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Welcoming Sage Publications

With this issue, the Cornell Hotel and Restaurant Administration Quarterly switches publishing houses to Sage Publications (hereafter referred to as Sage). To clarify what this means, the Quarterly is still owned by the School of Hotel Administration at Cornell University and is published within the scope of The Center for Hospitality Research (CHR). However, Sage now manages the Quarterly’s publishing functions. That is, Sage is responsible for printing the hard copies of the journal, managing the journal’s electronic distribution, filling orders for the journal, selling advertising in the journal, and other related functions. The CHR remains responsible for the editorial content of the journal—the articles, the editor’s column, and this column.

Motivations for the Change
The list of reasons why we changed publishers is long and varied. The root of the problems was that our goals for the Quarterly were not the same as those of the previous publisher. We want the Quarterly to reach as far as possible into the hospitality industry to disseminate useful management information. The previous publisher viewed the Quarterly as an academic journal to be circulated mostly to institutions—not at all in keeping with the mission statement that we have diligently followed for more than forty years. The consequences of this divergence in goals were that numerous readers (and wannabe subscribers) told us of the former publisher’s poor or nonexistent order fulfillment, both for the journal as a whole and for reprints, and little apparent advertising or promotion of the journal. In short, the previous publisher compromised the Quarterly’s effort to reach practicing managers.

The process of switching publishing houses was nontrivial (the details would fill this issue). When the CHR requested proposals from other publishers, Sage emerged clearly as the top candidate in our evaluations. My predecessor as executive director, Cathy Enz, and the CHR’s managing director, Joe Strodel, deserve significant credit for moving this change forward.
**Expected Outcomes**

In my interactions with Sage staff members, I have been impressed with their professionalism. If one can judge performance on the basis of how fast e-mail messages are answered, then Sage would be a clear winner. Sage has a well-developed business plan for the *Quarterly*, a plan that includes advertising and promoting the *Quarterly*. Sage seems particularly cognizant of the importance of including more industry managers in the *Quarterly*’s readership mix.

There are two changes in the *Quarterly* that I predict will be most notable from the subscribers’ perspective. The first is better customer service with respect to subscription inquiries. Sage has assured us that subscription requests will be handled promptly and professionally, and everything they have done to date indicates they will deliver on this promise. The second notable change is the frequency of issues: the *Quarterly* will be returning to quarterly publication. (Indeed, I often think a good trivia question would be, how often is the *Cornell Quarterly* published? Yes, people do ask. The answer over the recent history would be six times a year! We never thought, however, that changing the name to “*Cornell Bimonthly*” would be wise.)

**Welcome, Sage!**

In closing, I would like to extend a hearty welcome to Sage. To our new publishing partner, we say that we at the CHR (TheCenterForHospitalityResearch.org) and the School of Hotel Administration at Cornell University (HotelSchool.com) are pleased that you are assuming the role of managing the *Cornell Quarterly*, and we thank you for your patience in the process. We look forward to a long and successful relationship!—*G.M.T.*
From the Editor

Asking the Big Questions

This issue of the Cornell Hotel and Restaurant Administration Quarterly is the first to be published by Sage Publications. As Gary Thompson notes elsewhere in this issue, this change will truly be a great benefit for the Cornell Quarterly and its readers. As excited as we here at the Cornell Quarterly are about this procedural change, I anticipate that it will be the content of this issue that will excite our readers. This issue has allowed researchers and practitioners to ask tough questions on a sensitive topic. The question I have for you, the reader, is, do you allow yourself to be excited by the opportunity to ask tough questions?

The section on ethnic (or racial) differences in tipping is noteworthy, not only because of what each author says but also because of the significance of the topic. The subject is a prickly one, so prickly that many would dare not touch it. But these authors, this editor, and this publisher took on the challenge. You, our readers, will judge how well we handled it. There is no possibility that this issue’s articles can resolve the issue of racial differences with regard to tipping practices. No topic as complex as this could be solved in a single issue of a research-based practitioner journal. But first steps have been taken, and discussions have begun. It is the process of asking questions, especially the questions that we may not always be so desirous of hearing, that advances the opportunity to think and learn.

While research is often characterized by small incremental steps in thinking, we researchers also have the opportunity to spend time thinking about complex and controversial issues that businesses may not have the time or desire to address. Issues of this kind may not represent theoretical situations but instead involve issues that affect the way business is done. The Cornell Quarterly provides an opportunity to communicate some of this work. We certainly have done so in the past, we do so in the present issue, and I expect to continue doing so in the future. With the change of publisher and the special section highlighting but one type of controversial issue that research can address, I am hopeful that this journal can provide readers with the opportunity to
engage in meaningful discussions about critical matters that are important to the management of hospitality businesses. I certainly hope researchers will continue to ask the controversial questions—the big questions—that need to be asked to make fundamental advances in thought and work. In part, this means tackling issues that are truly troubling practitioners, but it also means asking the questions that many may not feel comfortable asking.

Beginning a new year with a new publisher presents us with more than merely symbolic change. I see the Cornell Quarterly as being reinvigorated in its mission: to publish research-based insights of use to hospitality industry practitioners. I also see these changes as providing a renewed opportunity for the Cornell Quarterly to be the forum for sophisticated debate of controversial issues. We need research to challenge our assumptions. We need research to force us to face controversial issues. It is my hope that the new Cornell Quarterly, published by Sage, will serve as a crucial vessel through which researchers and practitioners can communicate such research and, ultimately, help the readers of the Cornell Quarterly perform better in their work.—M.C.S.
Ethnic Differences in Tipping: A Matter of Familiarity with Tipping Norms
by Michael Lynn

An analysis of the common supposition that typical tipping amounts depend on a restaurant customer’s ethnic or racial group finds support for some differentials, but not the overwhelming differences frequently claimed by restaurant servers based on their anecdotal observations. The crux of any tipping differential may be education regarding tipping norms, rather than a matter strictly of demographics. A study of U.S. residents found that a higher percentage of respondents who were members of a minority group indicated that an appropriate tip was either a flat tip or a percentage lower than the customary 15 to 20 percent. Rather than avoid the issue or deal only in stereotypical responses, restaurateurs might better consider means for educating their customers regarding current industry tipping norms and the reasons for those norms. The alternative could be reduced patronage, potential lawsuits, high turnover from disgruntled servers, and missing out on potentially lucrative ethnic markets.
Racial Differences in Restaurant Tipping: Evidence from the Field
by Emily D. Noll and Susan Arnold

The authors’ first-hand experience from the field lent credence to the long-held belief that black customers do not tip as well as white customers, even when servers contend that they deliver their best service. To test this notion, the authors conducted two exploratory studies in restaurants in Maryland and Florida. The first study used a convenience survey of 99 servers in two restaurants. Using a benchmark of 15 percent of the check for a “good” tip, a large majority of respondents supported the supposition that parties of blacks leave tips below the benchmark. In a subsequent single-restaurant study, the authors asked two servers to record their actual tips for each party served during a two-week period—a total of 151 parties. Again, the mean tip left by blacks was lower than the mean tip left by whites, whereas other factors, such as gender, had no significant effect on tip levels.

“Dining While Black”: Tipping as Social Artifact
by Danielle Dirks and Stephen K. Rice

Recent studies posit that black American diners often leave smaller tips than do white American diners. Using in-depth interviews of white restaurant workers (who dominate front-of-the-house positions), this study frames the issue according to how restaurant workers view and respond to customers of color. The research indicates that white American restaurant workers actively participate in derogatory stereotyping of black American customers, engage in the use of racial code words and derogatory ethnic labels, and discriminate in their service interactions with black customers. Among other things, servers attempt to negotiate with other employees to avoid having black parties seated in their section and actively try to trade off such “undesirable” parties. Servers’ logic is self-perpetuating in the sense that they avoid serving parties of black customers because they anticipate poor tips from those parties. These results suggest that evidence of racial tipping differences needs to be viewed cautiously in the service context.
The Tipping Point—Gratuities, Culture, and Politics

by Gerald A. Fernandez

Education is one means for encouraging all restaurant diners to leave tips that meet commonly accepted tipping norms. Such an educational effort would extend to all ethnic groups and races, rather than single out any particular minority community. The need for education is motivated by the perception that the minority community’s supposed poor tipping is the result of a failure of awareness—although servers have ascribed many other motives to the apparent discrepancy in tip amounts. Rather than continue to work with suppositions, the restaurant industry needs a comprehensive study of actual tipping behavior and the issues underlying that behavior. The consequence of failing to educate customers and to ascertain the issues surrounding tipping is that the tipping differential will likely continue—with negative outcomes for the restaurant industry. Those outcomes include a negative perception of the industry as being composed of dead-end jobs and lurking concerns about institutionalized racism.

Restaurant Revenue Management: Implementation at Chevys Arrowhead

by Sheryl E. Kimes

Revenue-management tools can be used by restaurant managers to analyze the effects of process-control changes. A dinner house seeking to shift demand and to achieve greater facility utilization during busy times analyzed the factors that caused delays in the service process—and thus increased the guest queue. Although the restaurant was able to hasten the actual dining time, much of the slack was found in the processes that occurred before and after the actual dining period. Moreover, the restaurant managers were able to analyze customer-arrival and market-mix data in relation to the restaurant’s table mix. Seat occupancy was improved by matching the table arrangement to the customer mix, and table turns were increased by improving the kitchen operations so that front-of-the-house functions could be tightened up. In particular, end-of-meal steps were speeded up. As a result of its process improvements, the restaurant enjoyed revenue growth greater than that of comparable restaurants.
An Evaluation of Guests’ Preferred Incentives to Shift Time-variable Demand in Restaurants
by Alex M. Susskind, Dennis Reynolds, and Eriko Tsuchiya

A key aspect of restaurant revenue management is to find inducements for guests to shift their demand from peak to off-peak dining times. At issue is the means for creating those inducements, and guests’ potential wait times. A survey of 367 guests waiting in a queue at a busy dinner house examined the possible acceptance of inducements for shifting demand. Given the chance for discounted meals in exchange for dining in off-peak hours, more than three-quarters of respondents indicated that they would accept that incentive. Demographic differences affected the extent to which respondents would be willing to shift demand, with younger respondents being more willing to switch than were older respondents. The median wait that was acceptable to this respondent group was 30 minutes, with a mean of 39 minutes. One limitation of the data is that the survey was conducted during busy weekend times; weekday diners might respond differently.

Hotel Revenue-management Forecasting: Evidence of Expert-judgment Bias
by Zvi Schwartz and Eli Cohen

The interaction between a human revenue manager and a computer screen offering revenue-management data is influenced by certain attributes of the computer interface. A study of 57 experienced revenue managers tested two interface attributes that affected the way revenue managers adjusted the computer’s forecast. Using a four-cell typology, the test involved pairing the computer’s speed (fast or slow) with whether the computer did or did not show the status of its calculations (graph of calculations or no graph). All other data were presented identically as requested by the users and all revenue-management projections were identical. One might expect that experienced managers would base their decisions on data alone, but the study indicated that the nature of the interface swayed the extent to which managers adjusted the computer’s forecast. This study’s manipulation of the computer interface was modest, further research should examine how the computer interface might affect human judgment.
Ethnic Differences in Tipping

A Matter of Familiarity with Tipping Norms

by MICHAEL LYNN

Studies of tipping behavior indicate that black customers tend to leave lower tips than do white customers. Rather than unnecessarily demean a customer group, however, the industry should try to understand and address the underlying cause of this ethnic difference in tipping. The results of the study reported here suggest that differences in tipping between African American and Caucasian customers may reflect differences in the groups’ familiarity with the 15 to 20 percent restaurant-tipping norm. This explanation suggests that one solution to the problems posed by differences in the groups’ tipping is to publicize the 15 to 20 percent tipping norm in minority communities.

Keywords: tipping; ethnic minorities; restaurants

Several years ago, the owner of a Miami restaurant was widely chastised in the public media for characterizing African Americans as being poor tip-pers. Unfortunately, his comments reflected a covert but widespread belief within the restaurant industry. Many waiters and waitresses believe that African Americans tip less than Caucasians. For example, an unpublished survey I conducted among fifty-one servers at a restaurant in Houston found that 94 percent of the servers classified black customers as poor tippers. As a result of that belief, many table servers dislike waiting on black customers, deliver inferior service to black guests on whom they must wait, and refuse to work in restaurants with a predominately black clientele. Although anecdotal, the following quotations...
drawn from a discussion board at www.tipping.org illustrate what many in the industry believe are widespread views.

— All the servers I work with hate having to wait on minorities, black people in particular (and over half of our waitstaff is black!!!). It is not uncommon to have several black tables in a night that rack up a bill of over $100 and then not tip more than $2. When I started working there, I never prejudged a table based on color. I gave outstanding service to every table and the tips were excellent, except from my black tables. After about three months, I caught on to why all of our waitstaff never wanted to wait on black tables.

— I work in a seafood restaurant located in the midwest... I thought the average black person not tipping was just a regional problem; I guess it’s a national problem. I will not take black tables unless I have no other option; call me racist, but I also walk out with more money than the people who end up with them.

— I’ve lost count as to how many black tables I’ve waited on in my five years of serving, both in the north and the south. But I can count literally on one hand how many times I’ve been left a decent (15-percent) tip. As a result, to (most—not all!) I will wait on you last and spend less time with you. Because, though I’ve tried giving considerate, friendly, and attentive service, it’s been to no avail.

— I have worked in restaurants that attract a black clientele, and I am done with it. I grew up in Cleveland Heights, Ohio, and was not raised with any prejudices, but within the walls of a restaurant my prejudices have formed. Not only am I not treated well when waiting on them, but I am not tipped well. I have since moved to a restaurant that attracts a very yuppie clientele, and I am treated well and tipped on every bill. It is a very frustrating cultural difference and one that I just don’t know how to deal with anymore.

In this article, I examine the consequences of the above attitudes and actions, as well as potential solutions to the problems they pose for the restaurant industry. Specifically, I argue that (1) servers’ perceptions of black–white differences in tipping are generally accurate, (2) the resulting attitudes and behavior on the part of servers toward black customers are harmful to restaurants, and (3) the underlying causes of black–white differences in tipping must be understood and addressed if these problems are to be reduced or avoided. I then present evidence supporting the idea that black–white differences in tipping reflect differences in familiarity with the restaurant-tipping norm. This explanation suggests that individual restaurant managers and the restaurant industry as a whole need to promote the 15 to 20 percent tipping norm to black consumers.

I conclude the article by making several specific suggestions about how such a promotional effort could be conducted.

Why This Is an Industry Challenge

Unfortunately, servers’ beliefs that blacks tip less than whites appear to be accurate. Soon-to-be-published studies reporting data from national telephone surveys, from server records, and from exit interviews with restaurant customers indicate that (on average) blacks tip 20 percent less than do whites. This black–white difference in tipping is not due to income or other demographic differences between the two ethnic groups, because that difference remained both sizable and statistically significant after controlling for sex, age, education, income, and household size. Nor can this difference in tipping be attributed to discrimination in service delivery, because it remained significant after controlling for service quality. In one of the studies, black restaurant patrons actually rated the service slightly higher than did white patrons, but the black patrons still tipped less. Furthermore, black patrons’ tips were not significantly
related to their evaluations of the service. These latter findings do not mean that service discrimination never occurs or that service discrimination never contributes to ethnic differences in tipping. However, these results do suggest that service discrimination is not the primary cause of black–white differences in tipping. They also indicate that simply delivering comparable levels of service to black and white customers will not result in comparable tips from the two groups.

I contend that this ethnic difference in tipping, along with its effects on servers, represents a problem for the restaurant industry. Specifically, servers’ negative attitudes and behavior toward black customers contribute to the following: (1) lower restaurant patronage from black consumers, (2) lawsuits alleging that restaurants discriminate in service delivery to blacks, (3) high levels of employee turnover in restaurants with a predominantly black clientele, and (4) a reluctance on the part of restaurant chains to enter black communities. Each of these points is discussed further below.

Reduced patronage. Servers’ negative attitudes and behavior toward black parties most likely reduce restaurant patronage on the part of African Americans. Blacks are less likely than whites and other minority groups to frequent casual and family restaurants and are more likely than other groups to order take-out and delivery. While other factors also play a role, the fact that many servers dislike waiting on black tables and deliver inferior service to them undoubtedly contributes to such patterns of restaurant patronage. The alienation of blacks is costly to sit-down restaurants because blacks represent approximately 12 percent of the nation’s population and possess an estimated buying power of over $646 billion a year. Moreover, the population and the buying power of blacks are growing faster than are the population and the buying power of whites. Thus, blacks represent an attractive, growing market that sit-down restaurants can ignore only at their own expense.

Lawsuits. Servers’ discrimination against black customers threatens restaurants with civil litigation and negative publicity, as occurred with Denny’s Restaurants. Two highly publicized class-action lawsuits filed against Denny’s in 1993 resulted in a $46-million settlement and tarnished the company’s reputation. Though the company has since made great strides in turning around its policies and burnishing its reputation, as recently as 1999, Denny’s continued to be the target of lawsuits alleging discrimination against black customers. Of course, Denny’s is not the only restaurant company subject to such suits. Cracker Barrel is currently involved in a publicized class-action lawsuit seeking $100 million in compensation for the company’s alleged discrimination against black patrons. Even if Cracker Barrel ultimately “wins” this lawsuit, its legal fees and loss of reputation will be costly.

