has a straight-line relationship with extensions or one that is U-shaped.

Controls. Although we don't discuss the following control factors, we do offer estimates of them. *Availability* is the number of properties a brand has in various markets. *Switching costs* were measured by frequency of hotel stays prior to the current (t -th) stay; *advertising* was measured by a brand's advertising expenditures; and *publicity* was measured by a public ranking of hotel chains. *Price* was measured using the actual prices of the hotel at the current (t -th) stay and next ($t+1$ -th) stay, along with price dispersion across brands reflected in the number of prices facing a consumer and the variability among those prices.

²¹ See: Morgan and Dev, *op. cit.*; and Thomas S. Stewart, "A Satisfied Customer Isn't Enough," *Fortune*, Vol. 21, July 1997, pp. 112–113.

²² See: Stigler, *op. cit.*; Howard P. Marvel, "The Economics of Information and Retail Gasoline Price Behavior: An Empirical Analysis," *Journal of Political Economy*, Vol. 84, October 1976, pp. 1033–1060; and Morgan and Dev, *op. cit.*

Preference measures changes in travel destination, changes in location (e.g., from highway to urban to suburban), changes from a suite to a non-suite hotel, changes from a resort to a non-resort hotel, and changes to a different price tier.²³ *Market search* was measured using time between visits, a prior stay's level of satisfaction, number of nights stayed per hotel visit, group size, whether the customer has visited the hotel before, and whether the customer traveled outside of the immediate geographical region. *Demographic characteristics* include income, employment status, educational attainment, and travel intensity during the last twelve months.

Empirical Analysis

In this section, we first describe the data sources and the data-management procedures. Then, we present descriptive statistics and correlation analyses. Finally, we outline the criteria for assessing the quality of our analysis and present the major findings. We chose the lodging industry for our study because it is one of the few businesses that employ brand extensions on a widespread basis, giving us a rich context within which to test our hypotheses. By one estimate, nearly 70 percent of all hotels in the U.S. are branded.²⁴ Most of these are small chains, although some chains are large, indeed. While the number of chains is smaller in Europe and Asia than it is in the United States, that number is growing rapidly. Brand managers and franchisees alike would benefit from knowing whether extensions are associated with customer loyalty, a source of significant revenue and profit for both.

As we mentioned above, our data are drawn from two sources (see the list at left). The first part comprises consumer-survey data collected by D.K. Shifflet & Associates, a marketing-research firm that sends out 25,000 questionnaires every month to a demographically balanced sample from the National Family Organization (NFO) ombudsman panel. Only

²³ Dummy variables take the value of one if there is a change (for instance, in destination or location) and zero otherwise.

²⁴ Stephen Rushmore, "Hotel Franchising: How to Be a Successful Franchisee," *Real Estate Journal*, Summer 1997, p. 56.

Analysis and Results

Because the response variable is dichotomous (switch, no switch), we fitted a logistic regression to the data. We appraised the quality of the fitted model on the following criteria: **(a)** a -2 LOG likelihood statistic that tests the global null hypothesis that the coefficients of all the explanatory variables in the model are zero; **(b)** a Hosmer and Lemeshow goodness-of-fit test placing subjects into deciles based on the model-predicted probabilities and computing a Pearson chi-square test based on the observed and expected number of subjects in the deciles; and **(c)** external cross validation using the holdout sample.¹

Results

Quality of calibration. The logistic regression model fits well for both segments. The model chi-square is 1601.794 with 16 degrees of freedom (p -value is 0.0001) for the leisure segment, and 1613.48 with 16 degrees of freedom (p -value is 0.0001) for the business segment. Therefore, both regressions are significant. The Hosmer and Lemeshow goodness-of-fit chi-square values for both segments are low, showing that model predictions correspond to observed frequencies. Thus, there is strong evidence for a good fit of the model to the calibration data sets. Further, the coefficients of all the variables show the expected signs, with the exception of the current-price variable. (Note that our hypothesis on price was specified conditionally in the accompanying article.)

