The Target Market Misapprehension: Lessons from Restaurant Duplication of Purchase Data

Michael Lynn Ph.D.
Cornell University, wml3@cornell.edu

Follow this and additional works at: https://scholarship.sha.cornell.edu/chrpubs

Recommended Citation

This Article is brought to you for free and open access by the The Center for Hospitality Research (CHR) at The Scholarly Commons. It has been accepted for inclusion in Center for Hospitality Research Publications by an authorized administrator of The Scholarly Commons. For more information, please contact hotellibrary@cornell.edu.

If you have a disability and are having trouble accessing information on this website or need materials in an alternate format, contact web-accessibility@cornell.edu for assistance.
The Target Market Misapprehension: Lessons from Restaurant Duplication of Purchase Data

Abstract
This study tests the supposition that different types of restaurants appeal to or attract substantially divergent market segments. Instead of targeting specific markets, the analysis suggests that restaurant brand managers should take a mass marketing approach. The study examines the "Consumer Picks" survey data collected by WD Partners and the National Restaurant Association to determine the extent to which a particular restaurant brand shares its customers with other restaurant brands. The analysis finds that the extent of sharing is almost completely explained by the restaurants’ market share, rather than by market targeting. Five sets of restaurants were tested: (1) hamburger quick-service restaurants (QSRs); (2) chicken, Mexican, and pizza QSRs; (3) fast casual concepts; (4) full-service casual restaurants; and (5) table-service restaurants. Each restaurant brand shared its customers with the other brands in proportion to the other brands’ shares of customers and in inverse proportion to its own share of customers. While some restaurant brands shared customers substantially more or less than expected given the sizes of their customer bases, these cases did not occur more frequently than one would expect from chance. This pattern of data suggests that the different restaurant brands do not attract substantially different types of consumers, which in turn suggests that restaurant brands should aim most of their marketing efforts at increasing their appeal to all restaurant customers. That is, most of restaurant marketers' time, energy and money should be devoted to mass marketing and not targeting subsets of consumers.

Keywords
restaurant market share, hamburger quick serve restaurants (QSR), branding, marketing strategies

Disciplines
Business | Hospitality Administration and Management

Comments
Required Publisher Statement
© Cornell University. This report may not be reproduced or distributed without the express permission of the publisher

This article is available at The Scholarly Commons: https://scholarship.sha.cornell.edu/chrpubs/92
The Target Market Misapprehension:
Lessons from Restaurant Duplication of Purchase Data
by Michael Lynn, Ph.D.
Thank you to our generous Corporate Members

Senior Partners
Accenture
ASAE Foundation
Carlson Rezidor Hotel Group
Hilton Worldwide
National Restaurant Association
SAS
STR
Taj Hotels Resorts and Palaces

Partners
Davis & Gilbert LLP
Deloitte & Touche USA LLP
Denihan Hospitality Group
eCornell & Executive Education
Expedia, Inc.
Forbes Travel Guide
Four Seasons Hotels and Resorts
Fox Rothschild LLP
HVS
Hyatt
InterContinental Hotels Group
Jumeirah Group
LRP Publications
Maritz
Marriott International, Inc.
Marsh’s Hospitality Practice
McDonald’s USA
newBrandAnalytics
priceline.com
PricewaterhouseCoopers
Proskauer
ReviewPro
Sabre Hospitality Solutions
Sathguru Management Consultants (P) Ltd.
Schneider Electric
Thayer Lodging Group
Travelport
TripAdvisor
Wyndham Hotel Group

Friends
4Hotels.com • Berkshire Healthcare • Center for Advanced Retail Technology • Cleverdis • Complete Seating • Cruise Industry News • DK Shifflet & Associates • ehotelier.com • EyeforTravel • The Federation of Hotel & Restaurant Associations of India (FHRAI) • Gerencia de Hoteles & Restaurantes • Global Hospitality Resources • Hospitality Financial and Technological Professionals • hospitalityInside.com • hospitalitynet.org • Hospitality Technology Magazine • HotelExecutive.com • International CHRIE • International Hotel Conference • International Society of Hospitality Consultants • iPerceptions • JDA Software Group, Inc. • J.D. Power and Associates • The Leading Hotels of the World, Ltd. • Lodging Hospitality • Lodging Magazine • LRA Worldwide, Inc. • Milestone Internet Marketing • MindFolio • Mindshare Technologies • ProCutWright Inc. • PKF Hospitality Research • Questex Hospitality Group • The Resort Trades • RestaurantEdge.com • Shibata Publishing Co. • UniFocus • Vantage Strategy • WWIH.COM
The Target Market Misapprehension:

Lessons from Restaurant Duplication of Purchase Data

by Michael Lynn

ABOUT THE AUTHOR

Michael Lynn, Ph.D., the Burton M. Sack ’61 Professor in Food and Beverage Management, is a professor of consumer behavior and marketing at the Cornell University School of Hotel Administration. He received his Ph.D. in Social Psychology from the Ohio State University in 1987, and has taught in the marketing departments of business and hospitality schools since 1988. His experience of paying his way through school by waiting tables and bartending sparked his interest in service gratuities (tipping), a topic on which he has over 50 published academic papers. His other research focuses on consumer status and brand differentiation. A former editor of the Cornell Hospitality Quarterly, Lynn is an associate editor of the Journal of Socio-Economics and an editorial board member for the Journal of Hospitality and Tourism Research and the International Journal of Hospitality Management.
EXECUTIVE SUMMARY