Turnover. Servers’ unwillingness to work in restaurants with a largely black clientele increases employee turnover, which, in turn, increases the costs of business and lowers profit margins for those restaurants. Sid Levy, who operates steak houses in black communities in Maryland, has said that his servers make less in tips than do servers at other restaurants in the region. As a result, he experiences higher-than-typical turnover and is experimenting with additional ways of compensating his servers. Levy’s experiences are not unusual. Gerald Young, who owns an
independent restaurant in Philadelphia, has said that low tips from non-white customers resulted in monthly turnover of 100 percent until he decided to add an automatic, 18 percent gratuity to every bill.\(^{16}\)

**Missed markets.** Finally, tipping-related turnover makes black communities relatively unattractive target markets for restaurants and restricts the expansion of restaurant chains into those markets. In an article for DiversityInc.com, Linda Wallace noted that many affluent African American communities have a shortage of sit-down and fine-dining restaurants. She also wrote that

Industry experts cited two reasons chains have not aggressively pursued these markets: a belief that they can’t make money and a perceived problem with tipping. Across America, there is a widespread belief among restaurateurs that African-Americans and members of some immigrant ethnic groups just aren’t good tippers. This perception, they say, shapes strategic decisions about restaurant placement and customer policies, yet it is rarely discussed publicly because bringing it up might appear racist.\(^{17}\)

**The Industry’s Response**

The high costs of servers’ negative attitudes and behavior toward black customers have prompted some restaurant companies to address the issue. However, those efforts have largely focused on symptoms rather than on their underlying causes. For example, one restaurant chain monitors its servers’ treatment of black customers and lets its servers know that discriminatory behavior will result in termination of employment.\(^{19}\) Unfortunately, such monitoring is costly and cannot be done for every server–customer interaction.\(^{19}\) Thus, it is at best an imperfect solution to the problem of service discrimination. Furthermore, monitoring does nothing to address (and may exacerbate) turnover.

In a similar stab at symptoms, some restaurateurs operating in black communities try to reduce turnover by adding automatic service charges or by paying higher wages.\(^{20}\) However, surveys indicate that most U.S. consumers dislike automatic service charges.\(^{21}\) Furthermore, restaurant chains that impose automatic service charges in predominantly black communities but do not do so in white communities open themselves up to charges of racial discrimination. Paying higher wages is another option, but the resulting increase in labor cost is difficult to pass on to consumers. Restaurant chains cannot pass such costs on to consumers, because price differentials between black and white communities would be perceived as discriminatory. Independent restaurants (with one location) can pass those costs on to consumers without appearing discriminatory, but higher prices may result in the loss of some business.

To find lasting solutions to the problems posed by ethnic differences in tipping, the industry must understand and address the underlying causes of those differences. One likely explanation for black–white differences in tipping is that blacks may be less familiar with the norm of a 15 to 20 percent tip than are whites. Consistent with this potential explanation, researchers have found that blacks are less inclined to base their tips on bill size than are whites.\(^{22}\) In other words, blacks are more likely than whites to leave a flat tip (regardless of check size). Furthermore, black–white differences in tipping diminish with restaurant-patronage frequency, which should logically be related to knowledge of tipping norms.\(^{23}\) Despite
these findings, research is needed to directly test the existence of differences in the two groups’ knowledge of tipping norms. The study reported below was designed to do that.

Survey of People’s Knowledge of Tipping Norms

As part of a larger, national telephone survey, U.S. residents were asked, “Thinking about tipping overall, not your own practices, how much is it customary for people in the United States to tip waiters and waitresses?” Responses to this open-ended question regarding customary tip amounts were categorized by the interviewers into one of the following mutually exclusive categories:

- less than 15 percent,
- 15 to 20 percent,
- more than 20 percent,
- a dollar amount,
- “don’t know,” and
- other. 

At the end of the survey, respondents were also asked various demographic questions. Information about each respondent’s ethnicity (white or black), sex (male or female), age (in years), education (in seven ordered categories), income (in ten ordered categories), household size (number of people), and “metro status” (metro = 0, nonmetro = 1) were used in the analyses reported below.

The survey results suggest that blacks are less familiar with restaurant-tipping norms than are whites. Exhibit 1 shows the comparisons of blacks’ and whites’ responses to the survey question. Overall, the distribution of blacks’ responses differed significantly from that of whites. Most important, blacks were about half as likely as whites to say that the customary restaurant tip in the United States is 15 to 20 percent of the bill (37.4 percent for blacks, and 71.2 percent for whites). This ethnic difference is statistically significant (see Exhibit 1) and remains significant even after controlling for the respondents’ sex, age, education, income, household size, and metro status.

Additional comparisons of the different response categories indicate that blacks are more likely than whites to say that

- they do not know the customary restaurant-tip amount in the United States (12.1 percent for blacks and 2.4 percent for whites);

<table>
<thead>
<tr>
<th>Response to a Query about the Customary Restaurant Tip</th>
<th>Blacks (n = 99)</th>
<th>Whites (n = 788)</th>
<th>$\chi^2(1)^*$</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15%</td>
<td>28.3%</td>
<td>17.5%</td>
<td>6.71</td>
<td>.010</td>
</tr>
<tr>
<td>15% to 20%</td>
<td>37.4%</td>
<td>71.2%</td>
<td>45.79</td>
<td>.001</td>
</tr>
<tr>
<td>More than 20%</td>
<td>4.0%</td>
<td>3.7%</td>
<td>0.03</td>
<td>.858</td>
</tr>
<tr>
<td>A dollar amount</td>
<td>15.2%</td>
<td>3.3%</td>
<td>28.02</td>
<td>.001</td>
</tr>
<tr>
<td>“Don’t know”</td>
<td>12.1%</td>
<td>2.4%</td>
<td>24.59</td>
<td>.001</td>
</tr>
<tr>
<td>Other</td>
<td>3.0%</td>
<td>1.9%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

NOTE: * Chi-square test of the difference between black and white percentages in each category.
• the customary restaurant-tip amount is less than 15 percent of the bill (28.3 for blacks and 17.5 percent for whites); and
• the customary restaurant-tip amount is a dollar amount rather than a percentage of the bill (15.2 percent for blacks and 3.3 percent for whites).

These ethnic differences are statistically significant (see Exhibit 1) and remain at least marginally significant after controlling for the respondents’ sex, age, education, income, household size, and metro-status.27

Perspective on the Results
One concern about a study of this kind is readers’ reactions, especially given the stereotypes already found in the restaurant industry. Some people who have examined these findings have expressed a fear that they will be used to justify continued industry prejudice and discrimination against blacks. I understand those fears, but I believe that they are misplaced for two reasons. First, as previously discussed, the belief that blacks tip less than whites is already widespread in the restaurant industry, based on servers’ assessments of their personal experiences. Consequently, those inclined to racial prejudice and discrimination have already developed an excuse for their attitudes and behavior. Given the finding that blacks do tip less than whites, it is naive to believe that the resulting stereotypes, prejudices, and discriminatory behavior will disappear if the industry simply pretends that ethnic differences in tipping do not exist. In fact, failing to acknowledge and address this sensitive issue will only perpetuate a status quo that harms restaurants and customers alike by encouraging restaurant servers to discriminate in service delivery and discouraging restaurant operators from opening restaurants in predominately black communities.

Second, the findings in this survey do not point to anything inherent in blacks’ character or psychology as being the cause of tipping differences. Rather, the findings suggest that this ethnic difference is due to a cause—unfamiliarity with tipping norms—that can be remedied and that also affects the tipping of almost one in three whites. Thus, these findings do not justify continued prejudice and discrimination against blacks. Instead, they point out a way to solve these problems, which is to make all customers aware of tipping norms.

This survey’s findings present the restaurant industry with a difficult and sensitive task. Blacks are unlikely to leave tips that are considered normal as long as they do not know about or accept the 15 to 20 percent tipping norm. Thus, public-relations campaigns are needed to promote that norm to black consumers. In general, social scientists have found that people

Although the topic is sensitive, the restaurant industry needs to openly discuss and deal with ethnic differences in tipping. This study contributes to the dialogue by providing evidence that black consumers are less familiar with the restaurant tipping norm than are white consumers.
Sidebar

The study in the accompanying text was part of a commercial, omnibus (multicustomer) survey conducted by Taylor Nelson Sofres (TNS) Intersearch using Genesys random-digit-dial sampling. The sampling method allows researchers to sample people with unlisted phone numbers. The researchers completed 1,024 interviews—788 interviews with white respondents, 99 interviews with black respondents, and the remainder with respondents from other ethnic groups. Only the interviews with black and white respondents were used in this study.

The refusal rate reported by TNS Intersearch for the overall survey was 71 percent, which raises the possibility of self-selection bias. However, there is no reason to believe that nonrespondents differed from respondents in knowledge of restaurant-tipping norms, so self-selection (though present) is not likely to bias the survey data. Even if self-selection does affect the data, it is unlikely to differ by ethnicity and, therefore, is unlikely to bias the reported analyses of ethnic differences.

The wording of the survey question was designed to elicit descriptions of injunctive tipping customs or norms. I believe most respondents interpreted it that way. However, one reviewer felt that respondents may have interpreted my question as asking about descriptive norms. Thus, that reviewer believes that the survey results may indicate only that blacks have different perceptions than do whites about how much people actually tip—and not that blacks have different perceptions than do whites about how much people are expected to tip. However, it seems likely that most people would assume the injunctive norm is complied with and would use their perception of the injunctive norm to describe typical tipping behavior. In that case, both interpretations of the question would lead to the same answer. Furthermore, if blacks do perceive descriptive and injunctive tipping norms differently, then they would feel less social pressure to comply with the injunctive norms. This reduced social pressure could also explain why blacks tip less than do whites and would also suggest that a public-relations campaign (like those described later) would help blacks to “buy into” the injunctive tipping norm. Thus, I argue that the practical implications of the survey results are similar under both interpretations of the question.

I doubt that anyone knows the single best way to accomplish the above objectives. More research on blacks’ attitudes and opinions about tipping, restaurants, servers, and potential spokespersons is needed to help identify and develop promising courses of action. Then experiments and quasi-experiments should be used to pretest the various approaches and identify those that are most effective. Nevertheless, in the paragraphs below, I offer some suggestions about what restaurant managers and others in the restaurant industry can do to promote the 15 to 20 percent tipping norm.

Suggestions for Restaurant Managers

Restaurant managers can inform and remind their customers about the 15 to 20 percent tipping norm by putting appropriate information on menus, table tents, and checks. Recently, many restaurants have started doing this by adding “suggested tips” to checks and credit-card slips. Although one research study found that providing tipping guidelines had little compliance with social norms more when they are aware of the norm, internalize (or personally subscribe to) the norm, believe that others comply with the norm, and also believe that the approval of significant others depends on norm compliance. Thus, efforts to promote compliance with the restaurant-tipping norm among black consumers should involve one or more of the following:

- inform customers that a tip amounting to 15 to 20 percent of the bill is customary and expected;
- remind customers of the norm at the time they must make tipping decisions;
- explain why tipping 15 to 20 percent is important;
- convince customers that most other customers tip 15 to 20 percent; and
- increase the social approval (or disapproval) customers feel when leaving good (or bad) tips.

That anyone knows the single best way to accomplish the above objectives. More research on blacks’ attitudes and opinions about tipping, restaurants, servers, and potential spokespersons is needed to help identify and develop promising courses of action. Then experiments and quasi-experiments should be used to pretest the various approaches and identify those that are most effective. Nevertheless, in the paragraphs below, I offer some suggestions about what restaurant managers and others in the restaurant industry can do to promote the 15 to 20 percent tipping norm.

Suggestions for Restaurant Managers

Restaurant managers can inform and remind their customers about the 15 to 20 percent tipping norm by putting appropriate information on menus, table tents, and checks. Recently, many restaurants have started doing this by adding “suggested tips” to checks and credit-card slips. Although one research study found that providing tipping guidelines had little
effect on average tip size, two executives at one restaurant chain have told me that they found this practice helpful. They observed an increase in tipping at their restaurants with largely black clienteles when the managers included tipping guidelines and information about server compensation with the bills given to all customers. At minimum, this is an easy and inexpensive solution that restaurant managers should try.

A more elaborate (and perhaps more effective) managerial intervention would be to remind customers of the tipping norm and to publicly reward them for compliance with that norm. For example, a manager could introduce a game that dining parties leaving at least a 15 percent tip would be eligible to play. (Tables that tipped less than 15 percent would not be eligible to participate in the game.) Servers would bring a bucket of loose playing cards (with the restaurant’s logo on the back) to eligible tables after the bill and tip had been paid and members of the dining party would be invited to pick one card for every entrée ordered. The people at a table could combine the cards from this visit and from previous visits to construct a poker hand that is redeemable for free food on future visits. For example, a pair might win a free side dish, and four of a kind might win a free entrée. Instructions explaining the game and eligibility requirements could be handed to guests when they are seated, printed on table tents, or inserted into menus.

A promotion of this type would do the following things to increase tipping: (1) it would remind customers that they should tip at least 15 percent; (2) it would identify those who do tip at least 15 percent to others in the dining room—thus demonstrating that others comply with the norm; (3) it would reward those who do tip 15 percent with social approval from other diners in the room and with the opportunity to win food on future visits; and (4) it would encourage good tippers to visit the restaurant again to collect more cards or to redeem poker hands already accumulated.

The first three of these aspects of the game should affect the tips of patrons unfamiliar with the restaurant-tipping norm more than they do the tips of those already familiar with the norm. Thus, the game should decrease ethnic differences in tipping.

Suggestions for Others in the Restaurant Industry

The restaurant industry can help its managers solve the problem of black-white differences in tipping by conducting multimedia campaigns promoting the 15 to 20 percent tipping norm. One campaign should target all ethnic groups because blacks were not the only group unfamiliar with the restaurant-tipping norm. Approximately one-third of the whites in this survey were also unfamiliar with the norm, so they too need education about it. In my opinion, the National Restaurant Association (NRA), whose stated mission is to “represent, educate and promote” the restaurant industry, should take the lead in developing, funding, and running such a campaign.

Although a broad campaign promoting the 15 to 20 percent tipping norm to all consumers would be helpful, a separate campaign concentrated in communities with a particularly low knowledge and acceptance of the norm might also prove useful. For example, a campaign specifically targeting blacks could use appeals, models, and media that would probably be more effective than those used in a campaign geared toward a general audience. One concern about a campaign specifically promoting minority tipping is that it might reinforce negative stereotypes...
about ethnic minorities and contribute to discrimination against them in the broader society. For this reason, any such campaign should be designed to have a low profile outside minority communities.

One approach to keeping a low profile in the broad society is to work with local churches and other organizations within minority communities to get the message out privately. For example, Rita Booker, who is cochair of the Interfaith Action Communities Committee on Development Issues in Prince Georges County (Maryland), has expressed a willingness to foster discussion of appropriate tipping behavior in an effort to bring restaurants into her community. Representatives of restaurant chains and representatives of the industry as a whole can and should work with people like Booker to quietly promote tipping in minority communities.

A campaign promoting minority tipping can also keep a low profile outside minority communities by using only ethnic magazines, television channels, and radio stations. For example, radio celebrity Tavis Smiley discussed poor tipping among blacks during “The Smiley Report” on ABC radio’s Tom Joyner Morning Show in July 2001. That discussion reached a large black audience without attracting attention from the white media. Similar discussions of tipping in black media, such as articles featured in Ebony or public-service announcements aired on Black Entertainment Television, could also be used to reach large black audiences while minimizing whites’ exposure to the message.

Given the sensitive nature of such a campaign and the need to get buy-in from minority organizations and media outlets, I believe that it should be organized and coordinated by a minority-run organization within the industry. The Multicultural Food Service and Hospitality Alliance (MFHA) is a likely candidate to fill this role. Its leadership recently demonstrated that it has the foresight and courage to address this issue when it featured a panel discussion of minority tipping at its national conference in August 2002. In my opinion, the MFHA should begin a campaign to promote minority tipping and should solicit donations of time, money, and effort from restaurant chains, black celebrities, and black media outlets to support that campaign.

Although more research and dialogue on ethnic differences in tipping would be welcome, I believe it is time to act on the information we already have about this issue. Concerted efforts along the lines described above by restaurant managers, the NRA, and the MFHA to promote the 15 to 20 percent tipping norm would give the industry a real chance to reduce black–white differences in tipping. In turn, reducing this ethnic difference would help the industry to fully serve and profit from black markets.

Endnotes

2. None of the servers classified whites as poor tippers.

6. In another study, black–white differences in tipping were found when respondents were asked how much they tipped waiters and waitresses who provided good service. See: Lynn (in press).


10. Ibid.


17. See: Linda Wallace, “The Restaurant Wars: Dare To Go Where No Broker Has Gone Before,” *DiversityInc.com*, August 9, 2001; and Amer, pp. 27–38.


19. The inability to perfectly monitor server treatment of black customers is probably one reason that Denny’s continues to be named in lawsuits alleging discrimination against black patrons (see note 12).

20. Amer, pp. 27–38.


22. See: Lynn (in press); and Lynn and Thomas-Haysbert (in press).


24. Some categories used by the interviewers have been combined for ease of reporting. For example, the “less than 15%” category combines the following two categories: “less than 10” and “10 to 14 percent.” Refusals to answer the question were counted as missing values.

25. Conclusion based on a $\chi^2 (5)$ of 71.41 ($p < .001$).

26. Conclusion based on a binomial logistic regression analysis that produced a Wald statistic (1) of 24.52 ($p < .001$).

27. Conclusion based on separate binomial logistic regression analyses in which all Wald statistics (1) were greater than 3.61 ($p < .06$).

29. As a general rule, expert opinions are not a reliable guide to the effectiveness of marketing and promotional campaigns. That is why most marketing campaigns fail. See: Kevin Clancy and Peter Krieg, Counter-Intuitive Marketing (New York: Free Press, 2000), pp. 21–27.


32. The study found that providing tipping guidelines increased some people’s tips but decreased others’ tips, so there was no net effect on tip size. See: David Strohmetz and Bruce Rind, “The Impact of Tipping Recommendations on Tip Levels,” Cornell Hotel and Restaurant Administration Quarterly, vol. 42, no. 3 (June 2001), pp. 71–73.

33. This game is based on a similar game that is actually played at John Thomas Steakhouse in Ithaca, New York. However, the restaurant’s management allows all guests to play the game regardless of how they tip.