External validation. For the leisure travelers in the holdout sample, our model correctly predicts 413 of 506 switching decisions (81.6%) and 248 of 282 repeated-buying decisions (87.9%), for a hit rate of 83.88 percent, for the leisure segment. For the business segment, the model correctly predicts 334 of 408 switching decisions (81.9%) and 198 of 230 repeated buying decisions (86.1%), which yields a hit rate of 83.38 percent. These statistical results indicate that our model has high predictive ability.

Extension length and switching. To examine the existence of possible nonlinear effects of the number of extensions, we used extension length (X) and its square (X^2) in the model. Our results show that extension length has a negative and highly significant effect on the probability of across-family switching. This is true for both the leisure and business segments. In addition, the squared term of extension length is also significant. The estimated equations for across-family switching can be expressed as:

$$\log \left(\frac{\Pi_{it}^F}{1 - \Pi_{it}^F} \right) = 0.2747 \times X^2 - 1.4183 \times X + c$$

for the leisure segment, and, for the business segment:

$$\log \left(\frac{\Pi_{it}^F}{1 - \Pi_{it}^F} \right) = 0.2111 \times X^2 - 1.1692 \times X + c$$

where X is the length of corporate extension. The term c in the right-hand side contains the effects of holding all the variables constant in the model. Since the left-hand side expressions (log-transformed odds) are monotonically increasing functions of the probabilities of across-family switching, minimizing the probabilities is equivalent to minimizing the log-transformed odds.

¹ David W. Hosmer and Stanley Lemeshow, *Applied Logistic Regression* (New York: John Wiley & Sons, 1989), p. 171.

those respondents who made at least two hotel stays in consecutive months during the most recent three-month period are included in the Shifflet data. These survey data include information on individual prices paid, trip context, and customer characteristics.

The second data set consists of lodging-firm characteristics collected from secondary sources. These characteristics include parent-company affiliation, member brands, advertising expenditures, and numbers of units (see the accompanying box for details). We were able to gather secondary data of this kind for 88 brands. Of those 88 brands that we studied, 42 brands had no extension, 16 had one extension, 13 had two extensions, 12 had three extensions and 5 had four extensions. The secondary data are taken from the time period comparable to that of the survey data.

Two additional variables are generated after merging the data. The length of corporate extensions is calculated as the number of line brand names a corporation has in the survey data set. The number of lodging firms in a metropolitan statistical area (MSA) is calculated from the survey data according to the parent-company information we collected.

Big chains. We retained only those observations for the most recent two hotel stays for each respondent, leaving a data set comprising 31,467 observations. Using only the most recent stays minimizes recall bias as much as possible.²⁵ Standard techniques are applied to handle the missing observations.²⁶ For efficiency, we retained a random sub-sample of 6,840 observations for final analysis, among which we used about 80 percent, or 5,414 observations, for model calibration and the remaining 20 percent, or 1,426 observations, as a hold-out sample for testing the model's predictive ability. Our analysis data set included information for 46 parent hotel com-

²⁵ Morgan and Dev, *op. cit.*

²⁶ Missing values of a categorical variable are put into a separate category. In doing so, we assume that the observations are homogeneous in that category. We will not interpret the effect of that category. Missing values of a continuous variable are replaced with the means that are calculated based on the observations with profiles similar to those of missing observations.