This study tests the supposition that different types of restaurants appeal to or attract substantially divergent market segments. Instead of targeting specific markets, the analysis suggests that restaurant brand managers should take a mass marketing approach. The study examines the “Consumer Picks” survey data collected by WD Partners and the National Restaurant Association to determine the extent to which a particular restaurant brand shares its customers with other restaurant brands. The analysis finds that the extent of sharing is almost completely explained by the restaurants’ market share, rather than by market targeting. Five sets of restaurants were tested: (1) hamburger quick-service restaurants (QSRs); (2) chicken, Mexican, and pizza QSRs; (3) fast casual concepts; (4) full-service casual restaurants; and (5) table-service restaurants. Each restaurant brand shared its customers with the other brands in proportion to the other brands’ shares of customers and in inverse proportion to its own share of customers. While some restaurant brands shared customers substantially more or less than expected given the sizes of their customer bases, these cases did not occur more frequently than one would expect from chance. This pattern of data suggests that the different restaurant brands do not attract substantially different types of consumers, which in turn suggests that restaurant brands should aim most of their marketing efforts at increasing their appeal to all restaurant customers. That is, most of restaurant marketers’ time, energy and money should be devoted to mass marketing and not targeting subsets of consumers.
Imagine that you are the head of marketing at a national, casual dining restaurant chain whose goal is to grow the brand’s customer base from 10 percent of casual dining customers to 25 percent of those customers over the next ten years. Obviously, this goal cannot be achieved through marketing alone; at the very least, it will also require an expansion of the number of restaurants your firm operates. Nevertheless, in thinking about marketing’s role in achieving this goal, you generate the following possible strategies:

1. re-designing the brand’s logo, signs, and restaurant façades to make the brand more visually distinctive and appealing;
2. increasing the reach of your ads by increasing your ad budget and placing greater emphasis on mass media;
3. targeting those market segments that already constitute your biggest customer base by concentrating on messages and media that will disproportionately appeal to and reach those segments; and
4. targeting those market segments that are currently underrepresented in your customer base by creating new menu items and marketing communications specifically for them and using media outlets that will disproportionately reach those potential customers.
You would like to pursue all four strategies, but have a limited marketing budget, so must prioritize them. How would you rank these strategies from most to least effective? If you ranked strategies 3 and 4 higher than strategies 1 and 2, then you responded in a way that most marketing professors and consultants would support, but in this report I argue otherwise.

Strategies 3 and 4 are targeting strategies, while strategies 1 and 2 are mass marketing strategies. Conventional marketing wisdom suggests that the targeting strategies are more effective than the mass strategies. For example, Gary Armstrong and Philip Kotler write, “... most modern marketers have strong doubts about this (mass marketing) strategy. Difficulties arise in developing a product or brand that will satisfy all consumers. Moreover, mass marketers often have trouble competing with more focused firms that do a better job of satisfying the needs of specific segments and niches.” Along the same line, Brandon O’Dell writes: “One of the biggest mistakes restaurants make is trying to appeal to everyone. If you think that your target market includes everyone, you are setting yourself up to fail. If you want to be successful in any business, especially the restaurant business, then you need to define who it is that is most likely to buy your products, and focus your concept to appeal to that defined market.”

Those quotes represent the conventional argument, but in the pages that follow, I will present evidence that favoring a target marketing strategy over a mass marketing strategy is wrong. Target marketing can be an effective tactic that produces modest or temporary gains in sales, but it is not an effective strategy for substantial, long-lasting increases in your customer base. To achieve that goal, you must increase the appeal of your restaurants to all consumers via mass marketing.

The effectiveness of target marketing rests on the assumption that different types of people look for different things when choosing a brand in a particular product category, and consequently different types of brands will appeal to different types of people. While this assumption seems to be intuitive and true, it is not obvious that restaurants can differentiate themselves sufficiently to attract widely different types of consumers. It’s hard to argue that the differences in the features that various consumer segments want out of a product category, or a brand within that category, are large or distinctive enough to justify and support target marketing strategies. There does not seem to be sufficient room to create substantial differences in the types of people that different brands attract. In this report, I examine this question of the extent to which different types of brands within a product category appeal to different types of people.

Sharing Customers

One way to answer this question about the appeal of different types of brands to different types of people is to examine the extent to which different brands share customers with one another. If different types of brands attract different types of people, then brands should share customers with other brands of a similar type far more often than they share with other dissimilar brands. Empirical evidence that two brands share customers to a greater than typical degree indicates that they have some similarity that both differentiates them from other brands and attracts some type of customer that the other brands are less likely to attract. Furthermore, evidence that two brands share customers to a smaller than typical degree indicates that one or more of the brands has a distinctive characteristic that attracts a type of customer that is less attracted to the other brand.

One disadvantage of this approach is that it is not very sensitive. Two brands sharing product- or marketing-related characteristics that differentiate them from other brands would display sizably disproportionate customer sharing only if those shared characteristics appealed to a large subset of product category users substantially more than to others. Shared brand characteristics would not produce sizably disproportionate customer sharing if they appealed strongly to only a small subset of category users, or if the characteristics appealed to a large subset of category users only slightly more than to others. However, target marketing will produce large gains in customers only if the brand in question appeals to a large subset of product category

3 Another way to answer this question is by comparing the customer profiles of different types of brands. I took this approach in a previous *CHR Report* and found that different brands within the hotel and cruise industries do not attract substantially different types of customers. See: Michael Lynn, “Brand Segmentation in the Hotel and Cruise Industries: Fact or Fiction?”, *Cornell Hospitality Report*, Vol. 7, No. 4 (February 2007), Cornell Center for Hospitality Research.
users substantially more than to others. Thus, the coarse view of the marketplace provided by duplication of purchase data is an advantage as an aid to strategic thinking because it helps to focus attention on the big picture and puts smaller effects in perspective.

Another disadvantage of this approach is that the brand characteristics or customer types that are driving the anomaly are not immediately made clear from unusually high or unusually low customer sharing. However, that disadvantage is also this technique's key advantage because it means that this approach allows you to see if there are any brand characteristics that disproportionately appeal to any type of customer; it is not necessary to specify any brand similarities or dissimilarities ahead of time. If unusual customer sharing is found, then questions about what brand characteristics and customer types are driving the anomalous customer sharing can be explored with more research.