34. Information about Rita Booker is drawn from: Wallace, op. cit.


36. The session, titled “Minorites Don’t Tip! Fact or Fiction?”, featured presentations by Cornell Barnett (owner–operator of Outback restaurants), Joseph Jackson (director of inclusion at Outback), Laura Kornegay (college and diversity recruiter at Carlson Restaurants), and me.

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Racial Differences in Restaurant Tipping

Evidence from the Field

by EMILY D. NOLL and SUSAN ARNOLD

Restaurant servers have the impression that black Americans do not tip as well as white Americans do—a perception that causes negative attitudes and actions on the servers’ part. A convenience survey of ninety-nine servers in twenty restaurants (in Maryland and Florida) lends credence to that general impression. Using 15 percent as the benchmark for a “good” tip, three-quarters of the servers stated that their black customers routinely tipped below 15 percent, while only one server said that white customers usually tipped less than 15 percent. In general, the servers’ race did not affect their responses about tip levels. In a second survey, two servers in Florida recorded their tips for a total of 151 parties over a two-week period. According to their records, nearly half of the entirely black parties tipped below 15 percent, and the mean tip for all black parties was 14.29 percent. For parties composed entirely of whites, one-fifth tipped less than 15 percent, while the mean tip for all white parties was 17.27 percent.

Keywords: tipping; racial differences; race and tipping

A monetary tip for a waiter is not simply a reward for a job well done. As those in the restaurant industry know only too well, the tip is effectively the server’s take-home pay. The average customer also seems to be aware that the tip is important, and that a 15 to 20 percent tip is standard. In most cases, servers do not even have to “go the extra mile” to ensure the customary tip, but if they choose to put research into action, they have the opportunity to increase their tips. There are, however, customers who do not follow standard tipping practice, and informal and formal surveys indicate that servers are equally mindful of the factors, including customers’ race, that are likely to result in less than the customary tip. When a server receives less than a 15 percent tip on a regular basis, this puts both the individual’s income and his or her morale in jeopardy, in addition to having broader implications for the restaurant industry.

The following results and related discussion are based on two heretofore unpublished studies, conducted five years ago. In the first study, a survey of...
nearly one hundred servers from twenty northern and southeastern restaurants indicated that three-quarters of the servers had similar experiences of their black customers’ tipping less than 15 percent on average and overall less than their white patrons. In the second study, data records of more than 150 customers kept by two servers at one restaurant indicated that blacks did leave smaller average tips than whites did.

What Servers Think

We asked more than a hundred servers, located approximately equally in Maryland and Florida, to complete a questionnaire about their beliefs regarding the size of tips typically left by black customers and white customers. Ninety-nine servers responded to that question, in addition to providing input on other supposed tip predictors (e.g., gender) and supplying related personal information (e.g., gender, years of experience). Only a few restaurants and servers that were approached declined to participate (see Exhibit 1). Statistical analyses were conducted to determine whether servers’ ratings of tip size varied by customer characteristics. In the analyses, the categories were assigned numerical values as follows: below 15 percent was 1, about 15 percent was 2, and more than 15 percent was 3.

Racial differences. Eight of the servers who participated in the survey were not aware of customers’ race as a predictor of average tip size. The majority of servers, however, had observed a relationship. Using the 3-point scale, servers reported that the average tip by blacks (males and females combined, Mean = 1.25) was less than the average tip by whites (males and females combined, Mean = 2.24) and also significantly less than 15 percent. Seventy-six servers indicated that black customers tipped below 15 percent, while only one server indicated that whites tipped below 15 percent. The racial difference observed by servers did not vary by servers’ location (Maryland or Florida) or servers’ years of experience.

Servers’ reports of tips by black female customers varied according to the server’s race. Just four of the eleven black servers (36 percent) indicated that black females tipped below 15 percent compared with fifty-eight of the seventy-six white servers (77 percent). Servers’ race did not affect reported tips for any other race or gender customer categories.

Other predictors. Overall, servers indicated that male customers tipped more (Mean = 1.86 on the 3-point tipping scale) than did female customers (Mean = 1.65). For white customers specifically, however, this gender difference was significant only for female servers. That is, female servers reported that their white male customers tipped them more (Mean = 2.58) than did their white female customers (Mean = 1.94). Among male servers, there was a nonsignificant tendency for tips reported for white female customers (Mean = 2.27) to be greater than those for white male customers (Mean = 2.19).

In regard to characteristics other than race and gender, servers reported that typi-
cal tip size for customers who paid with a credit card (Mean = 2.45) was higher than that for customers who paid by cash (Mean = 2.23). Tip size for couples without children (Mean = 2.57) was higher than that for couples with children (Mean = 2.00). Eighty-five of the servers indicated that customers who consumed alcohol tipped more that 15 percent. Ninety of the servers indicated that customers who had been servers themselves tipped more than 15 percent. By comparison, almost half of servers indicated that white males tipped more than 15 percent.

**Servers’ attitudes.** Servers also indicated how pleased they would be with tips of certain sizes, using a scale anchored by 1 (very displeased) and 5 (very pleased). As expected, servers were less pleased
with tips below 15 percent (Mean = 1.81) than with tips of 15 percent (Mean = 3.50) and, similarly, were more pleased with a 20 percent tip (Mean = 4.39) than with tips of 15 percent.

Recording Tips
We conducted a second study to explore whether servers’ beliefs were borne out in actual tipping behavior. Two servers agreed to keep records of their dining parties over a two-week period in the same franchised, table-service restaurant in Florida. Data were collected from a total of 151 parties. Actual tips were examined in relationship to customers’ race and other predictors (e.g., payment method; alcohol consumption—see Exhibit 2).

Racial differences. The servers recorded that almost half (46 percent) of all-black parties tipped below 15 percent.
Among all-white parties, less than one-fifth (18 percent) tipped below 15 percent. The average percentage tipped by dining parties composed entirely of black customers (Mean = 14.29 percent) was less than that for parties of all white customers (Mean = 17.27 percent). Further examination of tips for black parties revealed one large tip (68 percent on a bill of $8.00). Excluding this outlying case, along with five tips by white parties of more than 26 percent, the percentage tipped by black parties (Mean = 11.97 percent) was less than that for white parties (Mean = 16.84 percent).

Other predictors. In regard to customer characteristics other than race, statistical tests revealed no significant effects on tip size. There was a marginally significant tendency for cash-paying customers (Mean = 17.90 percent) to tip more than customers who paid by credit card (Mean = 15.96 percent), but this trend disappeared when the extreme cases mentioned above were excluded from the analysis.

Tip percentage did not appear to vary by customer gender, presence or absence of children, or whether customers drank alcohol. When the extreme cases were excluded, the trend for parties without children to tip more than parties with children became marginally significant.

Black parties and white parties differed on other customer characteristics. Black parties, for example, were more likely than white parties to be composed entirely of women and less likely to be of mixed gender. They were also twice as likely to pay by cash.

Differences Perceived and Real

The results of the two exploratory studies presented here communicate both perceived and real differences in tipping among black and white restaurant patrons.

A Personal Note

When I began waiting tables part-time in 1996 in a popular, franchised steak house (to help offset college expenses), I initially struggled with the fact that my income (that is, tips) was unpredictable. However, after a couple of months on the job, and with the help of fellow servers, I began to learn the practical art of securing bigger tips—including kneeling at tables and drawing smiley faces on the customers’ bills.

There was one customer factor, though, that I seemed unable to do anything about when it came to getting a good tip. Given that factor—customers’ race—I came to expect a particular tip for my service. Black customers (including one NFL football player whom I will not name) usually (and predictably) tipped me less than 15 percent. White customers, on the other hand, usually tipped me at least 15 percent, and when I applied my server tricks, I could count on 18 percent.

At this finding, I felt frustrated with my black customers. Even more so, I was distressed over the environment of crude language and attitudes of my fellow servers toward black customers, with whom they had a similar experience. Frankly, there were nights that I was not only embarrassed to be privy to the kitchen conversations but also worried that simple customer ignorance of tipping norms (to which I attributed the cause) was detrimental to race relations.

An easy solution was elusive. I could not just go around “educating” my customers on tipping etiquette or adding an automatic 15 percent gratuity without putting my job on the line (and potentially involving the restaurant in a lawsuit). So, I pretended it was a factor I could influence and went on providing the best service possible to all customers, hoping that things would work out. Practically, however, I found myself, too, badgering the hostess to please give me the “tipping customers”; after all, I did have to buy overpriced college textbooks.

Research idea. As you can imagine, I jumped at the opportunity to propose an independent research project in my senior year of college to explore this issue. I got the chance to work with a social psychologist to systematically investigate (1) how widespread were similar experiences among servers and (2) how black customers actually tipped compared with white customers. The purpose of the research would not simply be to satisfy personal curiosity but to collect data that would urge others to further examine the issue and its implications. These implications, among others, include poor quality service to black customers, low employee morale, high employee turnover at restaurants with a large minority clientele, and reluctance of table-service restaurant chains to enter black markets. The results of our exploratory research are presented and discussed in the accompanying article.

Since collecting those data nearly five years ago, even though I am no longer a server, I have surmised that the issue still exists. Friends in the restaurant business continue to report the problem, several restaurants have faced lawsuits, and even a July 2003 segment on National Public Radio featured the topic. More rigorous studies, such as those conducted by Michael Lynn, now offer additional evidence, as well as possible causes and practical solutions. Studies should be continued and solutions tested, as the impact of racial differentials in tipping seems broad and costly.

Given the above anecdotal evidence, we conducted two exploratory studies to examine the tipping behavior of customers at sit-down restaurants. Specifically, our intention was to investigate whether customers’ race played a role in servers’ tips. Was my experience—that black restaurant patrons were more likely than white patrons to tip less than 15 percent—a widespread phenomenon? Data collected from both servers and customers seemed to suggest so, as we explain in the accompanying article. — E.D.N.
The majority of servers asked felt that black customers tipped less than 15 percent, and our survey of tipping behavior found that this was the case for almost half of black dining parties. With the exception of one extreme case, the average percentage tipped by black customers was less than 12 percent—which is smaller than the average tip by white customers.

The evidence that black–white differences in tipping are real means that the servers’ perceptions of the difference cannot be written off entirely as prejudice. In addition, servers’ perceptions of black–white differences in tipping and servers’ greater satisfaction with larger tips are likely to make servers less happy to wait on blacks than on whites.

Cautions in Interpretation

The design of the studies described above have weaknesses important to keep in mind when interpreting the results. The data in the first study are from a non-representative sample of servers. While data were collected from ten restaurants in Maryland and ten restaurants in Florida, they were selected from only one county in each, based on researcher convenience.

In the second study, the number of black customers was small. Future studies should use samples of sufficient size to test the relative effects of race and other variables on tipping. Our study had too few black parties to use linear procedures for examining the relative effects of the various factors. Finally, the absence of controls for customer income, for example, and service quality in the second study limit the scope of the findings.

Despite the studies’ weaknesses, the findings are still worth noting. Significant differences were found, and other studies (e.g., those conducted by Lynn) have found similar results with large samples of black customers and have taken into account both income and service quality. In conclusion, it now seems apparent that this is a real issue that the industry must acknowledge and address. In partnership with minority communities and advocacy groups, restaurants and their related national industry associations with experts in the field can creatively and respectfully test feasible, win–win solutions.

Endnotes


4. In addition to other studies mentioned, studies have examined how tip size varies by characteristics of servers, such as their attitudes and gender. For example, see: B. Rind and P. Bordia, “Effect on Restaurant Tipping of Male and Female Servers Drawing a Happy, Smiling Face on the Back of Customers’ Checks,” Journal of Applied Social Psychology, vol. 26, no. 3 (1996), pp. 218–25; and B. Shamir, “A

5. In the first study, servers from suburban Maryland and Florida restaurants completed a survey that asked them to categorize customers of various races and other factors (e.g., gender) into tipping categories of below 15 percent (1), about 15 percent (2), or more than 15 percent (3). Average tip reported for blacks (Mean = 1.25) was less than that for whites (Mean = 2.24; \(t(87) = 15.52, p < .001\)) and less than 15 percent (Mean = 2.00; \(z = 16.30, p < .001\)).

6. In the second study, 2,151 dining parties in a Duval County, Florida, restaurant were observed by two servers, who recorded observed (e.g., race) and actual (e.g., tip) information. Analysis of that data indicated that blacks, on average, (Mean = 14.29) tipped less than did whites (Mean = 17.27, \(t(130) = 1.94, p = .054\)) and, excluding one extreme case, tipped less (Mean = 11.97) than 15 percent (\(z = 1.99, p < .02\)).


8. Within-subject \(t\)-tests were conducted. Means for tip size and results of significance tests were examined, along with percentages of servers indicating various tip sizes, to illustrate the distribution of servers across the three categories.

9. \(t(87) = 15.52, p < .001\).

10. As compared with a mean of 2.00; \(z = 16.30, p < .001\).

11. Black servers reported that black female customers (Mean = 1.82) tipped them more than the level that white servers reported (Mean = 1.17; \(t(75) = 4.5, p < .001\)).

12. \(t(87) = 3.77, p < .001\).

13. \(t(51) = 6.91, p < .001\).

14. \(t(36), p < 1.00\).

15. \(t(76) = 2.20, p < .05\).

16. \(t(89), p < .001\).

17. \(t(97) = 25.24, p < .001\).

18. \(t(97) = 12.09, p < .001\).

19. \(t(130) = 1.94, p = .054\).

20. \(t(125) = 4.76, p < .001\); needless to say, this was also less than 15 percent (\(z = 1.99, p < .02\)).

21. Including all cases: \(t(143) = 1.65, p < .10\).

22. \(t(137) = 1.74, p < .08\).

23. Black parties were more likely than white parties to be composed entirely of women (blacks, 40 percent female, vs. whites, 14 percent female; \(x^2 = .029\)), and less likely to be of mixed gender (blacks, 52 percent mixed parties, vs. whites, 69 percent mixed parties; \(x^2 = .097\)). They were twice as likely to pay by cash (blacks, 66 percent cash paying, vs. whites, 34 percent cash paying; \(x^2 = .001\)).
“Dining While Black”

Tipping as Social Artifact

by DANIELLE DIRKS and STEPHEN K. RICE

Recent studies suggest that black American diners tend to tip less than white American diners. Rather than address tipping directly, this study uses in-depth interviews of white restaurant workers to frame the issue of how restaurant workers view and respond to customers of color. The present research indicates that white American restaurant workers actively participate in derogatory stereotyping of black American customers, engaging in the use of racial code words and derogatory ethnic labels, while discriminating—both overtly and covertly—in their service interactions with black customers. Among other things, servers attempt to negotiate with other white employees to avoid having black parties seated in their sections and actively try to trade off such “undesirable” parties. Servers’ logic regarding tipping is self-perpetuating in the sense that they avoid serving parties of black customers because they anticipate poor tips. These results suggest that evidence of racial tipping differences needs to be viewed cautiously in the service context in which they exist and that the industry should take special care to ensure that when servers serve black Americans, they should provide service that justifies a good tip.

Keywords: race relations; tipping; restaurants; discrimination

A majority of white Americans are fond of thinking that racism is a thing of the past and that black Americans no longer face intentional or widespread discrimination. While overt, aggressive, institutionalized racism has been outlawed, many black Americans believe that a different set of rules applies for blacks than what applies to whites, and they understand that racism is an integral, permanent, and indestructible component of society.

The restaurant-tipping debate introduced by Michael Lynn’s accompanying article demonstrates one aspect of the divide in people’s beliefs about racism. To summarize this article, many white servers believe that the majority of black customers tip poorly regardless of how well they are served. Lynn considers this a matter of the need to educate black American customers on current tipping practices in the United States. In this article, however, we present a different perspective—a perspective in which tips by black Americans may, in fact, correlate with the level of service they receive. Based on our research, we see restaurants as an institution plagued by racial discrimination not unlike many other American institutions, places where black Americans face continued and various forms of racism, regardless of law or official
policy. Our research focuses on tipping in the broader context of restaurant race relations and offers a lens by which to view tipping in the context of racial discrimination and continued racism in restaurants.

In an effort to extend the limited empirical work that exists on black Americans’ experience as restaurant customers, this study examines one exemplar of everyday racism: the spoken and unspoken and organizational rituals that govern restaurant experiences. Using in-depth interviews of restaurant workers, the study examines how restaurant workers (primarily, servers) address issues of race, explains how elements of social exchange (tipping in particular) play out in the restaurant’s interracial “theater,” and examines the extent to which restaurant workers view their racial stereotypes as rational beliefs. We ground our study within a broader institutional context, embedding this study’s data points into the broad sweep of ingrained belief systems and institutionalized restaurant practices.

Institutional Misconduct and the Black American Experience

The majority of everyday examples that we introduce in this article involve interpersonal interactions between restaurant servers and customers, fellow servers, and dining-room hosts, hostesses, and managers. But as Feagin et al., Bell, and others suggest, when one speaks of differential access or opportunity based on biology, one cannot separate the interpersonal from the structural; they are in many ways variants of the same problem. It is in this vein that one must begin to understand the historical precedents that still, some argue, govern black American customer experiences in a full range of leisure and commercial establishments.

Although most observers point to Haynes v. Shoney’s as the most egregious example of formalized racist practices in the restaurant industry, serious charges have also been levied against Denny’s (e.g., management’s often publicized use of the word blackout as a code for having too many black customers in a Denny’s restaurant at one time), Red Onion, International House of Pancakes, and Domino’s. Also part of the restaurant industry’s sad history was the case of the Sambo’s restaurant chain. This firm drew human-rights complaints in the 1970s because its name invoked the stereotype from “Little

Restaurant workers claim, “Blacks don’t tip.” But even if that were true, it tells only part of the story.