EXHIBIT 1

Descriptive statistics

Segment means and standard deviations

Variables	Both (N = 5,414)		Leisure (n = 2,905)		Business (n = 2,509)	
	Mean	SD	Mean	SD	Mean	SD
Response						
Across-family switching rate	0.65	—	0.64	—	0.65	—
Branding						
Advertising (000s)	\$34,723.00	\$17,655.00	\$34,143.82	\$16,812.79	\$35,393.00	\$18,563.00
Physical availability	1,737.46	1,455.81	1,937.90	1,477.76	1,505.38	1,394.73
Vertical extension	2.54	1.25	2.67	1.26	2.40	1.22
Price competition						
Reference price	\$62.47	\$32.25	\$58.42	\$29.29	\$67.16	\$34.78
Current price	\$63.30	\$31.72	\$57.40	\$26.98	\$70.14	\$35.24
Market concentration	13.35	8.93	13.73	9.49	12.90	8.22
Context characteristics						
Switching destination	0.74	0.44	0.76	0.43	0.72	0.45
Switching location	0.31	0.46	0.32	0.47	0.29	0.46
Information investment	0.32	0.47	0.27	0.44	0.37	0.48
Satisfaction	7.26	2.11	7.36	2.15	7.15	2.06
Customer characteristics						
Categorized income	13.80	4.62	13.22	4.73	14.46	4.40
Occupation	0.72	0.45	0.63	0.48	0.82	0.38

panies, representing all the large hotel chains operating in the United States.

To account for the effect of price, we used three control variables: reference price, current price, and market concentration.²⁷ Reference price is the price paid during the first stay, while current price is the price paid during the second stay. Market concentration is the number of brands in the market during the second stay. To account for changes in context, we include as factors the change in destination, change in location, familiarity with the destination from a prior stay, and

satisfaction with first stay's brand family. We use income (on a 20-category scale) and occupation (professional or not) to account for consumer characteristics. Exhibit 1 shows some of the descriptive statistics by segment.

Brand switchers. Overall, the switching rate across brand families is 65 percent. That is, 65 percent of the travelers in our sample switched brands from the first stay to the second stay. This is a measure of customer turnover (not to be confused with sales turnover, which is used as a measure of sales in some countries). Any action that managers can take to reduce customer turnover could result in higher financial performance by lowering customer-acquisition costs. We examine here whether brand extensions can help lower that turnover level.

²⁷ See: Russell S. Winer, "A Reference Price Model of Brand Choice for Frequently Purchased Products," *Journal of Consumer Research*, Vol. 13 (September 1986), pp. 250–256; and Lattin and Bucklin, *op. cit.*

EXHIBIT 2

Correlation matrix

	Advertising	Physical availability	Vertical extension	Reference price	Current price	Market concentration	Switching destination	Switching location	Information investment	Satisfaction	Categorized income	Occupation
Branding												
Advertising	1.00	0.38	0.28	0.07	0.03	-0.04	0.02	0.00	-0.01	0.00	0.03	0.02
Physical availability	0.31	1.00	0.72	-0.32	-0.17	-0.01	-0.04	-0.05	-0.01	-0.02	-0.11	-0.08
Vertical extension	0.30	0.73	1.00	-0.25	0.15	0.00	-0.03	-0.05	-0.01	0.13	-0.10	-0.04
Price competition												
Reference price	0.05	-0.37	-0.26	1.00	0.43	0.00	0.03	0.05	-0.07	-0.06	0.23	0.14
Current price	0.06	-0.22	-0.15	0.47	1.00	0.03	0.05	0.06	-0.06	0.00	0.20	0.10
Market concentration	-0.03	0.02	0.01	0.01	0.04	1.00	-0.26	0.01	-0.01	0.03	0.00	-0.06
Context characteristics												
Switching destination	0.01	-0.05	-0.03	0.11	0.12	-0.12	1.00	0.12	-0.11	-0.05	0.07	0.10
Switching location	-0.02	0.00	-0.01	0.03	0.06	0.00	0.20	1.00	-0.17	-0.01	0.03	0.04
Information investment	0.02	0.02	0.02	-0.03	-0.11	-0.01	-0.18	-0.22	1.00	0.05	0.00	-0.01
Satisfaction	-0.01	-0.04	0.00	0.21	0.26	0.04	-0.04	-0.01	0.01	1.00	-0.06	-0.06
Customer characteristics												
Categorized income	-0.01	-0.16	-0.11	0.21	0.26	0.00	0.05	0.01	-0.02	-0.07	1.00	0.23
Occupation	0.04	-0.12	-0.09	0.17	0.18	-0.03	0.05	0.03	-0.03	-0.02	0.28	1.00

Leisure segment

Business segment

In Exhibit 2 we present a correlation analysis for the variables described above. Because the industry tends to treat business and leisure travelers as two distinct segments, we present the correlations for each segment. There were no serious collinearity problems noted, except between extension length and physical availability. This high correlation is what we expected, however, because large chains are developing the majority of brand extensions. We retained both of the variables in the model because we used each to represent a different construct controlled for in the model of brand switching. In Exhibit 3 we present the estimates for the control variables of interest.