Analyses of customer sharing (or duplication of purchase) in numerous product categories have found that different types of brands within a category do not attract substantially different types of customers; similar brands share customers with one another only slightly (if at all) more than they do with dissimilar brands.4 Instead, customer sharing follows two principles, one known as the "Duplication of Purchase Law" and the other, the "Law of Natural Monopoly." The Duplication of Purchase Law states that "A brand's customer base overlaps with the customer base of other brands, in line with their market share (i.e., a brand shares the most customers with large brands and the least customers with small brands)."5 The Natural Monopoly Law states that "Brands with more market share attract a greater proportion of light category buyers."6 Since light category buyers patronize fewer brands than do heavy category buyers, this latter principle means that large brands tend to share fewer of their customers with other brands than do small brands.7 In other words, duplication of purchase analyses in varied product categories indicates that market share is the main determinant of the extent to which two brands share customers. Deviations from expectations for customer sharing based on market share tend to be small, meaning that there is little similarity-based customer sharing among brands.

Although duplication of purchase analyses have been conducted for many different product categories (including breakfast cereal, coffee, ice cream, milk, television programs, wine grape varietals, and retail stores), they have not to my knowledge been conducted for U.S. restaurants. The restaurant market may be an exception to the general finding that two or more brands within a category rarely share customers substantially more or less than expected given their relative market shares, because there are such clear types of restaurants (and restaurant brands) in terms of atmosphere, levels of service, and types of cuisine. Intuitively, those different restaurant types would appeal to different types of people. To test whether this intuition is accurate, I use the "Consumer Picks" survey data collected by WD Partners and the National Restaurant Association in the analyses that follow.

Data and Findings
WD Partners and the National Restaurant Association conducted an online survey of over eight thousand consumers in the United States about their attitudes and behaviors when it comes to restaurant dining. Among other things, respondents were given lists of over 150 restaurant brands and asked to indicate "how many times you bought food or beverage (eat-in, take-out, or drive thru) from each restaurant in the last six months." Responses to these questions were re-coded (as a dummy variable of 1 or 0) to reflect the presence or absence of patronage of each restaurant within the prior six months.

Given the vast number of restaurant brands, one cannot include all of them in cross-purchase comparisons. To keep the number of comparisons to a level that could be meaningfully processed, I selected various mixtures of similar and different brands and constructed five different duplication of purchase tables (see Exhibits 1 thru 5). In these tables, the restaurant brands are listed in order from largest to smallest share of customers among the survey respondents. Entries in the table reflect the percentage of customers from each restaurant in the vertical list of restaurants that also patronized the restaurant in the horizontal list of restaurants during the six months prior to the survey.

Brand B will have 20 light users (50 x .4 = 20) and 32 heavy users ((50 x .4) + (30 x .4) = 32). In this case, approximately 42 percent of large Brand A's customers (30/72 = 41.7) and 39 percent of small Brand B's customers (20/52 = 38.5) are light users even though light and heavy users have equal preferences for Brand A over Brand B.

---

6 Ibid.
7 This empirical generalization is a statistical artifact rather than a reflection of differences in the preferences of light and heavy users. To understand this artifact, consider the following hypothetical example involving 50 light and 50 heavy users of a product category for which there are two competing brands. If light users purchase once a week, while heavy users purchase twice a week and both groups choose Brand A 60 percent of the time and Brand B 40 percent of the time, then Brand A will have 30 light buyers (50 x .6 = 30) and 42 heavy users ((50 x .6) + (20 x .6) = 42) while Brand B will have 20 light users (50 x .4 = 20) and 32 heavy users ((50 x .4) + (30 x .4) = 32). In this case, approximately 42 percent of large Brand A's customers (30/72 = 41.7) and 39 percent of small Brand B's customers (20/52 = 38.5) are light users even though light and heavy users have equal preferences for Brand A over Brand B.
As you can see, the data suggest that only occasionally does an average share of all respondents deviate from expected values. While cell percentages that were 1.96 standard deviations (p < .01) from expected values are identified with colored backgrounds in the tables, values on a red background deviate from the expected value by 10 or more percentage points. Values on a yellow background deviate from the expected value with p < .001. So deviations from expected values are identified with colored backgrounds in the tables, while values on a red background deviate from the expected value by 10 or more percentage points. Values on a yellow background deviate from the expected value with p < .001.

Hamburger QSR Brands

For example, Exhibit 1, which shows hamburger quick-service brands, indicates that 76.6 percent of the respondents to this survey who patronized McDonald's in the prior six months also patronized Subway over that same period of time.

The key to this analysis is to control for the Duplication of Purchase Law and the Natural Monopoly Law, to highlight situations where the shared percentages were not as expected. To do this, I conducted a regression of the cell percentages on the relevant column-company's share of all respondents and on the relevant row-company's share of all respondents. The resulting residuals allowed me to identify those cases where one restaurant shared another's customers significantly more or less than expected given their relative market shares. Cell percentages that were 10 or more percentage points from expected values are in bold, while cell percentages that were 1.96 standard deviations (p < .05) and 2.57 standard deviations (p < .01) from expected values are identified with colored backgrounds in the tables. As you can see, the data suggest that only occasionally does a restaurant brand share another's customers significantly more or less than expected given their relative market shares. Many of those rare cases can still be attributed to chance due to the large number of cases tested.

Looking again at the hamburger QSR brands in Exhibit 1, we see several notable patterns in the data. First, the column averages decline as you move from left to right. This means that each restaurant brand shares more of its customers with other large restaurant brands like McDonald's and Subway than with other small restaurant brands like Jack in the Box and Hardee's. This pattern replicates the Duplication of Purchase Law, with regard to QSR restaurants in the U.S., and is statistically reliable (B column Co share = 1.24, t (107) = 64.36, p < .001).

Second, the row averages generally increase as you move from top to bottom in Exhibit 1. In other words, large restaurant brands like McDonald's and Subway share a smaller percentage of their own customers with other brands (47.5 for McDonald's and 48.8 percent for Subway on average) than do smaller restaurant brands like Jack in the Box (57.0 percent on average) and Hardee's (58.2 percent on average). This pattern reflects the fact that larger U.S. QSR brands have proportionately more light category buyers than do smaller brands, in keeping with the Natural Monopoly Law. This effect was also statistically reliable (B row Co share = -0.88, t (107) = -4.23, p < .001).