Probably the best-known case of discriminatory malfeasance in the restaurant industry involves the Shoney’s Corporation, in the case of Haynes v. Shoney’s. In 1992, after two years of bitter court battles related to a class-action lawsuit on behalf of 21,000 persons, the Shoney’s Corporation settled the Haynes case for $132.5 million, the largest such settlement in United States history. As detailed in the accompanying sidebar, the lawsuit included well-established examples of overt and covert racism on the part of Ray Danner, Shoney’s cofounder and chair of its board, and other senior managers. With regard to formal policies and procedures, Shoney’s was also found to lack an affirmative-action plan, a formal application process, and objective criteria for promotions.
Examples of Racism at Shoney’s

The accompanying article explains that restaurants typically have a public face that is nominally not racist, coupled with a private, often racist face. That was not the case with Shoney’s. As detailed in the class action, Haynes v. Shoney’s, the company’s cofounder was overtly racist, as shown in the following description:

[Ray Danner] . . . spent most weekends flying to his restaurants across the country. His inspections were the stuff of legend—he was rumored to pitch in if the restaurant was busy, and he made time to speak to all the staff members. He also, according to the managers under his rule, made sure to let them know if there were too many blacks working in a particular restaurant. “Lighten the place up” was a favored euphemism for this policy. The chain’s upper ranks instructed managers to cut back on black staff by sharply reducing their work hours, and promotions of black workers were all but forbidden. Managers were instructed to blacken the o in “Shoney’s” on the application form if the job seeker was black.9

Another source added, “Danner would say that no one would want to eat at a restaurant where ‘a bunch of niggers’ were working . . . [Danner believed that] blacks should not be employed in any position where they would be seen by customers.”10 — D.D. and S.K.R.

Black Sambo.” Indeed, the chain used the story’s cartoon-type character as a logo.11

In short, formal complaints against U.S. restaurant chains suggest complex and persistent patterns of discrimination related to race, power, and culture.

By the Numbers

To better understand differential patterns of treatment based on race, we present the following snapshot of the black American experience within the restaurant industry, which is the largest employer of service workers, regardless of race, in the United States. The numbers suggest distinct patterns of “preferred” roles and missed opportunities. Although black workers make up one-tenth of all those employed in the United States, black Americans constitute 13 percent of those in food-service jobs. Sixteen percent of kitchen workers and 19 percent of cooks are black, compared with only 5 percent of waiters and waitresses and less than 3 percent of bartenders.12

The issue extends beyond the fact that black workers are more likely to be in the back of a restaurant than in the front. Few black Americans are to be found in the ranks of the industry’s management, and few black entrepreneurs have been able to secure franchises in major family-restaurant chains. Black entrepreneurs have also had difficulty obtaining bank loans to start restaurants, either on their own or as part of a franchise arrangement.13 With this background, we turn to our examination of blacks’ experience as restaurant customers.

Dining While Black

In addition to examples of racial discrimination made evident in the Denny’s and Shoney’s cases, many research studies on racism indicate that discrimination in restaurant dining is not uncommon for black Americans.14 Feagin and Sikes revealed the following forms of restaurant discrimination: black Americans were slow to be greeted, were seated in undesirable locations such as next to the kitchen or outside, and were largely ignored by service-staff members while dining.15 Researchers have suggested that these examples are extensions of Jim Crow–era denials of service16 and typify the more subtle and intangible acts that characterize today’s “modern racism.”17

In a study focusing on the leisure-travel experiences of black Americans, Willming found that 76 percent of the 131 people she surveyed reported some form of “rejection, harassment, threats, or verbal or physical attacks simply because of
race” while eating in sit-down restaurants. Furthermore, 51 percent of those surveyed reported racial discrimination in the hotel or motel restaurants they visited, and 46 percent reported perceived discrimination while dining at fast-food restaurants. A 1997 Gallup poll analyzed by the Urban Institute indicated 21 percent of black Americans had encountered race-based discrimination while dining out in the previous thirty days. Collectively, these reports support the colloquial term “dining while black,” marked by racial discrimination that is similar to the experience of “driving while black” (being stopped and searched for spurious reasons), “shopping while black” (being harassed or followed by store employees), and “hailing (a cab) while black” (being refused ride service).

Restaurants’ Regressive Racial Climate

While research on discrimination in restaurants has focused on the experiences of customers as targets of prejudice, we know of little research regarding restaurant personnel as instruments of discrimination—particularly in terms of their attitudes and actions. As we noted at the outset, much of the work on race relations and restaurant workers focuses on the practice of tipping within restaurants and how tipping practices are possibly related to restaurant workers’ perceptions, attitudes, and treatment of black Americans.

Servers’ a priori perceptions of tipping differences have been thought to be one possible explanation for discrimination against black American customers. Those servers who believe that black Americans do not tip well may then provide inferior service to black customers, which then in turn leads to lower tips—in a self-fulfilling prophecy. (That is one thesis presented by Lynn and Thomas-Haysbert.) Potential tipping differences aside, understanding the interpersonal and organizational rituals that govern the dining experience of black Americans may help to better explain discrimination on the part of some restaurant personnel.

An examination of the tipping.org Web site reveals that restaurant workers have much to say about restaurant race relations, particularly in conjunction with tipping habits. Notable threads are posted under headings such as “Minorities Don’t Tip: True or False?” and “Why Don’t the Majority of Black People Tip?” Such threads draw hundreds of candid responses that allege specific tipping behavior by black Americans in comparison to white Americans, as well as additional groups of Americans of color and international diners. Many of those who write negatively about black Americans are quick to explain that they are not “racist” or “prejudiced,” even though they often say things that are indeed just that.

Backstage Race Talk

As the discourse at the tipping Web site suggests, many restaurant workers rely on stereotypical knowledge schemas to guide their treatment of black Americans as customers. Many of the threads focus on racial stereotypes regarding tipping behavior, the shared understanding of and language used by white American restaurant workers regarding restaurant race relations, and the justification for differential and discriminatory treatment given to black American customers. As stated above, if restaurant personnel believe that black Americans tip less and are therefore less deserving of equal service, servers may give inferior service in the first place, thus eliciting the very tipping practices they abhor. Poor tips become a confirmation of the servers’ personal beliefs and contribute to the shared organizational
knowledge. The cycle is perpetuated when existing servers’ perceptions of their experiences generate a discourse that helps to shape incoming employees’ belief structures.

The self-perpetuating nature of stereotypes has been studied both cognitively and through private discourse. Our research here relies on private discourse, such as what one would find in the (backstage) discussions among restaurant workers. Private discourse exists with relative selectivity and is negotiated within a restaurant lexicon that involves the coding of events, people, and beliefs. Research on private discourse and racial language by van Dijk suggests that both work to shape prejudice and discrimination. As Myers and Williamson’s work on backstage “race talk” suggests, individuals frequently make derogatory and stereotypical remarks about black Americans through shared backstage or private discourse among other white Americans.

**Backstage Race Relations**

The responses by restaurant personnel at the tipping Web site highlight many current themes in racial and ethnic relations. “Old-fashioned” forms of racism, involving overt discrimination and open expression of anti-black attitudes and opinions, are now being disguised in more subtle forms of “modern racism” that involve the tacit expression of a racist belief system coupled with an abating acceptance of negatively expressed attitudes. Many white Americans have become quite adept at presenting themselves as nonprejudiced individuals while still harboring many racist and stereotypical notions regarding race relations and black Americans.

The notion of a “frontstage” and a backstage presentation of oneself has evolved into the concept of frontstage and backstage racism. Similar to the idea of “aversive racism” that characterizes “the racial attitudes of many whites who endorse egalitarian values [and] who regard themselves as nonprejudiced, but who discriminate in subtle, rationalizable ways,” the frontstage and backstage racism framework posits that individuals are adept at negotiating a nonprejudiced and socially appropriate frontstage presentation but may be more likely to reveal an openly prejudiced and racist self in a backstage setting that serves as a “safe space” for racist sentiment and action. These ideas suggest that racial attitudes have become increasingly complex and nuanced in the sense that many prejudiced individuals will outwardly agree with egalitarian social and racial norms while actively avoiding their internalization.

Examining the racial language and rituals that exist as part of the “everyday” thread of race relations in the restaurant is important, as people of color are often targets of negative and prejudicial stereotypes and suffer in multiple ways from interpersonal and organizational discrimination. In an attempt to understand the individual and organizational purveyors of such discrimination, this study examines white American restaurant workers’ knowledge of the rituals, processes, and language that govern the hiring and dining experiences of black Americans.

**Interviewing Restaurant Employees**

Sixteen white restaurant workers, thirteen women and three men, were interviewed for this study. Their ages ranged from nineteen to forty-six. All participants had worked in at least one table-service, chain restaurant or were currently doing so; work experience ranged from two months...
to twenty-five years. Participants worked in various parts of the United States, with most working in the southeast. The majority of the participants were college educated, with approximately half working while also attending college.

Procedure. In-depth interviews were conducted with the respondents. Located through personal contacts via phone, e-mail, or in person while dining in restaurants throughout Florida, candidates were asked whether they would be willing to participate in a study on restaurant workers and restaurant race relations. Interviews were conducted at the location, date, and time of participants’ choosing—usually in their homes. Two interviews were conducted at a quiet coffee shop, and three interviews were conducted in a room reserved at a university campus. Interview lengths spanned from twenty-five to ninety minutes. Informed consent and demographic information were collected from all participants. Interviews were audiotaped and later transcribed.

Participants were asked to describe their restaurant work experience, their knowledge of discrimination policies and diversity training in their restaurant(s), information about the racial composition of employees and customers, and their knowledge or perceptions about hiring practices. Participants were asked about the interpersonal aspects of their positions including how they would describe the “racial climate” of the restaurant(s); what they thought about black Americans’ reports of discrimination; their perceptions of tipping across race, class, and gender lines; whether they could recall possible race-related language or incidents; and how they felt race was handled (in a general sense) at their place(s) of employment. If a given participant had work experience at more than one restaurant, she or he was asked to describe each restaurant in separate, distinct terms. Transcribed interviews were then analyzed using a grounded-theory framework.34

Racial Divides in Restaurant Employment

To clearly capture the underlying interpersonal and organizational rituals and processes related to the black American restaurant experience in hiring and dining, we first present the results related to the broad business context as experienced by participants, and then we delve into the frontstage and backstage interactions that serve as the framework for understanding the individual and institutional practices that govern black Americans’ experiences in restaurants.

Hiring practices at the restaurants covered by this study suggest a pattern of differential hiring practices and a form of employee “steering” toward front-of-the-house and back-of-the-house positions. Nearly all of the respondents reported that front-of-the-house positions tended to be filled by white Americans, while people of color were usually given back-of-the-house positions, especially those that offered lesser status and lower pay. In that regard, one hostess noted,

Um, it’s . . . predominantly white [laugh]. Everybody who works, who works at any of the restaurants I have, like especially server-wise has been white. Anybody of any other ethnicity has been either in the kitchen or um, yeah, either like a line cook or a dishwasher. . . . If there is a black person in the restaurant, um, or even like a Hispanic person, they’ll usually be in the kitchen.

Another hostess elaborated using front- and back-of-the-house descriptions, as follows:
I think the back of the house, the people like the cooks and cleaners, the majority are African American. The front, the hostesses are all white, and maybe there are three servers who are black. . . . There’s like one black manager and five white ones. The majority of the back of the house are African American.

The responses of our respondents regarding their restaurants are similar to reports from other institutions where few white Americans have close, equal-status, personal contacts with people of color.35 Many of our respondents had to pause to think of any people of color with whom they had worked. For instance, one server asked us to give her a minute to “rack her brain” as she tried to recall a single person of color with whom she worked. Another respondent, a server who had worked in a variety of front-and back-of-the-house positions in her twenty-five years of experience was shocked when she realized the following:

In fact, I don’t know that I’ve ever worked in a restaurant—in all the years that I’ve worked—that I’ve worked next to a black server! That I’ve ever had that . . . that I’ve even had that situation! I can’t ever remember, looking back, that I’ve ever worked with a black server! Um. . . .

As the veteran server’s account above suggests, one can work for decades in a restaurant without having the opportunity to have an equal-status contact with a person of color. When asked to reflect on that realization, this server elaborated,

I don’t know! I find it bizarre! Until right now, I guess I never really put a lot of thought into it, but since you’re asking . . . um, I would say it probably has a

lot to do with race . . . that, unfortunately, if you are black, they don’t want you to be in the service industry, where you’re out in the front of the house—on the front lines, you know. Um, maybe they think that the customers think that blacks are dirty . . . um, I don’t know! I don’t know what the reasoning would be, but I do . . . looking back on it right now find it pretty strange that there wasn’t more of a mixture of blacks and whites working side by side!

Notice that this respondent quickly speculated that customers will think “blacks are dirty” and that those who do the hiring would not want black Americans in front-of-the-house positions. Not only does this reasoning involve an egregious anti-black belief, but this is known as “consumer discrimination,” a form of employment discrimination in which employers hire employees based on the racial composition of their consumer base or by attempting to anticipate consumers’ racial desires.36 In particular, this type of discrimination is found to affect positions that involve direct customer contact.37

Although our study involved race, we found that many of the accounts given by respondents indicated that positions within the restaurant align not only by race but also by gender. Every respondent in the sample mentioned that white American males filled the management and ownership positions in the restaurant, with few people of color or women working in such positions. One server tried to recall a black manager but could not do so:

I’m trying to remember if I’ve ever worked with . . . a manager in a restaurant that hasn’t, that has been anything other than white? No, in all three restaurants I worked at, all of my managers have, all my managers have been white males, with the exception [that] I’ve had
two female managers, you know, that have kind of come and gone, you know, a couple months period. . . . Both of them were white.

The intersection of race and gender was also prominent for the hostess position, as this server recalled that the hostess position also required a certain look to be hired:

I had one black girl that worked at the Shrimp House, out of the two years that I worked there, as a hostess. And the only reason I think that she was allowed to work there, was because she was really cute . . . and she was thin, and she was very trendy like all the other cute little hostess-types that they hired . . . and she was a friend of someone who knew someone. She came with a very good recommendation, but, um, yeah. That’s the only time! In the two years of working there, I never worked with a black server.

The peculiar language used by this respondent, indicating that the young hostess was “allowed” to work at the restaurant, is worth noting. Perhaps this is to suggest that she would be prohibited from holding that position if she did not meet the criteria of being cute, thin, and trendy. In short, despite her skin color, she was enough like all the other “cute little hostess-types” and recommended through a personal contact for the job.18

In their totality, these study findings suggest a pattern of differential hiring practices and a form of steering employees toward different positions. At the same time, many respondents had been able to successfully navigate their employment within the restaurant without having to examine how privilege may have played a role in their own hiring or how their racial identity marked their positions within the restaurant. Nearly all respondents worked in the front of the house, and they consequently had had little opportunity to work side by side with people of color. That situation reinforced certain prejudicial attitudes, as explained next.

Setting the Backstage for a Culture of White Servers

The “behind the scenes” or backstage context of the culture of workers is shaped by the dichotomous racial composition of front- and back-of-the-house positions. The interview data reveal that a “culture of white servers” exists in the restaurants described in our sample. In this culture, white servers relate to each other in sharing the experience of dealing directly with customers and working for tips. Differential access to server positions excludes people of color from joining the ranks of this culture of white servers, as many respondents revealed. As one server pointed out, “There are a lot of racial divides in the restaurant.”

Respondents shared that these divides provided a means by which white servers were able to actively exclude themselves from other workers backstage, using a private racial language that was deliberately hidden from people of color and from managers. The racial language reflected a relatively widespread anti-black belief system that took the form of the use of racial code words and a reliance on racial stereotypes to guide the level of service black Americans would receive. The interview data cited numerous examples of how white workers actively engaged in backstage racial and stereotypical language to denigrate black American diners and how this shaped their frontstage dining experiences.
Canadians, Cousins, Moolies, and “White People”

We found that many of the restaurant workers described in this study actively engaged in racially based coding of people, actions, and ideas. This backstage, codified racial language is consistent with Toni Morrison’s term “race talk,” meaning coding primarily used to degrade “others”—that is, people of color. One respondent spoke directly about servers’ use of racial language in backstage areas:

It’s only behind closed doors. Like, you know, like they would never go out into like “the real world” and, you know, like call somebody a “nigger,” or anything like that. Like they wouldn’t do that. It’s not that type of overt, prejudiced racism. But it is a closed-door joking, kidding around.

That assessment of the backdrop by which white servers can openly share racist sentiments among other white servers begins to reveal the backstage existence of race talk in the restaurant. To avoid using the term nigger even in the restaurant’s backstage, white servers in one respondent’s restaurant used the word Canadians as a code word for black Americans, as follows:

When a table, you know, a black table were to come into the restaurant, a lot of people . . . there’s a code word at my restaurant that’s called “Canadian,” and so, being a hostess, I get asked a lot by the servers, don’t seat me with “Canadians.” And that’s known throughout the restaurant as “don’t seat me with black people” because they’re not tipped well or they don’t tip well and you know, you’re just gonna, it’s just gonna be an aggravation, and that’s what the general consensus in the restaurant is, is that it’s just gonna be a big aggravation to have that table sit in your section because it’s gonna be a waste of time for you.

Other respondents cited the identical use of that term or words like it in other restaurants. Code words included cousins, moolies, and even white people. When asked, most respondents could not explain the possible origin of the code words. Deciphering what the code words meant was described as part of the informal employee “training.” One respondent explained the nonliteral use of the term white people in the backstage areas of her restaurant:

You had to kind of, like try to . . . read between the lines so you could figure out what people were saying. We had a couple of servers, a lot—well, quite a few servers, who would come back to the back stage area and would say, “I hate white people.” I remember the first time I heard that; I thought, “that is kind of striking.” And then I noticed that [those servers] were serving a black family, for example. So that became a racially coded way in which they could express their racist sentiment yet still do it in a nonracist way. So it just became this kind of racist schizophrenia.