Results and Discussion

To the best of our knowledge, our study is the first empirical attempt to derive the ideal num-

ber of extensions. Exhibit 4 (overleaf) gives a visual representation of the relationship between the corporate extension length and the probability of brand switching. This is our main and most significant contribution to the literature on brand management.

Three's a charm. Customers are less likely to switch brands when the length of brand extension is around three.²⁸ That is, when they offer up to three extensions, brands are able to retain additional customers by offering a choice of segments under the same name. We reason that by the time a brand has three extensions, it attains a critical mass in terms of customer awareness and

²⁸ This number is obtained by direct calculation of the estimated equation (1) for values of the number of extensions ranging from 0 to 6. Usual calculus methods are not used (and not appropriate) because this variable takes only integers as values.

EXHIBIT 3

Logistic estimates of across-family switching determinants

Variables	Leisure (n = 2,905)			Business (n = 2,509)			
	Estimates	X ²	Significance	Estimates	X ²	Significance	
Intercept	0.1322	0.0621	—	-0.8983	3.0682	10%	
Branding							
Advertising	-0.00001*	4.1267	5%	-5.58E-06*	1.4399	—	
Physical availability	-0.00038*	23.9694	1%	-0.00025*	8.2169	1%	
Vertical extension	-1.4183*	10.9352	1%	-1.1692*	10.8793	1%	
Price competition							
Reference price	0.00695*	8.0733	1%	0.00433*	2.8847	10%	
Current price	0.000952	0.1452	—	0.0101	15.2636	1%	
Market concentration	0.0328*	26.3455	1%	0.00813*	1.0656	—	
Context characteristics							
Switching destination	1.066*	63.7126	1%	1.7856*	154.7873	1%	
Switching location	0.3225*	6.4805	5%	0.655*	18.6707	1%	
Information investment	-0.5466*	19.1103	1%	-0.5578*	16.7966	1%	
Satisfaction	-0.0762*	8.5921	1%	-0.0641*	4.1979	5%	
Customer characteristics							
Categorized income	0.00461	0.1489	1%	-0.00918*	0.3575	—	
Occupation	0.2827*	5.9404	5%	0.1473*	0.6935	—	
Non-linear terms							
Squared term for vertical extension	0.2747	9.693	1%	0.2111	8.2017	1%	
Model fitting							
Model chi-square	1601.794	DF	16	Model chi-square	1616.480	DF	16
P-value	0.0001			P-value	0.0001		
Hosmer and Larneshow goodness-of-fit test							
Statistic	9.8781	DF	8	Statistic	9.9153	DF	8
P-value	0.2737			P-value	0.271		

*Coefficient is in the expected direction. The table does not show a significant (1% level) variable that controls for missing data on stay location.