Finally and most important, the percentages within each column are fairly similar; they rarely deviate by a statistically significant amount from the expected value given the sizes of the restaurant brands involved. Our regression analysis indicated that the measures of brand size accounted for 97.5 percent of the variance in customer sharing (F (2, 109) = 2128.55, p < .001), so deviations from expected values

### Exhibit 1

<table>
<thead>
<tr>
<th>Customers of</th>
<th>McDonald's</th>
<th>Subway</th>
<th>Wendy's</th>
<th>Burger King</th>
<th>Taco Bell</th>
<th>KFC</th>
<th>Dairy Queen</th>
<th>Sonic</th>
<th>Five Guys</th>
<th>Jack in the Box</th>
<th>Hardee's</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>McDonald's</td>
<td>76.6</td>
<td>67.5</td>
<td>68.6</td>
<td>65.2</td>
<td>58.8</td>
<td>42.4</td>
<td>37.7</td>
<td>20.7</td>
<td>18.9</td>
<td>18.4</td>
<td>47.5</td>
<td>48.8</td>
</tr>
<tr>
<td>Subway</td>
<td>85.8</td>
<td></td>
<td>67.5</td>
<td>67.4</td>
<td>66.0</td>
<td>59.3</td>
<td>44.4</td>
<td>38.2</td>
<td>21.2</td>
<td>19.8</td>
<td>18.1</td>
<td>53.8</td>
</tr>
<tr>
<td>Wendy's</td>
<td>89.3</td>
<td>79.8</td>
<td>73.4</td>
<td>70.7</td>
<td>63.1</td>
<td>46.3</td>
<td>42.1</td>
<td>24.1</td>
<td>19.1</td>
<td>21.1</td>
<td>52.9</td>
<td>52.8</td>
</tr>
<tr>
<td>Burger King</td>
<td>90.7</td>
<td>79.6</td>
<td>73.3</td>
<td>70.2</td>
<td>64.2</td>
<td>46.1</td>
<td>39.7</td>
<td>22.1</td>
<td>20.7</td>
<td>21.3</td>
<td>52.8</td>
<td>54.5</td>
</tr>
<tr>
<td>Taco Bell</td>
<td>89.8</td>
<td>81.1</td>
<td>73.5</td>
<td>73.1</td>
<td>65.3</td>
<td>46.3</td>
<td>43.0</td>
<td>22.7</td>
<td>22.7</td>
<td>20.8</td>
<td>53.8</td>
<td>57.0</td>
</tr>
<tr>
<td>KFC</td>
<td>89.9</td>
<td>81.0</td>
<td>72.9</td>
<td>74.3</td>
<td>48.2</td>
<td>41.4</td>
<td>21.6</td>
<td>21.2</td>
<td>22.4</td>
<td>24.4</td>
<td>57.0</td>
<td>58.9</td>
</tr>
<tr>
<td>Sonic</td>
<td>88.7</td>
<td>83.0</td>
<td>73.1</td>
<td>72.9</td>
<td>65.9</td>
<td>45.6</td>
<td>24.4</td>
<td>21.8</td>
<td>24.4</td>
<td>24.4</td>
<td>57.0</td>
<td>58.2</td>
</tr>
<tr>
<td>Five Guys</td>
<td>86.0</td>
<td>78.4</td>
<td>75.4</td>
<td>69.3</td>
<td>58.7</td>
<td>48.4</td>
<td>44.8</td>
<td>19.7</td>
<td>11.7</td>
<td>11.7</td>
<td>58.2</td>
<td>62.7</td>
</tr>
<tr>
<td>Jack in the Box</td>
<td>88.3</td>
<td>82.5</td>
<td>67.3</td>
<td>73.1</td>
<td>64.8</td>
<td>48.6</td>
<td>49.6</td>
<td>19.7</td>
<td>11.7</td>
<td>11.7</td>
<td>58.2</td>
<td></td>
</tr>
<tr>
<td>Hardee's</td>
<td>92.0</td>
<td>80.9</td>
<td>79.9</td>
<td>80.6</td>
<td>47.3</td>
<td>56.6</td>
<td>14.0</td>
<td>27.2</td>
<td>21.2</td>
<td>12.5</td>
<td>62.7</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>89.1</td>
<td>80.5</td>
<td>72.6</td>
<td>72.4</td>
<td>63.8</td>
<td>48.1</td>
<td>43.8</td>
<td>23.0</td>
<td>20.0</td>
<td>20.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Share of All Respondents**

- 71% 63% 54% 54% 52% 47% 34% 30% 17% 15% 14%

**Notes:** Values shown in **bold** deviate from the expected value by 10 or more percentage points. Values on a **yellow** background deviate from the expected value with p < .05, while values on a **red** background deviate from the expected value with p < .01.
represent a small portion of the total variance in the data. In fact, there were only seven cases where the observed level of customer sharing was over 1.96 standard deviations from expectations, and this is not significantly different from the 5.5 such cases that would be expected by chance, since there were 110 total cases.\(^8\)

Only four cases in Exhibit 1 seem both practically and statistically significant, and all involve Hardee’s. Dairy Queen and Sonic both get more than the expected share of Hardee’s customers, while both Hardee’s and Jack in the Box get less than the expected share of one another’s customers. It is difficult to explain the Dairy Queen–Hardee’s and Sonic–Hardee’s cases because the unusual customer sharing between them is not bi-directional. Further complicating the picture, Dairy Queen and Sonic, though both getting unusually high levels of Hardee’s customers, do not attract unusual levels of one another’s customers. Given these asymmetries, perhaps these two cases are just chance deviations.

The reciprocal nature of the customer sharing (or unusual lack thereof) between Hardee’s and Jack in the Box provides more compelling evidence that these restaurants differ from one another in some way or ways that causes them to attract different types of customers. What those critical restaurant differences are and precisely how the restaurants’ customer profiles differ would be interesting topics for future research. For current purposes, however, it is more important to note that, apart from this one pair of restaurants, there is little evidence of different types of QSR brands attracting different types of people.