The “racist schizophrenia” noted by that respondent shows use of racial code words in presenting oneself as nonracist. White servers can use code words openly and appear nonracist while still harboring negative racist sentiments. As such, “speaking nasty about black people” can be done with ease as black customers and employees are not privy to the words’ meanings.

When other respondents in the sample were questioned about the existence of code words, one hostess recalled that there
was not necessarily a use of code words but a more discreet form of coding. She shared,

Servers would come up and say . . . “don’t seat me with ‘these people’” instead of just saying, “don’t seat me with ‘black people.’”

Another respondent’s answer highlighted that among some workers, there was little need for words in code. Servers would say directly, “don’t seat me with black people,” instead of using terms to conceal their prejudice. In nearly all of the interviews, racial coding was linked to the pervasive derogatory stereotyping of black American diners.

Stereotyping of Black American Customers
Stereotypes of black American customers ranged from the types of foods they would order (“chicken fingers” and “free waters”) to the alleged breaking of “acceptable” customer roles. As one server explained, “They [black customers] tend to be very snappy, and ‘do this, do this,’ like ‘ma’am,’ snap in your face, and then don’t leave you any tip, so most people don’t want to serve them willingly.” In every one of the interviews, the shared sentiment and “common knowledge” among white restaurant workers was that black Americans do not tip well, and as such, servers should “not waste their time” on these customers.43

Although there is some research suggesting that there may be ethnic tipping differences and that black Americans tend to tip less than white Americans, our study elucidates possible tipping differences in the context of everyday racism.44 Indeed, as we explain next, many respondents articulated how stereotypes regarding black American customers shaped the prejudices of white servers and justified the numerous accounts of discriminatory actions reported in the interviews.

Attitudes Shaping Action
As we indicated above, in all of our interviews, tables of black diners were described as the most unwelcome of restaurant clientele, with servers going as far as to tell hostesses at the beginning of work shifts, “Oh, if a black table comes in, don’t give it to me. Give it to so and so . . . I don’t want it.” If a server was not able to get his or her way with a hostess, servers would often come up with other methods for dealing with “unwanted” tables directed toward hostesses: “Do you hate me or something?”; “I don’t understand. Did I do something wrong?”; and “I hope you’re glad that I won’t be making any money tonight!” From a hostess’s perspective, servers were described as “really pissed off like it’s our fault that we sat them, you know, with a table that is gonna tip them poorly.” One respondent recalled being harassed by angry white servers: “Everyone yelled at me when I gave [a black table] to them.” Another shared the following:

When servers get aggravated at this restaurant they tend to . . . want to want to yell and take it out on me and things like that. Not at me personally, but like the hostess staff, they’ll come up and be like, “Gosh, why did you seat me at that table?” . . . you know, just that automatic reaction, “Oh, you sat me with a black table.”

The use of “hushed tones” and “silent looks” was also shared as a tactic used to keep racist sentiment private while still conveying an unwillingness to serve black customers. Two respondents recalled how servers would express this refusal when black diners would enter:
You know, when they see them walking with who seats them, if they’re standing at the servers’ station behind me I’ll hear, hear them whisper somethin’ like, “Not my section. Not my section.” And they’ll give me, you know, kind of like “eyes” as I’m walking them back through the restaurant. Kind of, you know, give me a look. And it’s kind of like a “Don’t seat them in my section” type look that they give.

I know a couple of servers who will get very mad if a hostess even seats them a black table....I know a couple of servers who . . . get very upset. I’m friends with a couple of different hostesses who have said things about a couple of different [servers who become angry at them]. I think they kind of make eye contact when [black customers] are there but they’ll talk to them afterwards.

Here we begin to see a breakdown of hidden and hushed racial language regarding tipping, as white servers assume that white hostesses should share the anti-black sentiment and also empathize with their negative attitudes by not seating black customers in their sections.

“Pass the Table”

Many respondents suggested that servers viewed a table of black American diners as a punishment delivered by hostesses or by other servers, who would try to rid themselves of the duty. One server shared that her white coworkers would “beg me to take [a black table] away from them if I was waitressing myself.” Other respondents elaborated on the ritual. One called it “the servers’ game of ‘Pass the Table.’” Another respondent described how servers in her restaurant would try to “make deals” and “swap tables” when they did not want to serve black customers. One hostess explained how this “game” worked:

A black table would come in and sit down. Generally what would happen is that a waiter is assigned a section of tables and whenever someone sits in that section they’re responsible for that table. They would try to have somebody else take it, you know, “I’ll do this,” “I’ll give you my next so and so table if you do this.”

Another server added, “I’ve heard remarks from other servers . . . ‘Uh, I don’t want to take that table ‘cause they’re black—they won’t tip’ whatever, you know.” While servers play Pass the Table, dissatisfactory service has already begun. The precedent is set for the rest of the dining experience. As such, empirical examinations of potential tipping differences must provide a sufficient degree of context regarding the customers’ experience.

Service with a Smirk

When one server was asked what would happen when servers would have to take an unwanted table, she commented, “I think that if they have to take the table, I think that they just give them the minimal. . . . I don’t think they go out of their way, I don’t think they go out of their way to be friendly. I think they just do it, because they have to, basically.” Another server reflected the following sentiment: “Sometimes the people [servers] who would take care of them [black American diners] wouldn’t give the best service because they didn’t think they were going to tip well.” In that vein, another said that the potential for poor service is evident:

I could see how they would say that [i.e., that black Americans face racial discrimination]; I know that when servers get a black table they are not particularly happy. They’re approaching that table thinking that they already have a bad tip.
So, why give someone good service to try to prove you wrong when it’s so much easier to have them prove you right?

Many of the respondents in the study talked at length about a hostile racial climate toward black diners and described a backstage where white servers’ stereotypical beliefs took shape in the form of neglect and poor service. One respondent commented,

I think they’re [black American diners] treated poorly. . . . It seems like the ones [servers] that have that attitude going in, get poor tips. . . . I do think that the people with the racist sentiments going into it do place those on their tables and on the service that they give to them [black American diners].

This respondent and several others appeared to recognize a self-fulfilling prophecy—that if restaurant personnel believe that black Americans tip less and are therefore less deserving of equal service, servers may then, in fact, provide inferior service (which would then, theoretically, lead to “substandard” tipping behavior). When they give poor service to black diners (and therefore merit a small tip), white servers are able to confirm their preconceived notions of black Americans’ tipping habits. Those servers feel “burned” and contribute their experiences to the shared discourse among fellow (white) servers. Not only are these self-fulfilling and self-perpetuating stereotypes calamitous for black Americans, but they also fuel the culture of anti-black beliefs, language, and action within the backstage.

Serving Up Discrimination

As the accounts from hostesses reveal, servers expect hostesses to “respect” the servers’ racist sentiment toward black American customers. In short, hostesses were not to seat black American customers in the “wrong” sections. One hostess shared an informal strategy to avoid being yelled at by angry servers: “I know this sounds terrible, but you kind of distributed the [black] tables out. . . . Everybody had to pay their dues.” Another respondent’s strategy for dealing with servers involved a more formal stance that involved reporting discrimination to management:

There’s been times where I’ve had like the entire serving staff come up to me and tell me, “Don’t seat me with Canadians.” So, I went, I’ve gone up to my manager before and I’ve said, “All right, look, I’m gonna go ahead and put, since no server in this restaurant wants to deal with black people, I’m gonna put a sign on the door saying, ‘No black people allowed.’ We’ll go back to segregation, because obviously no server in here wants to serve them.” And that, I think that really made a point to my manager.

After this incident, this hostess reported that management began taking
servers’ racial language and discriminatory service more seriously:

And now, everybody in the restaurant, when they are hired, they have to sign a piece of paper that says you won’t . . . I don’t know exactly what it says, but it pretty much says you won’t, you know, treat tables differently based on race. “We are a non-racist restaurant.” So that is something that has been implemented since I’ve said, made that comment to my manager . . . but it’s not something that’s like readily enforced. Like . . . the “Canadian” word is still thrown around.

You know, as much as it has been.

Even after this incident and even with managers’ official “nondiscrimination” dictum, we still see that the rituals and climate within the restaurant remain intact—and the supposed policy is not enforced.

One server suggested that management may in fact aid de facto discriminatory practices by adding mandatory gratuity (called “giving credit” in restaurant jargon) to black tables but not to white ones:

You have to get a manager to do it, and otherwise you can just give them the check if you don’t credit, and actually the majority of the people, when they’re black, they’ll go ahead and give them the credit. Because the majority of the people who are black leave bad tips.

In this server’s perception, formal policies are being bent and distorted differentially and would stand in direct contrast to the widespread rhetoric regarding diversity goals and nondiscrimination by management.

Frontstage and Backstage Interview Presentation

As Dovidio and Gaertner’s “aversive racism” framework suggests, many servers may be operating under the assumption that they give equal service to black and white diners and that they are indeed nonprejudiced, even though they harbor negative beliefs about black Americans that may express themselves in unconscious discriminatory exchanges with black Americans. Many of the respondents themselves stated that they always gave equal service to everyone, and most reported that they had not experienced tipping differences at all. It appeared that for this sample, tipping differences and antiblack prejudice had simply not occurred for them individually—at all. However, when the interview began to delve more deeply into respondents’ personal attitudes and actions and began to share them toward the end of their interviews, the stories changed, as we explain below.

As many of the interviews progressed, respondents who had earlier stated the importance of diversity training, extolled the virtues of black Americans diners, and essentially demonized the “racist” servers who worked around them, revealed paradoxical views later in their interviews. In the slippery politics of presenting one’s self as nonprejudiced, it appeared that some respondents revealed much more than they had to meant to say about their own actions and beliefs. One server who had stated earlier that diversity in the workplace was important, hedged later when she shared her views on affirmative action in hiring, as follows:

I mean, I don’t know. I, I mean, I hope a lot of people base it on their, how qualified they are other than . . . a race issue,
because that’s just, I won’t say it’s getting old, but I mean, I don’t want to say I’m tired of hearing it, but you know, it’s . . . I don’t know. It’s the littlest things, just always brought up and it’s, you know, we’re . . . just keep beating a dead horse. But, you know, it’s . . . I don’t think they realize the situation can be reversed. Sometimes, you know, it’s always, like, well, I’m always getting treated bad. My ancestors were slaves, you know?

Later in the interview, this respondent added,

Yeah, it, I mean . . . everybody, I’m sure, everybody has had bad treatment in their life. And, or you know, poor customer service, and you know, I don’t think it could be because of your color. I think it could be because of the worker. And they just don’t care. And maybe they’re busy or they have something else on their minds. So, it’s always, you know, there’s always something behind the reason why you got treated poorly.

According to this server, there are many reasons why someone has been treated poorly, yet “color” is quickly discarded. She does note that poor service could be a result of the “worker.” Her comments also echo the results of this study in the sense that a worker may indeed be busy or indeed “not care” about black diners because that server adheres to tipping stereotypes and derogatory racial beliefs. This respondent’s stance, though, omits any possibility of racially motivated discrimination. By stating that “everybody has had bad treatment in their life,” she neutralizes the seriousness of poor treatment. At the end of the interview, this server reflected on her own comments, “Wow, that was getting a little racist there at the end.” Bonilla-Silva noted that that diminutive tactic allows white Americans to “soften their racial blows” and to “cushion their views” on topics of race.47

Other servers reflected on their own behavior with reluctance, as one male server shared, “. . . I hate to admit, but . . . I try to give everyone, um, same service, but I try to concentrate myself on tables who I know are going to tip well.” This server cited “businessmen” and “middle-aged women” as those he thought would tip the most, so he would give the best service to these tables above black American diners, who he noted tipped less on average. This particular server would explain what the other servers around him would do first in his interview and then later reveal that he, too, engaged in such behavior.

Another server, who had earlier related always having positive views of black clientele, later shared that she refused to serve two black women who frequented the restaurant. She cited that she had waited only once on these two women, whom she referred to as “sistas,” and that they “ran me back and forth. . . . They returned everything to the kitchen and were a pain.” When asked why she refused to be seated with them again, she paused and exclaimed, “It’s not ’cause they’re black! It’s because they’re a pain in my ass!” By attempting to save face by stating that her refusal was not racially motivated, this server can maintain that she is just as nonprejudiced as she was at the beginning of her interview.

These accounts indicate that many of the respondents in our study attempted to keep up a good frontstage and backstage presentation, even while explaining how “racist” those around them were and then later admitting to committing the same discriminatory acts. While some of the
respondents may be true to the antiracist statements and actions they claim, many of these accounts indicate the relative ease with which many white Americans navigate two social worlds while employing two separate selves—the front- and the backstage.

Conclusion
This study has explored the spoken and unspoken interpersonal and organizational backstage rituals that govern the black American restaurant experience. It has explained how elements of social exchange (particularly tipping) play out in an interracial theater of action, how some personnel profess a tacit “rationality” of racial stereotypes, and how there exists a dichotomous picture of a frontstage restaurant experience governed by widely accepted modes of conduct (the “happy face”) and a backstage experience that is replete with racist rituals governing how people are seated, how they are served, and how race has become a core issue in the interactions between restaurant workers and restaurant clientele.

We found that racist rituals are reflected both in the restaurant’s organizational structure and interpersonal relations. Because the frontstage behavior is governed by maintaining the appearance of acceptable modes of behavior, discriminatory action is subtle and difficult to detect. Nevertheless, racist speech and action in the backstage spill over to the frontstage in many examples given by our respondents. Their comments suggest that racial rituals are more common than one would expect, given restaurants’ claims to the contrary. This was evident in the respondents’ vague knowledge of antidiscrimination policies, a lack of diversity training, and a notable racial dichotomy between front- and back-of-the-house workers.

The results of the study suggest that restaurant race relations are shaped by a pervasive stereotyping of customers of color by white restaurant workers. The intricate use and negotiation of racial code words and racial stereotyping indicates a strong need for diversity training, in conjunction with an aggressive hiring and restructuring effort within the industry. Organizational aspects that may be supportive of a “culture of white servers” need to be examined more closely. As some of our respondents noted, there is a certain level of informal learning that runs concurrently with formal employment training. How much this “invisible” culture molds new workers would be an interesting topic of study. Might the invisible culture transcend formal training in perpetuating racist discourse and action?

The fact that many of the servers in the study appear to feel justified in their prejudicial and discriminatory treatment of black American diners substantiates the reports of black Americans that they have experienced racial discrimination in the form of dining while black.

Areas for more research. Although the restaurant workers in our sample had been employed in many areas of the country, most respondents worked in the southeastern United States. Further research is needed to examine how servers treat racial differences in a variety of rural and urban areas. This sample was also predominantly female. Most of these women spoke extensively about sexism and sexual harassment from management, customers, and fellow employees. Some believed that the perceived status of restaurants as not being “real” places of work permitted that sexism, along with the racism that we have documented. Further
work on the intersections of racism and sexism will be necessary to examine how they shape both women’s and men’s experiences.

Finally, many of the restaurant workers at tipping.org claim that people of color who work in restaurants also participate in the stereotyping of black customers. In contrast to that claim, our interview data reveal tight-knit groups of whites who purposely exclude people of color in their racial language and joking. The extant literature suggests that black Americans face a great deal of discrimination in the workplace and that the restaurant industry is not unique in this regard. Restaurant workers’ experiences may vary greatly based on racial identity and position within the distinct organizational spheres of front and back of the house, thus shaping the restaurant experiences of all diners.

Endnotes

5. Feagin et al., op. cit.; and Bell, op. cit.
7. Ibid.
8. Ibid.
11. Feagin et al., op. cit.
12. Ibid.
13. Ibid.
15. Feagin and Sikes, op. cit.
16. Ibid.


23. Snyder, op. cit.; and Chen and Bargh, op. cit.


31. Houts, loc. cit.


34. Put simply, grounded theory refers to the process of building theory from the ground up—that is, systematically analyzing and categorizing qualitative data for the purpose of uncovering inherent trends and practices.


37. Ibid.

38. In a *New York Times* article, S. Greenhouse relays the story of Ian Schrager’s agreement to pay a $1.08 million settlement after the EEOC accused his Mondrian Hotel in West Hollywood of racial discrimination for firing nine valets and bellhops, eight of them people of color. Schrager had written memos saying that he wanted a trendier group of workers and that the fired employees were “too ethnic.” As one of the EEOC supervisory attorneys explained, “The problem with all this image stuff is it just reeks of marketing for this white-bread, Northern European, thin, wealthy, fashion-model look. We all can’t be Anglo, athletic and...
40. The derogatory term moolie is derived from melanzane, Italian for eggplant and referring to eggplants’ dark skin.
41. Greenberg, Kirkland, and Pyszczynski, op. cit.
42. Bonilla-Silva, op. cit.
43. See, for example: Noll and Arnold, on pages 23–29 of this Cornell Quarterly.
44. See: Lynn, loc. cit.; and Lynn and Thomas-Haysbert, loc. cit.
45. Rosenthal and Rubin, op. cit.; Snyder, op. cit.; Chen and Bargh, op. cit.
46. Dovidio and Gaertner, op. cit.
47. Bonilla-Silva, op. cit.

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The Tipping Point—Gratuities, Culture, and Politics

by GERALD A. FERNANDEZ

The issue of cultural tipping differences extends far beyond the practices of a single ethnic group. Rather than focus solely on African Americans, for instance, the restaurant industry should seek ways to educate many cultural groups in prevalent tipping practices. In the main, tips that are regarded as poor are mostly the result of ignorance and not spite. The consequences of poor tips are negative for the industry, for its employees, and for its customers. Therefore, cultural and industry groups should work together to educate customers from all backgrounds about tipping mores.

Keywords: tipping; multicultural; service; hospitality

The issue of how, when, and why people tip—all people, not just black people—is a complex and understudied issue. Consumers’ tipping behavior is an issue that is fraught with cultural misunderstanding, personal bias, inconsistent norms, and more than its share of politics. As a result, tipping is one of the most controversial subjects being discussed in the hospitality industry today. Professor Lynn’s research article (this issue) brings to the forefront several negative outcomes for the restaurant operator that can result from low tips.