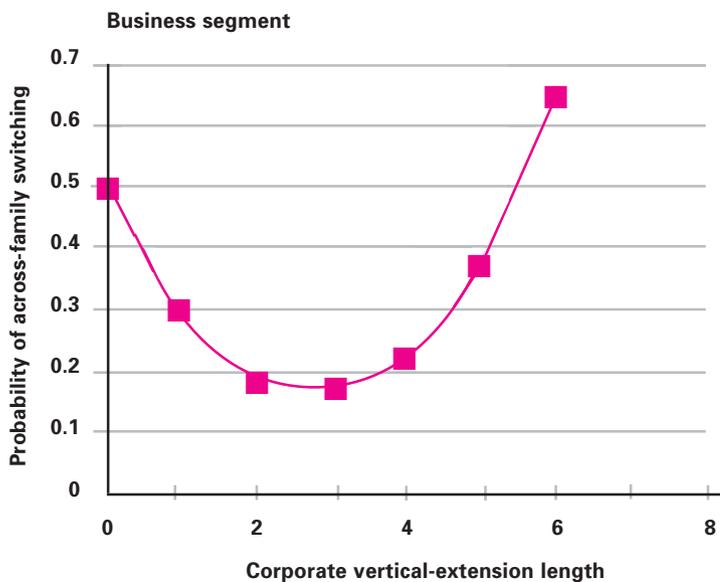
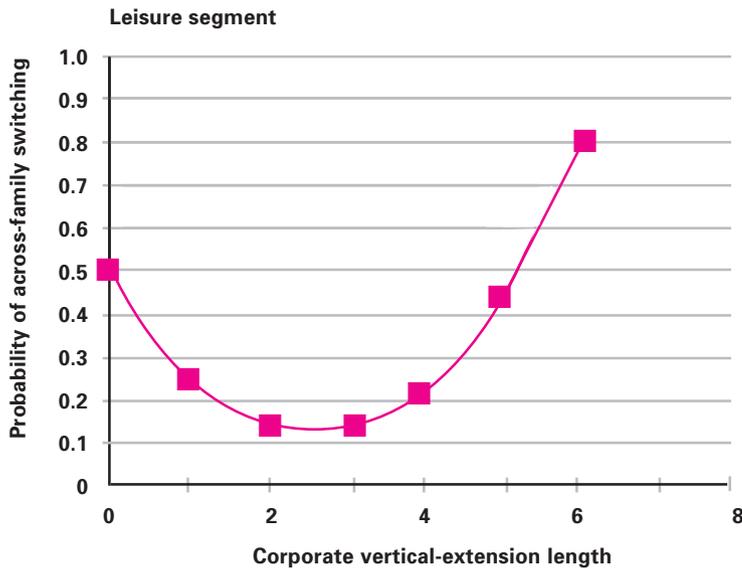
recognition. Furthermore, offering three extensions balances the choices offered to customers with the extent to which a concept can realistically be stretched before the brand extension begins to test the customer's belief that one brand name can, in fact, offer a meaningful choice in widely diverse segments.

Below three extensions, the switching rate rises, perhaps because the number of choices is too limited to cover a wide enough set of cus-

tomers needs. With one or two extensions, the resources used to promote the brand are often limited. Moreover, consumers would rather stay with the one brand that satisfies their needs, in the absence of intervening factors, rather than find an almost-right brand. With the increasing popularity of frequent-user programs that reward and recognize users of a brand family (e.g., Marriott Honored Guest, Starwood Preferred Guest, Hilton HHonors), this effect is likely to be mag-

EXHIBIT 4

Corporate extension and switching probabilities



nified. To frame the discussion in another way, typical consumers often consider hotel brands for three types of purchase occasions: namely, business trips, conference attendance, and vacations. If travelers could patronize one brand with three extensions that met their needs for each of those three travel purposes (and could collect rewards to boot), they might be prompted to keep all their business with one hotel-brand family.

Beyond three extensions, however, the switching rate goes up. As we suggested, stretching a brand beyond three extensions (that is, into several diverse market segments), may strain customers' credulity. There comes a point where customers tend to lower their patronage of a brand if it tries to cover too many different market segments, and thus overly dilutes its brand position. Another possible reason for this non-linear effect is that too many extensions may dilute the company's support of each individual brand, not to mention confusing and even alienating consumers.

We found no significant differences between the business and leisure segments in terms of the three-brand extension length. This means that, with regard to maintaining loyalty, business and leisure travelers respond in similar fashion to brand extensions. That means that the brand-extension effect is a customer-level phenomenon and does not vary by trip purpose.