### Regional Hamburger QSRs

Exhibit 1 presents national data and compares restaurant chains that differ widely in regional distribution. Readers may wonder how the comparison of national brands with more regional brands affected the results and what the results might look like within a smaller geographic area where some regional brands may have a more equal footing with truly national brands. To address this question, I repeated the analyses in Exhibit 1 for California residents only, with some regional brands may have a more equal footing with truly national brands. To address this question, I repeated

\(^8\) The probability of getting seven such extreme cases by chance alone is .331 as determined using the binomial distribution with 110 cases. The residuals from this and the other regression analyses reported later were close to normally distributed (though there was a repeated tendency to have too many residuals near the mean). A one-sample Kolgorov-Smirnov Test produced the following p-values: Exhibit 1, .096; Exhibit 2, .998; Exhibit 3, .196; Exhibit 4, .125; and Exhibit 5, .028. Thus, only the residuals from Exhibit 5 (in the appendix) had a significantly non-normal distribution (with too many cases near the mean and too few cases moderately above the mean), but even their distribution was roughly normal.
tomers with Jack in the Box in California than nationwide. Also, Jack in the Box shared its own customers with the other brands less in California (relative to the other brand’s sharing of their customers) than in the United States as a whole. However, the data still show that each of these restaurant brands shared its customers with the other brands in proportion to the other brands’ shares of customer (\(B_{row-share} = 1.12, t (69) = 38.69, p < .001\)) and in inverse proportion to its own share of customers (\(B_{column-share} = -.25, t (69) = -8.51, p < .001\)). Together, these effects accounted for 96.1 percent of the variability in customer sharing (\(F (2, 69) = 839.13, p < .001\)) and deviations from these two effects remained small. Only three cases were over 1.96 deviations from expectations, but 3.6 such cases would be expected by chance alone given the number of cases tested. Thus, this analysis also provides little evidence that different brands attract different types of customers.

Other Restaurant Concepts

The patterns of data seen in Exhibits 1 and 2 are basically repeated in the analyses shown in Exhibits 3 thru 5 (as detailed in Appendix A). Exhibit 3 contains data on duplication of patronage for several chicken, Mexican, and pizza QSR brands, Exhibit 4 contains a similar analysis for several casual, full-service restaurant brands, and Exhibit 5 shows the data for various table-service restaurant brands across a wide range of price points. In all these analyses, the restaurant brands shared their customers with the other brands in proportion to the other brands’ shares of customer (à la the Duplication of Purchase Law) and in inverse proportion to its own share of customers (in keeping with the Natural Monopoly Law). Together, these effects accounted for 90-plus percent of the variability in customer sharing. More important, the deviations from these two laws remained small and generally within levels not different from chance. Thus, the finding that different restaurant brands do not attract substantially different types of customers is robust across a wide range of differences between the brands being compared.

Conclusions and Marketing Implications

The data presented above indicate that there are substantial differences in the extent to which restaurant brands share their customers with other restaurant brands. For example, only 16 percent of Applebee’s customers also patronized P.F. Chang’s, while 91 percent of Burger King’s customers also patronized McDonald’s. However, these differences are almost completely explained by market share; each restaurant brand shared its customers with the other brands in proportion to the other brands’ shares of customer and in inverse proportion to its own share of customers. There were few cases where restaurant brands shared customers substantially and reliably more or less than expected, given the sizes of their customer bases. This pattern of data means that the various restaurant brands being compared did not attract substantially different types of customers.

One possible limitation to this study is the one I mentioned at the outset. I did not compare customer sharing across all possible pairs of restaurants. Had I compared all combinations of different restaurants, one could argue, I might have found evidence of unusually high or low customer sharing not evident in the sample of restaurants examined. For example, it must surely be the case that a vegetarian restaurant attracts a different type of customer than a steakhouse.

Looking again at the restaurant brands examined in this study, they differed substantially in food type, service style, service quality, atmosphere, and price point. Consequently, the analysis effectively tested most of the attributes that national restaurant brands might use to differentiate themselves and appeal to specific types of consumers. Although there was some evidence of unusual levels of customer sharing between a few of these brands, it was clear that these restaurant brands were mostly drawing from the same pool of customers in line with their respective market shares. Thus, generalizing beyond the specific restaurant brands studied to conclude that different types of restaurants do not appeal to substantially different types of consumers seems justified.

An extreme case. Beyond that, I am not sure that even vegetarian and steak restaurants necessarily differ that much in their customer bases (i.e., in terms of who eats there or not). Certainly, vegetarians are different from meat lovers in the sense that the vegetarians eat at vegetarian restaurants more frequently than do steak lovers, and the reverse is true at steakhouses. That said, many vegetarians almost certainly join non-vegetarians to dine at steakhouses, which after all offer salads or vegetable plates for those who do not eat meat. Similarly, many steak lovers occasionally patronize vegetarian restaurants, again to join a party that has selected a particular restaurant. Just as one example, I was born and raised a Texan, which makes eating meat part of my birthright, and I eat meat at almost every meal. Meat lover that I am, though, I have joined friends to eat at Moosewood, Ithaca’s famous vegetarian restaurant. Ultimately, there must be some differences between the customers of vegetarian and steak restaurants, but those differences may not be as large as some analysts assume.

To continue with this example, even if vegetarian and steak restaurants do attract substantially different customer bases, the difference between those types of restaurants is about as extreme as you can get. Other differences between
restaurants and restaurant concepts are unlikely to be as marked and impactful. The analysis in Exhibit 5 demonstrates this point. If anything, the example of vegetarian restaurants versus steakhouses might be the exception that proves the rule.

For target marketing to be successful, different types of people must look for different things when choosing a brand from within a product category. Put another way, different types of brands must appeal to substantially different types of people. Thus, this study's findings that different restaurant brands do not attract substantially different types of customers means that target marketing is not likely to result in a particular restaurant brand “owning” or even “dominating” a segment; at best target marketing is likely to produce only modest or temporary advantages over the competition with the targeted segment or segments. Of course, even modest or temporary increases in a restaurant brand's share of a particular market segment can have a worthwhile effect on the bottom line, especially when aggregated across many stores throughout the entire nation. Thus, targeting tailored products and messages to specific subsets of customers is a viable and potentially profitable marketing tactic. It is just not a good strategic way of attaining substantial, long-lasting increases to your customer base. That is why the targeting strategies proposed in options 3 and 4 of the hypothetical scenario that opened this report should not be ranked highly given the goals in that scenario.