The first negative outcome from low tipping is a higher-than-normal turnover rate for tipped employ-
ees. Waitstaff derive most of their income from gratuities. If service staff do not earn a high enough income at one restaurant, they will pursue employment with another. Employee turnover costs the operator money in the form of advertising and training costs, not to mention the loss of productivity.

The second and perhaps more important outcome is poor guest service. As a result of poor tips, waitstaff may begin to give lesser quality service to those individuals and groups whom they perceive as being poor tippers. Poor service discourages guests from returning to the restaurant, which can negatively affect profitability. It is for precisely this reason that tipping behavior by different groups of people needs to be fully understood so that an appropriate remedy can be pursued.

America’s history on race and the limiting of blacks and other minority groups to service jobs and manual labor have contributed to the deeply rooted stereotype that jobs where employees are tipped somehow are not “real jobs.” Young people rarely talk about growing up to be a waiter or a bartender when they finish school. The image of restaurant and hospitality jobs as being dead-end careers has contributed to the way people think about those who choose to work in the hospitality industry.

The issue is even more personal for blacks because they could work in restaurants and hotels and could entertain whites in hospitality establishments, but could not be served in those same establishments. Only forty years have passed since the days of whites-only lunch counters and separate drinking fountains. For many African Americans, a resentment still exists against the white establishment that denied black people basic human rights such as eating a meal in a public place. This resentment contributes to the way blacks may think about tipping.

Institutionalized racism is another contributing factor to the tipping behavior of blacks and whites. A recent study of taxi-cab drivers in New Haven, Connecticut, revealed that black cab drivers were tipped less by both white patrons and black patrons. This study and several others of similar circumstances suggest that blacks perhaps have bought into the notion that somehow white is preferable to black. America’s history of racial intolerance is deeply rooted in our history, our politics, and our culture. Why, then, would it not play a role in tipping behavior of both blacks and whites—especially in an industry that until recently had such clearly defined rules around race?

The first question I like to ask friends and colleagues is, “How did you learn about tipping?” The second question I ask is, “What kind of tippers are your parents?” The answers to both questions are quite revealing as to what kind of upbringing the individual. Tipping is a learned behavior. Parents play a huge role in how young people learn about the norms in society. Life and work experiences also help shape an individual’s attitude about tipping and the service industry as a whole.

I would argue that we as a society have no standardized method of teaching tipping norms to young people—or, for that matter, immigrants or foreign visitors. The result is inconsistent tipping behavior across all segments of the service industry. This results in negative stereotyping of African Americans, Hispanics, Europeans, single women, church groups, and the elderly (among others). For this reason, we have some servers who discriminate against certain guests because those guests do not tip.
That approach sounds to me like a classic case of what Samuel Betances, Harvard Ph.D. and global diversity expert, calls “blaming people for not knowing what they’ve never been taught.” This lack of knowledge with regard to tipping norms is not limited just to blacks, as some might suggest. The knowledge deficiency we have around tipping is national and multicultural in nature.

The good news is that the tipping knowledge deficiency is treatable. What is needed is education and straight talk about percentage tipping, the economics of a restaurant, and who gets tipped. A collaborative effort by industry- and community-based organizations could produce a solution that is both culturally sensitive and results oriented.

Yes, there probably are blacks and other minorities who refuse to tip whites as a way to express frustration for the daily indignities that minorities suffer in our less-than-perfect America. And yes, lousy tippers can be male or female. They come in all colors and ethnicities. However, so do excellent tippers. Tipping is a learned behavior, and it has nothing to do with skin color, race, gender, or ethnic background.

What we need is a focused approach that emphasizes the key points of quality service. A personal connection between the server and the guest are really what drives tipping behavior. Educating our guests—no matter whether they are foreign visitors, inner-city youth, or the elderly—about service and tipping norms must be the goal. However, care must be taken in delivering the message. Insulting our guests by making inaccurate cultural assumptions can be damaging to our industry’s image and would prove counterproductive to our objectives.

The time has come for our industry to fund an in-depth national study that will holistically identify the issues that drive tipping behavior. This study should include guests that happen to be black or white, Hispanic or Asian, and male or female so that we can make legitimate comparisons based on large sample sizes across all geographical regions. The research team should be ethnically and racially diverse, and multiple universities should collaborate with industry to design a world-class research process.

Leading restaurant, food-service, and lodging companies could contribute gift certificates for research participants as well as provide financial and human capital for the project. Multiple methods of data collection, such as questionnaires, one-on-one interviews, and focus groups would need to be employed to ensure a rich pool of data.

It is this kind of exhaustive and comprehensive data collection is essential for our industry to effectively address the issue of race-based tipping differences. The objective is to create a benchmark study that is sound and beyond reproach. A study of this nature could be endorsed by the Multicultural Food-service & Hospitality Alliance (MFHA) and supported by community-based organizations such as the NAACP, the National Urban League, the National Council of La Raza, the U.S. Pan Asian Chamber, and other like organizations.
Tipping has long been an important part of the U.S. hospitality industry. It is time we addressed this issue of tipping differences by race head-on so that we can separate fact from fiction. To do anything less is to avoid our responsibility as leaders. We must improve the image of our industry and address the needs of our employees and guests. MFHA is committed to helping our industry become more inclusive. We welcome the opportunity to work with industry leadership on this important issue.

Endnote

1. Tipping mores operated differently in many parts of the world. In Italy, for instance, one leaves pocket change on the table to indicate to the waiter that the service has been excellent. At 1,700 lira to the dollar, a few lira is a tiny tip, indeed.

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Restaurant Revenue Management

Implementation at Chevys Arrowhead

by SHERYL E. KIMES

Revenue-management tools can be used by restaurant managers to analyze the effects of process-control changes. A dinner house seeking to shift demand and to achieve greater facility utilization during busy times analyzed the factors that caused delays in the service process—and thus increased the guest queue. Although the restaurant was able to hasten the actual dining time, much of the slack was found in the processes that occurred before and after the actual dining period. Moreover, the restaurant managers were able to analyze customer-arrival and market-mix data in relation to the restaurant’s table mix. Seat occupancy was improved by matching the table arrangement to the customer mix, and table turns were increased by improving the kitchen operations so that front-of-the-house functions could be tightened up. In particular, end-of-meal steps were speeded up. As a result of its process improvements, the restaurant enjoyed revenue growth greater than that of comparable restaurants.

**Keywords:** restaurant revenue management; Chevys Arrowhead

Revenue management can be described as selling the right inventory unit (in this case, a restaurant seat) to the right customer for the right price and at the right time. The determination of right in that definition—and, indeed, the essential element of revenue management—entails achieving the greatest possible revenue contribution for the company while delivering the greatest value or use to the customer. Companies using revenue management have reported increases in revenue ranging from 2 to 5 percent.¹

Prevalent in airline, cruise line, hotel, and rental-car operations,² revenue management can also be applied to restaurants and golf courses.³ Just as hotels offer room rates that change according to demand or in relation to customers’ length of stay, restaurants can offer different menu prices based on customers’ willingness to dine (or make reservations) during slack times. The classic, though not scientific, examples of restaurants offering price incentives to build demand during slow periods are happy hour, early-bird specials, and restricted-use coupons. In addition, some restaurants
take advantage of high-demand periods (e.g., Easter or Mother’s Day brunch) by offering only special (premium price) meals. Those examples, however, do not constitute actual revenue management, because they are broad-brush promotions unrelated to an analysis of actual demand.

Revenue management generally involves a combination of demand-based pricing and control over the timing of customers’ use of a service. Focusing on the timing aspect of revenue management, restaurants have experimented with controlling customers’ dining time by increasing the efficiency of service delivery to shorten the amount of time customers spend at the table. That latter aspect of revenue management—duration control—is at the heart of this article.

Given that restaurants should theoretically be able to apply revenue management, I wondered how well that might work in practice. In this article, I discuss how Chevys Freshmex Restaurant developed, implemented, and evaluated a revenue-management program involving process analysis and duration control at one of its restaurants. The purpose of this article is to illustrate how to use revenue-management tools effectively and to provide managers with an easy-to-follow implementation process for their own restaurants.

I start with a brief introduction to revenue management, followed by a description of the Chevys restaurant that provided data for this study. In so doing, I analyze the restaurant’s baseline performance, including seat occupancy, revenue per available seat hour (RevPASH), party-size mix, and dining duration. I also analyze and discuss the possible causes of performance. After reviewing the revenue-management strategies for duration control, I discuss how managers implemented those strategies. The article concludes with an evaluation of the Chevys revenue-management strategy and recommendations for how other restaurateurs can implement revenue management.

Revenue Management

Restaurant operators have two main strategic levers that they can use to manage revenue: price and meal duration. Price is a fairly obvious target for manipulation, and many operators already offer the price-related menu promotions that I just mentioned to augment or shift peak-period demand. More sophisticated manipulations of price include daypart pricing, day-of-week pricing, and price premiums or discounts for different party sizes, tables, and customer types.

Managing meal duration can be more complicated than adjusting prices since most restaurants do not explicitly sell time periods. Add to that restaurateurs concerns about rushing customers, and controlling meal duration can be a sensitive matter. However, as I explain here, duration control has great potential in a revenue-management strategy.

To control duration, managers can use either internal means (i.e., those that do not involve customers) or external means (that do involve customers). The chief internal duration-control methods involve regulating and redesigning service processes (including speeding up service to promote customer turnover and providing an optimal table mix), forecasting customer arrivals (i.e., forecasting the timing and party-size mix of arriving customers), and implementing inventory controls (usually through overbooking, if a restaurant takes reservations). External methods include booking fees or guarantees (e.g., having guests guarantee reservations on a credit card) and such behavioral approaches as restricting the length of time that customers can use the table. Not su-
prisingly, most firms have chosen to manage duration internally, so as not to risk dissatisfied customers.

**Step by step.** Restaurant managers who want to implement revenue management should first establish their restaurant’s baseline performance so that they have a measure of comparison for any duration-control interventions. Baseline performance includes information on average check, seat occupancy, RevPASH, meal duration, and party-size mix. Second, managers should study the causes of speedy and slow service performance so that they can develop a strategy to help employees overcome factors that slow performance. Third, managers should develop a revenue-management strategy, which can involve a mix of duration control and demand-based pricing. Fourth, they should implement the strategy and, finally, monitor its outcome.

**Problem Setting**
Chevys Freshmex Restaurants, a U.S.-based chain of over one hundred midscale Mexican-style restaurants, was interested in increasing its units’ profitability by implementing revenue management. Chevys prides itself on its use of fresh ingredients, its lively atmosphere, and its friendly staff members. The chain has performed well, but its managers noticed that customers had to wait a long time on weekend nights in many restaurants, and guests sometimes complained about the length of time it took to get through a meal.

Chain executives chose to test revenue-management applications at the Chevys Arrowhead, located in a busy shopping mall in Glendale, Arizona, a suburb of Phoenix. The restaurant, which is open from 11:00 a.m. to 11:00 p.m. on weekdays and 11:00 a.m. to midnight on weekends, draws a variety of customers, including shoppers, couples, and families. This restaurant has 230 seats in the main dining room, an additional 50 seats in the bar, and patio seating that is available from March through November. Fifty-three tables in the main dining room were 4-tops, and the remaining three tables were 6-tops. As is typical in many restaurants, Chevys Arrowhead is busy for weekend dinners and lunches, when customers often wait over an hour for a table.

**The Five-step Revenue-management Approach**
The managers and I used the five-step process explained here to develop a revenue-management strategy for the restaurant. Rather than attempt price-related promotions, we focused on internal revenue management, specifically related to the duration of the dining experience. Although the data presented here are specific to Chevys Arrowhead, the process and analyses described can be applied to any restaurant.

**Step 1: Establish a Baseline**
The first step in the process was to establish the restaurant’s baseline performance. Baseline statistics were drawn from two four-week periods of point-of-sale (POS) data and detailed time studies. Using these data, we analyzed average check per person, RevPASH, seat occupancy, meal duration (from both the POS data and the time studies), and the party-size mix by day of week and hour of day. We excluded data recorded after 10:00 p.m. because of the limited number of observations from those late hours.

The POS data showed that the average check per person for the 230-seat main dining room was $12.70 (see Exhibit 1). Calculated by day of week and hour of
day, average check ranged from $8.59 at 3:00 on Fridays to $14.47 at 8:00 on Thursdays. The highest check averages occurred on Thursday, Friday, and Saturday evenings, while the lowest checks occurred for weekday lunches.

RevPASH provides a good estimate of seat occupancy combined with the average check. That statistic is useful in two ways, the first being the important matter of how much revenue the restaurant is realizing in each time period. RevPASH was calculated by first determining the total hourly revenue from the main dining room for each day of the week and then dividing the hourly revenue by the 230 seats in the main dining room, as shown in Exhibit 2. RevPASH ranged from $0.27 on Mondays at 9:00 to $7.03 on Fridays at 6:00. The highest RevPASH was recorded on Fridays from 5:00 to 9:00, on Saturdays from noon to 2:00 and 6:00 to 8:00, and on Sundays from 1:00 to 2:00. The lowest RevPASH was experienced each day after 9:00 p.m., before noon, and between 2:00 and 5:00 on all weekdays.

Occupancy. The second application of RevPASH was in the derivation of seat use or occupancy. Since this restaurant (like most restaurants) does not track seat occupancy, we had to derive that statistic. Because RevPASH is defined as seat occupancy multiplied by average check, we could calculate seat occupancy by dividing the average check by the RevPASH and then multiplying the result by the average meal duration (in hours) for each time period, with the results shown in Exhibit 3.

The hour with the highest seat occupancy was from 6:00 to 7:00 on Fridays, and that was a mere 61 percent of available seats. Overall, the highest seat occupancies occurred in dayparts with the highest RevPASH, namely, Fridays from 5:00 to 9:00, Saturdays from 6:00 to 8:00, Saturdays from noon to 2:00, and Sundays from 1:00 to 2:00. Lowest seat occupancies (under 15 percent) occurred on weekdays before noon, between 2:00 and 5:00, and after 9:00 p.m. on most days.

Dining duration. Check opening and closing times allowed us to calculate the mean and standard deviation of dining duration by day of week and hour of day. We knew that duration figures thus calculated could be slightly inaccurate because the opening of the check did not necessarily correspond to when the customers

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### Exhibit 1:
Average Check by Day of Week and Hour of Day

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>11:00</th>
<th>noon</th>
<th>1:00</th>
<th>2:00</th>
<th>3:00</th>
<th>4:00</th>
<th>5:00</th>
<th>6:00</th>
<th>7:00</th>
<th>8:00</th>
<th>9:00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>$12.26</td>
<td>$11.72</td>
<td>$11.73</td>
<td>$12.04</td>
<td>$10.74</td>
<td>$11.68</td>
<td>$12.24</td>
<td>$11.73</td>
<td>$11.38</td>
<td>$10.25</td>
<td></td>
</tr>
<tr>
<td>Monday</td>
<td>$10.08</td>
<td>$10.04</td>
<td>$10.24</td>
<td>$11.59</td>
<td>$11.22</td>
<td>$11.06</td>
<td>$11.82</td>
<td>$10.70</td>
<td>$12.55</td>
<td>$10.37</td>
<td>$11.47</td>
</tr>
<tr>
<td>Wednesday</td>
<td>$10.11</td>
<td>$10.01</td>
<td>$9.35</td>
<td>$9.86</td>
<td>$8.72</td>
<td>$11.32</td>
<td>$12.02</td>
<td>$12.65</td>
<td>$12.79</td>
<td>$11.32</td>
<td>$10.65</td>
</tr>
<tr>
<td>Friday</td>
<td>$9.02</td>
<td>$10.14</td>
<td>$9.86</td>
<td>$8.59</td>
<td>$12.01</td>
<td>$12.85</td>
<td>$12.70</td>
<td>$13.84</td>
<td>$13.61</td>
<td>$13.03</td>
<td></td>
</tr>
</tbody>
</table>

Note: Numbers are based on eight weeks of point-of-sale data from fall 2001.
were seated at the table and the closing of the check did not always reflect when the guests actually left the table. That said, the average meal duration for dinner (after 4:00) was fifty minutes, with a standard deviation of twenty minutes, while the average meal duration for lunch (before 4:00) was forty-four minutes, with a standard deviation of sixteen minutes. The averages and standard deviations did not vary much by day of week or by hour.

**Time study.** Since the POS data included information only on total meal duration and did not have detailed information on course timing, detailed time studies were conducted for busy weekend dinner periods. A student observer timed one hundred parties over a several-week period. The following ten different categories were timed: when the party was seated, greeted by the server (and drink orders taken), drinks delivered, order taken, entrée delivered, check requested, check delivered and settled, departure, table bussed, and table reoccupied by the next party (see Exhibit 4). The average meal time recorded in this manner (fifty-three minutes, fifteen seconds with a standard deviation of twenty-two minutes,
Exhibit 4: Time Study of Dining Experience (mean, standard deviation, and coefficient of variation between events)

<table>
<thead>
<tr>
<th>Preprocess</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Coefficient of Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat to greet</td>
<td>2:20</td>
<td>2:01</td>
<td></td>
</tr>
<tr>
<td>Greet to drinks</td>
<td>3:52</td>
<td>4:24</td>
<td>0.67</td>
</tr>
<tr>
<td>Drinks to order</td>
<td>2:34</td>
<td>3:23</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order to entrée served</td>
<td>11:31</td>
<td>5:06</td>
<td>0.44</td>
</tr>
<tr>
<td>In-process</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrée served to check dropped</td>
<td>22:41</td>
<td>12:19</td>
<td>0.54</td>
</tr>
<tr>
<td>Postprocess</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check dropped to change returned (final settlement)</td>
<td>5:40</td>
<td>4:54</td>
<td>0.82</td>
</tr>
<tr>
<td>Change returned to departure</td>
<td>4:27</td>
<td>6:38</td>
<td></td>
</tr>
<tr>
<td>Between customers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departure to bussed</td>
<td>2:48</td>
<td>2:36</td>
<td>0.75</td>
</tr>
<tr>
<td>Bussed to reseated</td>
<td>0:56</td>
<td>1:04</td>
<td></td>
</tr>
<tr>
<td>Total dining duration</td>
<td>53:15</td>
<td>22:46</td>
<td>0.43</td>
</tr>
</tbody>
</table>

Note: Numbers are based on a time study conducted in fall 2001.

forty-six seconds) was a bit longer than the figure obtained from the POS data for the same time periods, showing the discrepancies introduced by using check opening and closing times as against actual seating times.