Thus, contrary to other findings,²⁹ we find that there is, indeed, an optimum number of hotel brands within a family. Based on our data, the optimum number of hotel-brand extensions appears to be three. Beyond that number, we contend that lodging firms are overextending their brands, with potentially unsatisfactory outcomes. Customers' brand switching decreases as the brand family grows to about three extensions, but it rises with further extensions. In the following section, we discuss the implications of our findings for managers.

Cautious Interpretation

We do not consider this to be the final word on this topic, and our results should be interpreted with caution. First, because the data are correla-

²⁹ See: Kapferer, pp. 188–189; and Aaker, pp. 243, 264.

tional, we cannot rule out reverse causation, wherein low switching rates may cause firms to create brand extensions, rather than the other way around. We do, however, report original findings based on robust tests of association between extension and loyalty. Second, we consider only the direct or main effects and do not estimate interactions among the control variables. (We plan to conduct that analysis in a follow-up study.)

The results, however, validate expectations based on a sound theoretical model and thus provide a high level of confidence in the applicability of the theory. Thus, although the study discussed here examined the hotel industry, our theory was not developed with only the hotel industry in mind. Thus, the findings in this study are normative and are applicable across industries. (It would be interesting, for example, to test these results in the restaurant industry, which has recently witnessed brand extensions, as in the case of Pizza Hut and Pizza Hut Express or Wolfgang Puck's Spago and Café.)

Hotels can favorably influence consumer choice through marketing activities that emphasize multiple brand extensions. We found that brand extensions are helpful in increasing customer loyalty and in promoting repeat buying. The risk of disappointment with an unknown brand deters consumers from switching from a more familiar brand to a less familiar one. Put another way, customers who have a perception that a particular brand's mainline hotel offers high quality will be more likely to patronize that brand's specialized-market hotels (or, a good experience with a specialized hotel should carry over to a mainline purchase). Extending the analysis, if consumers tend toward brand loyalty to avoid switching costs, hotel firms can exercise price discrimination and could charge higher prices to their loyal customers.

It appears that corporate extensions in the lodging industry might be most helpful in retaining customers when extensions involve about three hotel tiers. For brands that have no extensions, this finding suggests that opportunities exist for appropriate corporate extension in reasonable numbers of brands and in diverse geographical locations. Even venerable hotel brands like Four Seasons and Ritz-Carlton, which once

had no brand extensions, are offering customers multiple options (e.g., hotels, resorts, residences) for a variety of purchase occasions.

A Framework for Decisions

This research is perhaps the first attempt to relate consumer-purchase data with brand use and extension and to learn about the effects of brand

Three extensions minimize the rate of switching away from a brand family. After that, the switching rate rises.

extensions on consumers' buying behavior. The study offers a valuable conceptual and analytical framework for brand management. Consider the following two examples from a wide range of research applications.

Industry. Considering industry fundamentals, analysts have been interested in the degree of brand switching from high-price brands or brand extensions to low-price brands or brand extensions during periods of economic slowdown, as well as in the degree of subsequent shifts upward during periods of economic prosperity. The issue has implications, for example, for the relative stability or volatility of earnings of lodging companies concentrated in one or two price segments compared with companies with brands or brand extensions across the price spectrum. Longitudinal data spanning business cycles would help us understand this phenomenon better.

Company. From a company perspective, the utility of analyzing customers' switching behavior among brands is not limited to its own brand family but is valuable for a more comprehensive understanding of the demand curves that each of its brands faces, knowledge plainly applicable to better revenue management. Loyal customers are price insensitive compared to brand-shifting patrons, and loyal customers may not need as substantial a price promotion to encourage purchase as would a first-time customer. Degrees of customers' brand loyalty can be factored into the

next generation of revenue-management systems to help determine the extent of rate adjustments.

While brand extension is a promising avenue for management action and further exploration, it is not without peril. As we have demonstrated, brand managers can go too far in extending their brands. Too great an extension may invite negative consequences for the entire brand family by raising the rate at which customers defect from the brand. Navigating the fine line between underuse of an important asset and its overextension is where the opportunity to maximize a brand's value lies. We hope these results will provide brand managers with added insight into the potentials and perils of brand extension. ■



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