The chief implication of this study is that these restaurant brands owe their size to their overall appeal to all restaurant customers and not to a disproportionate appeal to any specific, differentiated segment (otherwise greater deviations from expected customer sharing would have been observed). This suggests that if your goal is substantial and long-lasting gains in your customer base, you need to concentrate your marketing efforts on appealing to all restaurant customers, not just a theoretical target.

**Successful Marketing Strategies**

While this study does not examine how to increase the appeal of your restaurants to all customers, some marketing experts suggest that the key strategies are to improve: (1) the quality of your food, atmosphere, and service, and (2) the physical accessibility (that is, distribution) and mental accessibility (that is, familiarity) of your restaurant. These are restaurant attributes that drive the choices of all consumers and that I believe help explain the relatively stable differences in restaurant brands’ market shares. Thus, these are the attributes to focus on improving in order to achieve substantial and long-lasting growth.

Of the attributes that drive consumers' brand choices, mental accessibility is most clearly and exclusively in the domain of marketing. Restaurant marketers can increase the mental accessibility of their brands by having distinctive (easily recognizable) names, spokespersons, signs, building shapes or facades, and interior layouts and decorations. Advertising these distinctive brand assets to all consumers is clearly another way to improve familiarity. This is why options 1 and 2 in the hypothetical scenario that opened this report should be ranked highly given the goals in that scenario.

In summary, contrary to what many people might believe, duplication of purchase data indicates that different restaurant brands do not attract substantially different types of customers. This means that target marketing is unlikely to produce a large and long-lasting increase in your customer base. To achieve this goal, you need to increase your appeal to all restaurant customers, not just a select few.

---

10 One can imagine a targeting effort that has a large effect. However, such successful attempts at targeting some particular segment tend to be quickly copied by competitors so that the targeted segment of customers is once again shared by all in proportion to their shares of the overall market. For example, Wendy's introduced salads to the fast food burger industry and this might have substantially increased its share of the female market if its main competitor, McDonald's, had not copied this move by adding salads to its menu too. Likewise, most QSR brands followed McDonald's when they developed the breakfast day part.


12 Ibid.
Appendix A

As mentioned in the accompanying text, Exhibit 3 contains data on duplication of patronage (over a six month period) for several chicken, Mexican, and pizza quick-service restaurant brands. Again, the data show that each of these restaurant brands shared its customers with the other brands in proportion to the other brands’ shares of customers (Brown-share = 1.30, t (107) = 42.08, p < .001, reflecting the Duplication of Purchase Law) and in inverse proportion to its own share of customers (Column-share = -.20, t (107) = -6.54, p < .001, in concert with the Natural Monopoly Law). Together, these effects accounted for 94.6 percent of the variability in customer sharing (F (2, 107) = 943.71, p < .001). More important, the deviations from these two laws remained small. Only eight cases were over 1.96 deviations from expectations. This number is not significantly different from the 5.5 such cases that would be expected by chance alone given the number of cases tested. The most notable positive deviation—namely, Chick-fil-A getting more of CiCi’s customers than expected—does not reflect any obvious commonality between the restaurants. Thus, this analysis joins the others in providing little evidence that different brands attract different types of customers.

Notes: Values shown in bold deviate from the expected value by 10 or more percentage points. Values on a yellow background deviate from the expected value with \( p < .05 \), while values on a red background deviate from the expected value with \( p < .01 \).
### Exhibit 4

**Duplication of patronage over six months for various casual, full-service restaurants**

<table>
<thead>
<tr>
<th>Customers of</th>
<th>Olive Garden</th>
<th>Applebee's</th>
<th>Red Lobster</th>
<th>Outback</th>
<th>Chili's</th>
<th>TGI Friday</th>
<th>Ruby Tuesday</th>
<th>Red Robin</th>
<th>Cheesecake Factory</th>
<th>Long Horn</th>
<th>P.F. Chang's</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olive Garden</td>
<td>59.2</td>
<td>50.0</td>
<td>42.2</td>
<td>39.1</td>
<td>38.8</td>
<td>29.0</td>
<td>25.4</td>
<td>24.8</td>
<td>19.9</td>
<td>17.6</td>
<td>34.6</td>
<td></td>
</tr>
<tr>
<td>Applebee's</td>
<td>64.7</td>
<td>47.2</td>
<td>42.5</td>
<td>39.0</td>
<td>39.7</td>
<td>31.2</td>
<td>26.3</td>
<td>23.0</td>
<td>20.5</td>
<td>16.3</td>
<td>35.0</td>
<td></td>
</tr>
<tr>
<td>Red Lobster</td>
<td>69.2</td>
<td>59.8</td>
<td>46.5</td>
<td>38.9</td>
<td>40.0</td>
<td>32.9</td>
<td>26.3</td>
<td>24.5</td>
<td>22.2</td>
<td>18.7</td>
<td>37.9</td>
<td></td>
</tr>
<tr>
<td>Outback</td>
<td>68.5</td>
<td>63.2</td>
<td>54.7</td>
<td>43.8</td>
<td>43.9</td>
<td>33.5</td>
<td>27.7</td>
<td>28.9</td>
<td>26.7</td>
<td>21.5</td>
<td>41.2</td>
<td></td>
</tr>
<tr>
<td>Chili's</td>
<td>67.9</td>
<td>62.0</td>
<td>48.9</td>
<td>46.8</td>
<td>44.5</td>
<td>31.7</td>
<td>29.9</td>
<td>28.1</td>
<td>22.0</td>
<td>19.8</td>
<td>40.2</td>
<td></td>
</tr>
<tr>
<td>TGI Friday</td>
<td>70.2</td>
<td>65.4</td>
<td>52.2</td>
<td>48.7</td>
<td>46.2</td>
<td>39.9</td>
<td>28.5</td>
<td>32.7</td>
<td>23.7</td>
<td>21.6</td>
<td>42.9</td>
<td></td>
</tr>
<tr>
<td>Ruby Tuesday</td>
<td>69.7</td>
<td>68.5</td>
<td>57.2</td>
<td>49.4</td>
<td>43.7</td>
<td>53.1</td>
<td>28.6</td>
<td>28.7</td>
<td>31.5</td>
<td>19.7</td>
<td>45.0</td>
<td></td>
</tr>
<tr>
<td>Red Robin</td>
<td>68.1</td>
<td>64.3</td>
<td>50.9</td>
<td>45.7</td>
<td>46.1</td>
<td>42.4</td>
<td>31.9</td>
<td>32.6</td>
<td>20.7</td>
<td>24.0</td>
<td>42.7</td>
<td></td>
</tr>
<tr>
<td>Cheesecake Factory</td>
<td>71.8</td>
<td>60.7</td>
<td>51.3</td>
<td>51.4</td>
<td>46.7</td>
<td>34.5</td>
<td>35.2</td>
<td>23.8</td>
<td>35.4</td>
<td>46.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long Horn</td>
<td>72.1</td>
<td>67.8</td>
<td>58.0</td>
<td>59.5</td>
<td>45.9</td>
<td>47.5</td>
<td>28.0</td>
<td>29.8</td>
<td>21.2</td>
<td>47.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.F. Chang's</td>
<td>72.0</td>
<td>55.3</td>
<td>54.2</td>
<td>52.4</td>
<td>46.7</td>
<td>49.1</td>
<td>33.6</td>
<td>36.8</td>
<td>50.2</td>
<td>24.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>69.4</td>
<td>63.2</td>
<td>52.6</td>
<td>48.7</td>
<td>43.6</td>
<td>45.2</td>
<td>29.3</td>
<td>30.3</td>
<td>23.5</td>
<td>21.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Values shown in **bold** deviate from the expected value by 10 or more percentage points. Values shown in *background deviate from the expected value with \( p < .05 \), while values on a **background deviate from the expected value with \( p < .01 \).