Meal duration was broken into four segments, those being preprocess, production, in-process, and postprocess. In addition, the between-customer processes (i.e., bussing and reseating) were analyzed. Each segment had one or more subsegments (e.g., the preprocess step included seating, greeting, drink delivery, and order taking).

We calculated the average duration and standard deviation of each segment (along with the coefficient of variation, defined as the standard deviation divided by the average, see Exhibit 4). Segments and subsegments with high average times represent areas in which time savings (and possibly revenue gains) can be achieved, and the same is true of segments and subsegments with high standard deviations and coefficients of variation, where variation can be reduced. Generally speaking, areas with a coefficient of variation over 0.5 should be targeted for potential improvement.

While the in-process segment (meal consumption) was the longest (at nearly twenty-three minutes), it had a marginally weak coefficient of variation of 0.54. In contrast, the preprocess segment took just nine minutes but had a coefficient of variation of around 0.67. Running a mean of eleven and a half minutes, the production segment had a modest coefficient of variation of less than 0.5. The postprocess segment took around ten minutes, with a coefficient of variation of 0.82. Finally, the between-customer processes took about four minutes but had a large coefficient of variation, nearly 0.75.

Party composition. The majority of parties (about 70 percent) were just one or
Exhibit 5:
Party-size Composition

<table>
<thead>
<tr>
<th></th>
<th>1-2</th>
<th>3-4</th>
<th>5-8</th>
<th>9+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>63.9%</td>
<td>27.8%</td>
<td>7.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Monday</td>
<td>71.1%</td>
<td>22.7%</td>
<td>5.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Tuesday</td>
<td>72.2%</td>
<td>21.6%</td>
<td>4.1%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>72.2%</td>
<td>22.7%</td>
<td>5.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Thursday</td>
<td>72.2%</td>
<td>20.6%</td>
<td>5.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Friday</td>
<td>68.0%</td>
<td>24.7%</td>
<td>5.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Saturday</td>
<td>62.9%</td>
<td>27.8%</td>
<td>5.2%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Note: Numbers are based on eight weeks of point-of-sale data from fall 2001.

two people (shown in Exhibit 5). About 25 percent of the parties comprised three or four guests; just over 5 percent of parties included five to eight guests; and barely 1 percent of parties had nine or more guests.

By analyzing the baseline data, we found that Chevys Arrowhead exceeded 50 percent seat occupancy for a mere five hours per week. This statistic surprised everyone since we all were well aware of customers’ waiting lines on weekends. More critically, even though the typical party size was small, no tables were 2-tops, almost guaranteeing empty seats even while customers waited. Looking at the average dining time of fifty-three minutes and its standard deviation of nearly twenty-three minutes, one sees that the greatest source of that variation occurred during the end of the meal and while the table was being reset between parties. After developing the baseline, we wanted to determine the possible causes of the performance that we observed.

Step 2: Understanding the Causes

The baseline analysis led to the following questions. (1) Why was seat occupancy so low even though customers were waiting for tables? (2) Why was dinner taking so long, and why was there so much variation? (3) Why were certain parts of the meal experience (mostly at the beginning and end of the meal) taking so long? Using fishbone analysis, we divided the possible causes into five categories, as shown as a table (not a fishbone) in Exhibit 6: equipment, methods, personnel, customers and materials, and management and staff.\(^\text{10}\)

**Low seat occupancy.** It was not hard to see that the major factor limiting seat occupancy was the inappropriate table mix. Even though the majority of parties comprised one or two people, all the tables were intended for parties larger than that. This meant that even when all tables were occupied, the restaurant would have many empty seats. It was no wonder that the seat occupancy rarely exceeded 50 percent, even when customers were waiting for a table.

Several other factors may have also contributed to the low seat occupancy. The bussing process took nearly three minutes. Thus, a reduction in the bussing time (discussed below) could improve seat occupancy. The reseating process was relatively efficient, and so a time reduction there would have little effect on occupancy.
Meal duration and variability. While meal consumption (the in-process stage) took the longest time of any step, we focused instead on the segments with the highest coefficients of variation. Although we could possibly have worked to reduce the time required for meal consumption, its coefficient of variation was not alarming. Moreover, the managers and I did not want guests to feel rushed while eating.

Of the many possible factors shown in Exhibit 6, we decided that the primary cause of the long and variable meal duration was related to personnel. Although Chevys has corporate time standards for each step in the dining experience, the restaurants’ managers were not consistently enforcing those standards. Even though employee turnover was low, job commitment varied, and compensation (especially for nontipped positions) was sometimes an issue. We reasoned that if training and managerial oversight were improved, the variation in meal duration would decrease. To reduce overall meal duration, though, it was necessary to study some of the end-of-meal processes in detail.

Payment and departure. Several factors slowed payment and departure. Servers were sometimes inattentive and slow in processing and delivering the check and

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Exhibit 6:
Possible Causes of Poor Performance

<table>
<thead>
<tr>
<th>Possible Cause</th>
<th>Equipment</th>
<th>Methods</th>
<th>Personnel</th>
<th>Customers</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low seat occupancy</td>
<td>Table mix</td>
<td>Bussing Hosting Communication</td>
<td>Training Number Commitment Compensation Management</td>
<td>Hard to find Reneging</td>
<td>Wait list</td>
</tr>
<tr>
<td>Meal duration and variation</td>
<td>Point-of-sale terminals Credit-card authorization Service stations Restaurant layout</td>
<td>Hosting Seating Greeting Food and beverage delivery Cooking Check processing Prebussing</td>
<td>Training Number Commitment Compensation Management</td>
<td>Choose to linger Unsure how to behave Party size</td>
<td>Trays</td>
</tr>
<tr>
<td>Payment and folders departure</td>
<td>Credit-card authorization Point-of-sale terminal</td>
<td>Check pick-up Check processing Folder drop Management Prebussing Check drop</td>
<td>Training Number Commitment Compensation Management</td>
<td>Choose to linger Unsure how to behave Uncomfortable</td>
<td>Check folders</td>
</tr>
<tr>
<td>Bussing</td>
<td>Folder pick-up Stacking space Service stations</td>
<td>Communication Hosting</td>
<td>Training Number Commitment Compensation Management</td>
<td></td>
<td>Bucket, trays Cleaning supplies New place settings</td>
</tr>
</tbody>
</table>

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in picking up the completed check folder. That last factor was a sticking point because of the restaurants location in a mall, with its high foot traffic. A noticeable number of guests stayed until the server removed the signed credit-card slip. We surmised that those diners felt uncomfortable leaving their completed check folder on a vacated table. Although another problem with credit-card authorization was that the actual machine transaction was sluggish, the primary cause of delay in this subsegment seemed to be related to personnel. We decided to focus on raising employees awareness of the importance of efficient check processing, improving training on how to process a check, and emphasizing the need to pick up the completed check folder in a timely fashion. In addition, the Chevys chief information officer investigated possible technological improvement to the authorization equipment.

**Bussing.** We determined that the primary reason that the mean bussing time was relatively long was the lack of prebussing (another personnel-related cause). We decided to emphasize to both servers and bussers the need to clear dirty dishes from tables throughout the meal. That would leave less work when it came time to clear the table. In addition, there was inadequate space in the kitchen to stack used dishes, so we recommended that a dedicated dish scraper and stacker be on duty during busy periods.

**Step 3: Developing a Revenue-management Strategy**

We first identified the busy (hot) and slow (cold) periods by day of week and hour of day. Hot periods were defined as times when guests were waiting to be seated, and the remaining periods were cold. The restaurant had ten hot hours per week, which became the focus of the revenue-management program. The two major goals were to reduce dining duration by five minutes and to increase seat occupancy by 10 percent during the hot periods. An ancillary goal was to reduce the standard deviation of total dining time by 30 percent. We expected these changes to increase revenue by at least 5 percent during the ten hot hours, as I explain in a moment.

The goal of increased seat occupancy could be achieved by attracting more customers, providing a better table mix so more customers could be accommodated, and reducing the dining duration so more customers could be served. The restaurant already had excess demand on weekend nights (as indicated by the waiting lines). More worrisome, however, the restaurant operates in a competitive location where customers put their names on the wait list at several restaurants and patronize the first one that can make a table available. Because the restaurant’s current table mix and dining duration would not allow the restaurant to serve additional customers, the manager’s focus was on improving the table mix and reducing dining duration.

**The 5 percent solution.** To assess the revenue effects of increased occupancy and decreased dining duration, we first calculated the annual revenue for the hot periods. To review, during the ten hot hours each week, the main dining room had an average seat occupancy of 50 percent, an average check of $12.73, and an average dining time of fifty-three minutes. Annual sales for the restaurant in 2001 totaled $2,358,874. The restaurant took in $861,797 per year (or about one-third of its annual revenue) during its ten hot hours. If hot seat occupancy increased from 50 percent to 60 percent, even if din-
ing duration remained the same, annual revenue would potentially increase by $172,359, or 7.3 percent, as shown in the calculation in Exhibit 7. Beyond that, if dining duration could be decreased from fifty-three minutes to forty-eight minutes, even if seat occupancy remained the same, the annual revenue potential would increase by $89,771, or 3.8 percent. If both factors could be changed (i.e., seat occupancy increased and dining duration decreased at the same time), the annual revenue potential would increase by $280,084, or 11.9 percent. Even if only half of the revenue potential could be achieved, the restaurant could nevertheless achieve better than a 5 percent increase in annual revenue.

**Step 4: Implementation**

Once the strategy was developed, the hard work of implementation began. In keeping with the strategy, implementation focused on improved table mix and on improving the efficiency of service delivery.

**Table mix.** An optimal table mix, one that matches party-size mix as closely as possible, would allow this restaurant to serve an increased number of customers with no increase in the number of seats, thereby boosting seat occupancy during busy periods. We used the table-mix simulator developed by Gary Thompson, of Cornell University, to develop the optimal table mix for the restaurant and also to generate a set of near optimal mixes (near optimal was defined as within 1.5 percent of optimal).\(^{12}\)

The optimal table mix maintained the same number of seats but changed the table mix from fifty-three 4-tops and three 6-tops to forty deuces, twenty-four 4-tops, five 6-tops, and three 8-tops. Chevys hired a restaurant designer whose task was to achieve or approach the optimal table mix—provided that the restaurant ended up with the same number of seats as before and the design was attractive and functional. Because the restaurant had been open for almost ten years without being remodeled, the corporate managers decided not only to reconfigure the tables but also to repaint the restaurant, to relocate the host and service stations, and to provide several other aesthetic improvements.

The restaurant’s managers wanted an attractive design that allowed ample space for movement but did not make customers feel crowded. Despite the restaurants footprint and structural limitations (support pillars could not be moved and the host stand had to stay near electrical connections), the designer fulfilled her mandate of creating a plan that retained the original number of seats and creating the optimal table mix. To achieve those goals, she used a variety of design approaches, such as half walls, banquettes, high-top tables, and well-located booths.

The management team, the corporate team, and the designer then reevaluated the initial design plans and modified that design to accommodate both the building’s site-specific issues and certain customer characteristics (e.g., families with babies needed ample space for their strollers and carriages). With those additional considerations, the managers decided to adopt one of the near-optimal table mixes (i.e., thirty-nine 2-tops, thirty-five 4-tops, and two 6-tops). The simulation results showed that this table mix would provide results within 1.3 percent of the optimal mix’s expected revenue.\(^{13}\)

The restaurant continued to operate during the reconstruction, with the bulk of work occurring during the hours when the restaurant was closed. To facilitate that
strategy, half walls and banquettes were fabricated off-site so that they could be quickly installed.

Restaurants can apply the principles of revenue management to exert subtle control over the duration of customers’ visits. Here is an example of how that might happen.

The restaurant’s reconfiguration opened other issues, notably in the back of the house. Expanding from fifty-six tables to seventy-six tables would increase the load on the kitchen (chiefly because seat occupancy would be improved), increase the labor requirements (e.g., cooks and servers), and (less critically) require the purchase of additional table supplies.

Although reducing customers wait time was a desirable goal, the kitchen might suffer from the reduction in the buffer time that came during table bussing and reseating. Moreover, increased seat occupancy would require the preparation of more meals. To ease the kitchen’s workload, the restaurant’s managers decided to add an expeditor who worked the middle line during hot periods (four shifts per week). This person facilitated communication between the broiler line and the enchilada line and helped speed delivery. Two people were trained for this position at an hourly rate of $9 for four shifts of three hours each (a weekly cost of $108).

The additional twenty tables and new corporate rules on station size required an additional five servers during busy periods (again, four shifts of three hours each).

The new rules reconfigured server stations to comprise four or five tables. The cost of the additional servers was $127.80 per week ($2.13 per hour for the four three-hour shifts).

The additional tables also required additional tablecloths, plates, glasses, chip baskets, salsa dishes, Texas holders, and cutlery. The entire cost of the extra supplies (not including tablecloths) was $1,395.

Improving service. As I indicated above, strategies for improving service focused on the end of the meal—specifically, the payment and bussing processes. Changes involved improved training, more diligent management, and additional staff.

Tightening the meal time. The time between the entrée delivery and the check delivery averaged about twenty-three minutes in the baseline study. The team did not wish to rush guests’ meals, but managers believed that better prebussing would cause some guests to leave a bit more quickly and would almost certainly reduce the time needed for final bussing. For this reason, both servers and bussers were trained to do a better job of prebussing. In addition, the restaurant’s managers augmented the back of the house during the hot times by hiring a stacker, who was responsible for scraping all dishes and stacking them for the dishwashers. The pay was $5.15 per hour for the four hot shifts of three hours each (weekly cost of $61.80).

Check settlement. The baseline study found that it took an average of nearly six minutes from the time the guest requested the check to the time the check was settled and change (or a receipt) was returned. Rather than wait for the guest to ask for the
check, servers were trained either to drop the check upon clearing the entrée dishes or, if that was inopportune, to be alert for signs that the guests would like to leave. In addition, the corporate office kept its commitment to study information-technology solutions to the problem of slow credit-card authorization.

**Departure.** Guests in the baseline study lingered an average of another four and one-half minutes from the time the change or credit-card slip was returned until their actual departure. As I mentioned, the managers determined that guests were (understandably) loath to leave active, signed credit-card slips on the table. To remedy that situation (and to signal to guests that the transaction was, indeed, complete), servers were trained to pick up completed check folders as soon as customers were done with them. In addition to the prompt conclusion of the financial transaction, the team hoped that enhanced prebussing would signal the customer that it was time to leave.

**Final bussing.** Clearing and reseating the table took an average of nearly three minutes in the baseline study. As mentioned above, the major contributor to this lengthy process was the lack of prebussing by servers and the small space available in the kitchen. Our team anticipated that improved prebussing and the addition of the stacker position would help reduce this time.

Construction and training were completed by mid-March 2002. As expected, the first few weeks of revamped operation were hectic as management and staff members adjusted to the new layout and increased customer volume. When I returned in May 2002 to evaluate the reconfigured restaurant, it seemed that the restaurant’s revenue performance had improved over the baseline. To confirm that notion, I reexamined the subsegments of the service process and recalculated revenues.

**Step 5: Evaluation**

Updated POS and new time-study data were collected so that seat occupancy, RevPASH, and meal duration could be recalculated. A financial analysis was performed to assess the effects of the changes three months after implementation.

Seat occupancy during the hot periods increased from 50 percent (with a peak of 61 percent) in the baseline study to a mean of 59 percent, with a peak of 82 percent (as shown in Exhibit 8). RevPASH numbers...
showed a similar increase. Average RevPASH for the hot periods increased from $5.85 to $6.32.

Additional time studies conducted during peak dinner times (82 observations) showed that the service-delivery improvements had largely achieved their intended goal, particularly at the end of the meal. The mean total meal time dropped from fifty-three minutes, fifteen seconds to fifty minutes, fifty-six seconds, and the standard deviation of total meal duration dropped from twenty-two minutes, forty-six seconds to fifteen minutes, nine seconds. The specific goal of a five-minute drop in dining duration was not achieved, but the variation was decreased substantially (see Exhibit 9).

The mean duration of the steps on which managers had focused all responded to the interventions, as follows:

1. **Seat to greet.** The restaurant reduced this time by forty-two seconds and trimmed the standard deviation by 25 percent. This could be attributed to training and improved awareness.

2. **Entrée served to check drop.** The total time diminished by about a minute, but the standard deviation went down by over 40 percent. This can be attributed to the improved prebussing.

3. **Check drop to final settlement (change or receipt returned).** The restaurant was able to reduce this time by nearly one-half and was able to reduce the standard deviation by over 60 percent. This can be attributed to training and the enhanced awareness of the servers of the importance of this process.

4. **Final settlement to departure.** The restaurant did not have complete control of this time, since customers can choose when they want to leave. The time decreased slightly, as did the standard deviation, which may indicate that the emphasis on picking up the check folder had worked.

5. **Order to entrée delivery.** The goal here was mostly to avoid deterioration in the face of greater seat occupancy. Indeed, the time for this step did not decrease substantially, but the impressive fact was that the kitchen was able to maintain its pace for preparing and delivering entrées even with the increased number of customers from the new table mix. The restaurant’s managers attributed this to the strong kitchen staff members who were willing to experiment with various approaches to handling the increased demand.