Exhibit 4 shows a similar analysis for casual, full-service restaurant brands. Again, the data show that each of these restaurant brands shared its customers with the other brands in proportion to the other brands’ shares of customers (\( B_{\text{exp}} = 1.45, t (107) = 40.28, p < .001 \), again fitting the Duplication of Purchase Law) and in inverse proportion to its own share of customers (\( B_{\text{col}} = -29, t (107) = -8.09, p < .001 \), in keeping with the Natural Monopoly Law). Together, these effects accounted for 94.3 percent of the variability in customer sharing (\( F (2, 107) = 885.49, p < .001 \). As was the case for the other segments, the deviations from these laws remained small. For the casual restaurants, only seven cases were over 1.96 deviations from expectations, a number that is not significantly different from the 5.5 such cases that would be expected by chance alone given the number of cases tested.

Only three cases in Exhibit 4 appear both practically and statistically significant. First, Outback gets a larger than expected share of Long Horn’s customers. This might reflect a tendency for steakhouses to appeal to a distinctive customer type, but if so, it does not lead Long Horn to get a significantly larger than expected share of Outback’s customers. Second, the Cheesecake Factory and P.F. Chang’s both get more of each other’s customers than expected. This unusually high level of customer sharing may be attributable to the fact both restaurants are fairly expensive compared to the others in this particular test. It makes sense that expensive restaurants would attract different (wealthier) customers than less expensive restaurants.

In fact, this possibility seemed so likely that I looked for other price-based deviations from expected levels of customer sharing, with the results shown in Exhibit 5. However, it is worth noting that the deviations described above are still modest in size given the total variability in customer sharing and that each member of the mentioned restaurant pairs above still shares customers with the other restaurants in the table, as expected given their market shares. Though there is some evidence that steakhouses and expensive restaurants may attract certain types of customers at higher rates than do other types of restaurants, it is clear that all of these restaurants are mostly drawing from the same pool of customers in line with their market shares.
Steak n Shake’s customers. However, this is not a bi-directional effect and may be due to chance; with 110 cases, at least one case would be expected to differ from expectations at the .01 level by chance alone. The other two cases are the Cheesecake Factory and P.F. Chang’s, which I also included in the analysis shown in Exhibit 4. Once again, the most likely explanation for the unusually high level of customer sharing between these two restaurants is that both attract more wealthy customers than do the less expensive restaurants. Still, there is no other evidence that price differences among the restaurants lead to unusually large or small levels of customer sharing. Thus, taken as a whole, these data suggest that restaurants with widely different prices do not attract substantially different types of customers.

Finally, Exhibit 5 extends the analysis to table-service restaurant brands across a wide range of prices. Again, the data show that each of these restaurant brands shared its customers with the other brands in proportion to the other brands’ shares of customers (\(B_{\text{row-share}} = 1.39, t(107) = 32.01, p < .001\), fitting the Duplication of Purchase Law) and in inverse proportion to its own share of customers (\(B_{\text{column-share}} = -0.27, t(107) = -6.30, p < .001\), reflecting the Natural Monopoly Law). Together, these effects accounted for 91.2 percent of the variability in customer sharing (\(F(2, 107) = 557.84, p < .001\)). In this section of the analysis, only four cases were over 1.96 deviations from expectations, not appreciably different from the 5.5 such cases one would expect by chance alone.

Only three cases in Exhibit 5 appear to be both practically and statistically significant. First, Cracker Barrel gets more than the expected share of Applebee’s customers. However, this is not a bi-directional effect and may be due to chance; with 110 cases, at least one case would be expected to differ from expectations at the .01 level by chance alone. The other two cases are the Cheesecake Factory and P.F. Chang’s, which I also included in the analysis shown in Exhibit 4. Once again, the most likely explanation for the unusually high level of customer sharing between these two restaurants is that both attract more wealthy customers than do the less expensive restaurants. Still, there is no other evidence that price differences among the restaurants lead to unusually large or small levels of customer sharing. Thus, taken as a whole, these data suggest that restaurants with widely different prices do not attract substantially different types of customers.

### Exhibit 5

<table>
<thead>
<tr>
<th>Customers of Price</th>
<th>Applebee’s ($$)</th>
<th>IHOP ($$)</th>
<th>Red Lobster ($$$)</th>
<th>Denny’s ($$)</th>
<th>Cracker Barrel ($)</th>
<th>Texas Roadhouse ($$$)</th>
<th>Cheesecake Factory ($$$$)</th>
<th>Steak n Shake ($)</th>
<th>Buffalo Wild Wings ($)</th>
<th>P.F. Chang’s ($$$$)</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shares of All Respondents</td>
<td>39%</td>
<td>32%</td>
<td>31%</td>
<td>26%</td>
<td>24%</td>
<td>19%</td>
<td>16%</td>
<td>15%</td>
<td>14%</td>
<td>14%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Notes: *Pricing data is from Consumer Reports, July 2009, pp. 22-23. Values shown in **bold** deviate from the expected value by 10 or more percentage points. Values on a **yellow** background deviate from the expected value with \(p<.05\), while values on a **red** background deviate from the expected value with \(p<.01\).
Cornell Center for Hospitality Research
Publication Index
www.chr.cornell.edu

Cornell Hospitality Quarterly
http://cqx.sagepub.com/

2013 Reports
Vol. 13 No. 1  2012 Annual Report
Vol. 13 No. 2  Compendium 2013

2013 Proceedings

2012 Reports
Vol. 12 No. 16 Restaurant Daily Deals: The Operator Experience, by Joyce Wu, Sheryl E. Kimes, Ph.D., and Utpal Dholakia, Ph.D.
Vol. 12 No. 15 The Impact of Social Media on Lodging Performance, by Chris K. Anderson, Ph.D.
Vol. 12 No. 14 HR Branding How Human Resources Can Learn from Product and Service Branding to Improve Attraction, Selection, and Retention, by Derrick Kim and Michael Sturman, Ph.D.
Vol. 12 No. 13 Service Scripting and Authenticity: Insights for the Hospitality Industry, by Liana Victorino, Ph.D., Alexander Bolinger, Ph.D., and Rohit Verma, Ph.D.
Vol. 12 No. 12 Determining Materiality in Hotel Carbon Footprinting: What Counts and What Does Not, by Eric Ricaurte

Vol. 12 No. 11 Earnings Announcements in the Hospitality Industry: Do You Hear What I Say?, Pamela Moulton, Ph.D., and Di Wu
Vol. 12 No. 10 Optimizing Hotel Pricing: A New Approach to Hotel Reservations, by Peng Liu, Ph.D.
Vol. 12 No. 9 The Contagion Effect: Understanding the Impact of Changes in Individual and Work-unit Satisfaction on Hospitality Industry Turnover, by Timothy Hinkin, Ph.D., Brooks Holtom, Ph.D., and Dong Liu, Ph.D.
Vol. 12 No. 8 Saving the Bed from the Fed, Levon Goukasian, Ph.D., and Qingzhong Ma, Ph.D.
Vol. 12 No. 7 The Ithaca Beer Company: A Case Study of the Application of the McKinsey 7-S Framework, by J. Bruce Tracey, Ph.D., and Brendon Blood
Vol. 12 No. 6 Strategic Revenue Management and the Role of Competitive Price Shifting, by Cathy A. Enz, Ph.D., Linda Canina, Ph.D., and Breffni Noone, Ph.D.
Vol. 12 No. 5 Emerging Marketing Channels in Hospitality: A Global Study of Internet-Enabled Flash Sales and Private Sales, by Gabriele Piccoli, Ph.D., and Chekitan Devc, Ph.D.
Vol. 12 No. 4 The Effect of Corporate Culture and Strategic Orientation on Financial Performance: An Analysis of South Korean Upscale and Luxury Hotels, by Hyunjong “Spring” Han, Ph.D., and Rohit Verma, Ph.D.
Vol. 12 No. 3 The Role of Multi-Restaurant Reservation Sites in Restaurant Distribution Management, by Sheryl E. Kimes, Ph.D., and Katherine Kies
Vol. 12 No. 2 Compendium 2012
Vol. 12 No. 1  2011 Annual Report

2012 Tools
Vol. 3, No. 4 The Hotel Reservation Optimizer, by Peng Liu
Vol. 3 No. 3 Restaurant Table Optimizer, Version 2012, by Gary M. Thompson, Ph.D.
Vol. 3 No. 2 Telling Your Hotel’s “Green” Story: Developing an Effective Communication Strategy to Convey Environmental Values, by Daphne A. Jameson, Ph.D., and Judi Brownell, Ph.D.
Vol. 3 No. 1 Managing a Hotel’s Reputation: Join the Conversation, by Amy Newman, Judi Brownell, Ph.D. and Bill Carroll, Ph.D.

2012 Industry Perspectives
Vol. 2 No. 3 Energy University: An Innovative Private-Sector Solution to Energy Education, by R. Sean O’Kane and Susan Hartman
Vol. 2 No. 2 Engaging Customers: Building the LEGO Brand and Culture One Brick at a Time, by Conny Kalcher
Vol. 2 No. 1 The Integrity Dividend: How Excellent Hospitality Leadership Drives Bottom-Line Results, by Tony Simons, Ph.D.
In addition to the world’s leading faculty and hospitality management content, Cornell’s General Managers Program has allowed us the opportunity to surround ourselves with international peers where the networking opportunities alone open your eyes to new ideas and challenges.

Kerry Jayne Watson  
Group Operations Manager  
Inverlochy Castle Management International, Scotland

Gain the leading edge in hospitality management.

Cornell University’s General Managers Program (GMP)  
The GMP is an intensive, operations-level education experience designed to help hospitality professionals hone their tactical leadership skills and develop the strategic vision to pioneer unparalleled success. Join us and gain an invaluable connection to the industry’s most influential network of elite hoteliers.

Learn more at hotelschool.cornell.edu/execed/gmp13