Again, the focus of managers interventions was improving the end of the meal, and it showed. In fact, the duration of two subsegments at the beginning of the meal (greet to drinks, drinks to order) increased, thus representing areas for future improvement. Also, the restaurant had been doing an excellent job of reseating tables once they were cleared. This time increased by ten seconds after the renovations and interventions were instituted.
Financial Analysis

While the drop in service times was heartening, Chevys managers wanted to ascertain whether the restaurant had actually met its key goal of a 5 percent increase in revenue. Since RevPASH had increased, store revenue had increased, but it was unclear whether that increase resulted from the managers’ interventions or from other market conditions. To control for outside factors, the financial performance for the Arrowhead restaurant and for two other Chevys restaurants in the Phoenix market was analyzed.

To begin with, the effects of the national recession seemed to show up in the restaurant’s finances. During the seven weeks before revenue-management implementation, the Arrowhead store had experienced a 5.7 percent drop in year-to-year revenue (i.e., from the similar period 2001 to the seven weeks before construction began in 2002), while the comparable restaurants had seen combined revenues fall by 10.6 percent.

A similar seven-week analysis was conducted after the new table mix and other measures were implemented. The Arrowhead store had experienced a 2.0 percent increase in revenue from 2001 to 2002, while the 2002 sales for the control stores were 8.0 percent less than the same period sales in 2001. The Arrowhead store had realized a 7.7 percentage-point increase in revenue from pretest to posttest, while the control stores had increased sales by 2.6 percentage points. The 5.1 percentage-point difference was attributed to management interventions.

At what cost? The new table mix and service changes were not without cost. In round figures, the remodeling cost $49,000, additional small wares cost approximately $1,400, and labor costs increased by about $15,000 per year."

The Phoenix Arrowhead restaurant had approximately $2.4 million in sales in 2001. Based on the projected increase of 5.1 percentage points calculated above, there was an estimated annual sales increase of approximately $120,000 over the amount that general market conditions might have afforded had the restaurant’s management done nothing. Given Chevys 45.5 percent EBITDA flow through,

Exhibit 9:
Pretest and Posttest Time-Study Results

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Seat to greet</td>
<td>2:20</td>
<td>2:01</td>
</tr>
<tr>
<td>Greet to drinks</td>
<td>3:52</td>
<td>4:24</td>
</tr>
<tr>
<td>Drinks to order</td>
<td>2:34</td>
<td>3:23</td>
</tr>
<tr>
<td>Order to entrée</td>
<td>11:31</td>
<td>5:06</td>
</tr>
<tr>
<td>Entrée to check dropped</td>
<td>22:41</td>
<td>12:19</td>
</tr>
<tr>
<td>Check dropped to change returned</td>
<td>5:40</td>
<td>4:54</td>
</tr>
<tr>
<td>Change returned to departure</td>
<td>4:27</td>
<td>6:38</td>
</tr>
<tr>
<td>Departure to bussed</td>
<td>2:48</td>
<td>2:36</td>
</tr>
<tr>
<td>Bussed to reseated</td>
<td>0:56</td>
<td>1:04</td>
</tr>
<tr>
<td>Total dining duration</td>
<td>53:15</td>
<td>22:46</td>
</tr>
</tbody>
</table>

a. Times in bold were shorter during the posttest than they were in the pretest.
approximately $54,600 of this amount would go to the bottom line. The total capital cost of the project was around $50,400, so the cash-on-cash return was about 108 percent, with a payback of less than one year (11.1 months). The remodeling expenses were a one-time expense, so the return will be even greater in the future.

Making the Chevys Arrowhead Experience Work for You

By analyzing its service process and table mix, Chevys Arrowhead was able to increase revenue by approximately 5 percentage points more than the two other Chevys that we examined. This performance boost came from its improved table mix, changes in the service delivery, and improved training. Seat occupancy and RevPASH increased, dining duration and variation in that duration decreased, and revenue and profitability increased.

If you want to improve your restaurant’s revenue in this way, you should first establish your restaurant’s baseline performance. Collect at least a month of detailed POS data and analyze your seat occupancy, average check, RevPASH, party mix, and dining duration by day of week and hour of day. In addition, hire someone (this is an ideal part-time job for a student) to conduct time studies of your restaurant during your busy periods.

After you have developed the baseline performance, sit down with your management team and staff members to make sense of what you have discovered. Discuss what might be driving your performance and pinpoint specific areas in need of improvement.

When developing a strategy, focus on your busy periods, establish specific performance goals, and determine feasible ways of meeting these goals. In addition, be sure to assess the financial effects of any given strategy. Implementation of the strategies is probably the most difficult, but most important, part of the process. Implementation required a strong management team, good training, and a willingness to try new things (such as changing the table mix or hiring more employees).

Finally, when you have made all of the changes, reevaluate your performance after about two months. Gather additional POS data and conduct additional time studies to see whether your efforts have paid off.

For more information on developing a revenue-management program, you can read the articles mentioned in this article, you can take the courses in restaurant revenue management available online from e-Cornell (www.ecornell.com), or enroll in a restaurant-revenue-management course offered through the Cornell hotel school’s Professional Development Program (PDP).

Other restaurants could realize similar results by carefully analyzing their current performance, determining the causes of that performance, and developing appropriate strategies to improve performance. Changes in table mix and problematic service delivery hold particular promise but only when such changes are combined with implementation that emphasizes training, employee buy-in, and enhanced management.

Endnotes

RESTAURANT REVENUE MANAGEMENT


7. See: Kimes and Chase, pp. 156-66; and Kimes et al. (October 1999), pp. 18-30.

8. For a thorough discussion of the five-step process, see: Kimes, pp. 16-21.

9. For a thorough discussion of RevPASH, see: Ibid.; and Kimes, Barrash, and Alexander, pp. 18-30. Hourly revenue is defined as revenue from all checks that are opened during that hour.


11. Those times were Friday, 5:00 to 9:00; Saturday, 12:00 to 2:00 and 5:00 to 8:00; and Sunday, 1:00 to 2:00.


14. Ongoing costs included $61.80 per week for an additional busser ($5.15 per hour for four shifts of three hours each), $108.00 per week for a kitchen stacker ($9.00 per hour during the same four three-hour shifts), and $127.80 per week for five additional servers (at $2.13 per hour for the four shifts). The total additional labor cost was $297.60 per week.

Sheryl E. Kimes is a professor and director of graduate studies at the Cornell University School of Hotel Administration.
An Evaluation of Guests’ Preferred Incentives to Shift Time-variable Demand in Restaurants

by ALEX M. SUSSKIND, DENNIS REYNOLDS, and ERIKO TSUCHIYA

Asked for their reactions to specific demand-shifting tactics based on revenue management, patrons of a restaurant in Ithaca, New York, indicated that they generally would be willing to shift their dining time to off-peak hours in exchange for discounts on menu items. Better than three-quarters of the 367 respondents agreed that they would accept an incentive for dining at an off-peak time. Specific results and conclusions are detailed below.

Keywords: revenue management; pricing strategies

As airlines and hotels continue to build and refine successful revenue-management strategies, restaurants have recently realized the value that revenue-management planning can bring to the bottom line. Because the operational elements of restaurants differ from those of airlines and hotels, restaurants cannot simply apply the same revenue-management strategies as those used by airlines and hotels. To provide an enhanced understanding of how to use revenue management in restaurants, we first
provide a brief overview of revenue management and its strategic levers. Next, we examine and identify the specific characteristics of restaurant revenue management. We then show how price- and value-based strategies can be used to enhance revenue by shifting demand from peak or oversold periods to shoulder or low times. Focusing on the use of packaging, pricing, and discounts, we then test consumers’ perceptions of incentives to dine during off-peak business periods and observe how these perceptions are related to guests’ dining behavior. We conclude with a discussion of proposed revenue-management strategies restaurants can use, based on our findings.

Overview of Revenue Management

Revenue management is characterized by a set of techniques designed to help a business sell the right products to the right guest at the right time and for the right price. This can be achieved by understanding a business’s inner workings and constraints and by managing the business’s capacity to obtain the best profit or revenue. A revenue-management strategy helps a firm’s managers decide how to allocate and price its capacity to capture as much demand as possible given the operation’s constraints. To apply revenue-management techniques effectively, the business’s operating structure should feature: (1) relatively fixed capacity (e.g., seats, hours of operation); (2) predictable and time-variable demand (i.e., high-demand or hot and low-demand or cold periods throughout the operating day); (3) perishable inventory (i.e., revenue lost due to an unsold seat cannot be recouped during a given meal period or operational time period); (4) micro-segmented markets (i.e., each daypart or slices of a daypart can be desirable to different guest types); (5) fluctuating demand (e.g., 11:30 a.m. through 1:00 p.m. during lunch and 6:30 p.m. through 8:00 p.m. during dinner tend to be much busier than other operating times); (6) advance sales of products and services (a feature that is rare in restaurants, but applies to catering and banquet operations); and (7) low variable-to-fixed cost ratio (in most restaurants, variable costs range from 30 to 50 percent of sales). These characteristics suggest that it is possible to maximize revenue through an understanding of consumer demand relative to optimal operational capacity. Therefore, revenue-management strategies should be viewed as key marketing and management activities.

Revenue management is particularly well suited to the airline and hotel industries because consumers of these products and services typically use a relatively long planning horizon, are required to pay in advance (fully or in part) for consuming the service, and often have flexibility in arranging the services (e.g., arrival and departure times and days). Revenue management has been recently applied to the restaurant industry, but a limited number of specific strategies to implement these techniques have been offered. To implement revenue management in restaurants—as in the airline and hotel industries—one needs a clear understanding of the menu sales mix, the contribution margin of the menu items, and a direct understanding of the capacity constraints that influence product and service delivery.

While the restaurant industry shares many of the characteristics of the airline and lodging industries (in particular, fixed capacity, time-variable demand, and perishable inventory), it is more challenging to implement broad-based revenue-management strategies in restaurants because consumers do not normally prepay for the
services, as they do in other industries, and duration of use is far less predictable, as we explain next.

**Strategic Levers**
Restaurants have two main strategic levers that can be shaped to manage revenue. Those are meal duration and pricing.\(^7\)

**Meal duration.** Although meal duration can theoretically be predictable, it is unpredictable in most restaurants. Thus, one key aspect of revenue management is to gain at least some control of meal duration. Through duration controls, operators can manage revenue across all time periods, as opposed to focusing only on the high-demand periods.\(^8\) Several processes can be used to affect duration in restaurants, including gaining a better understanding of the uncertainty of arrival (e.g., having a well-communicated reservation policy), creating a better understanding of the uncertainty of the duration, or shortening the turnover time between guests (e.g., streamlining service processes and procedures).\(^9\)

Kimes and Chase note that restaurants are typically categorized as using a fixed-price format under conditions of unpredictable customer duration. They suggested that because restaurant operators do not control duration directly, they should pursue some type of duration-management approach to overcome that limitation.\(^10\) That suggestion notwithstanding, we are limiting the analysis here to focus mainly on price- and value-related demand-shifting incentives, rather than on duration control.\(^11\)

**Pricing.** Prices can be presented as fixed or variable. Fixed prices remain constant for all guests at all times, while variable pricing offers different prices to different sets of customers. Variable prices can be differentiated by limiting features or services on offerings, by adding additional value through product or service enhancements, or by enacting price reductions.\(^12\) Variable-pricing techniques can be implemented in the form of coupons, discounts, or premiums on specific product classes that are reserved for certain consumer groups (e.g., senior citizens) or are applied during specific time periods to affect the value proposition.\(^13\) To manage pricing practices for revenue management, an appropriate price mix and rate fences should be used.\(^14\)

**Appropriate price mix.** Operators need to offer a reasonable mix of prices to differentiate the goods and services they sell. If there is little perceived difference in the customers’ minds among the prices of products and services, a differential approach to pricing is not likely to be effective.\(^15\) At the same time, if consumers view prices as unfair, it is difficult to build and maintain business as consumers’ perceptions are formed from their knowledge of reference prices.\(^16\) Consumers’ reference prices are formed in a number of ways, including peer reports, published market prices, last price paid, and average price paid.\(^17\) Reference prices change over time. To avoid perceptions of unfairness, prices should be set so that operators capture the highest possible price without sacrificing demand for a particular product or service or a series of products or services.\(^18\) It is also important not to unnecessarily cheapen the product or service experience for the customer when manipulating the pricing structure.

**Rate fences.** Having a well-constructed pricing structure alone does not necessarily ensure that a demand-based pricing strategy will be effective.\(^19\) Discernible sets of criteria that distinguish prices
known as rate fences) are needed to support price differentiation among levels of product or service offerings. Rate fences specify the conditions under which the specific prices apply and help control the price-value relationship.

Rate fences can be physical or nonphysical. Physical rate fences are structured around tangible features, such as décor or location. An example of a physical rate fence in a restaurant is a separate dining room or menu, such as the Pool Room and the Grill Room at the Four Seasons Restaurant in New York City, where the menu offerings, features, and the setup of each room are notably different from those in the restaurant’s other sections during lunch and dinner. Nonphysical rate fences are structured around intangible elements such as time (e.g., having a happy hour or an early bird special); transaction-based features (e.g., a pretheater menu or tasting menu, or special payment arrangements that lead to price concessions); buyer-based features (such as the “Good Neighbor Card” at Max and Erma’s Restaurants, where regular customers receive a percentage discount on all of their purchases); and limited or restricted availability (e.g., offering coupons or special pricing to a number of targeted guests).

Timing and Framing of Demand-based Pricing

In the restaurant industry, the revenue that is generated per guest is unknown until the guest completes the service experience. This is a different situation from airlines and hotels, where the rate (and most of the associated revenue) is fixed before the guest arrives. In restaurants, by contrast, the dollar amount each guest spends can vary substantially not only by meal period but also by hour of the day and by day of the week. For example, at a restaurant with à la carte pricing, some guests may order wine, soup, appetizers, an entrée, and dessert, while others dining at the same time may order just a cup of soup and an appetizer. This dynamic makes pricing and rate fences all the more essential to restaurant operators to ensure that they are able to capture their demand.

Given the noted challenges of dealing with revenue management in restaurants, it seems that effective revenue management would start with a sound structural setup and design to minimize inefficiencies in service delivery to guests and then proceed with activities to shift demand at peak times to maximize demand across the entire set of operating days and hours, once an efficient operating system has been achieved.

As noted above, restaurants have distinctive characteristics that must be considered in the application of revenue management. These characteristics make it difficult to apply the revenue-management strategies used by airlines and hotels. This is due not only to structural differences in how service is delivered and consumed in restaurants but also to guests’ perceptions of value, including time and price. The strategy of shifting and increasing demand through incentives (time-, monetary-, product-, or service-based) is one of the few options available to restaurant operators.

Shifting and increasing demand.

Restaurants normally have high-demand periods and low-demand periods. During peak operating times, guests often have to wait to receive service, while during off-peak hours guests can be served with little or no wait. Restaurant operators can increase the number of guests they serve by attracting guests from busier times to slower times.
How guests perceive wait time as part of their service experience is subjective. If guests desire to patronize a popular restaurant and find value in that experience, they will likely accept long wait times during peak hours or find alternative times that have shorter wait periods. Failing that, they will find another restaurant (if they choose not to wait). Some guests may have flexibility in their schedules that provides them with options to avoid waiting, while other guests may not have such flexibility. Guests must therefore evaluate the opportunity cost of waiting as a tradeoff between the cost of waiting and pursuing any available alternatives. Guests will therefore make a value judgment about how and where to spend their time, based on the available options and the anticipated outcomes of those options.

Price Discounts versus Price Premiums

When a person is confronted with the choice of receiving a discount for a product or service or paying a premium for what is framed as an enhanced level of product or service, behavioral-decision and prospect theories argue that the discount would be preferred over the premium because a discount is viewed as a gain, while a premium is viewed as a loss. However, the perceived psychological utility and the perceived economic value of the discount directly influence a consumer’s desire to seek out and take advantage of price discounts. This contention has recently been supported in a study that showed that demand-based differential pricing presented as discounts was perceived more favorably by restaurant guests than were prices presented with a surcharge.

Typical strategies used to shift restaurant demand are time-limited discounts and special off-peak menus. Time-limited coupons and time-limited cash discounts (or, on the other hand, having guests pay a premium to dine during peak times) can attract price-sensitive guests to come during slow times. Discounted fixed-choice menus, such as early-bird specials, pre-theater menus, and late-night menus, may be attractive to price-sensitive guests but are more likely to suit time-sensitive guests. Other demand-shifting incentives are distinctive product offerings such as a premier menu or a set of premium offerings that are available only during off-peak times and service offerings such as live music or entertainment that is presented during slow times or times when guests must wait.

In this investigation, we explore restaurant guests’ preferences for demand-shifting incentives. To that end, we seek to understand the perceptual and behavioral characteristics of restaurant guests relating to specific pricing strategies with which restaurant operators can shift demand from high-demand to low-demand periods. In sum, we propose the following research questions to examine consumers’ perceptions of demand-shifting incentives:

1. To what extent are restaurant guests interested in receiving incentives presented as discounts or premiums (e.g., financial or product- or service-related) to shift demand away from peak hours of operation?
2. To what extent are restaurant guests’ age, sex, and income related to their desires for incentives to shift demand?
3. To what extent are guests’ dining characteristics (i.e., party size, dining occasion, dining companions, anticipated spending, and anticipated wait time) connected to their desires for incentives to shift demand?

In the next section, we describe the research we undertook to examine consumer preferences for incentives that
allow a restaurateur to better manage and understand guest demand.

The Study
This study was conducted at a casual-theme restaurant in upstate New York with a year-round dining-room seating capacity of 180. The average check including alcoholic beverages was approximately $28.00 during the study. The restaurant is considered popular in the community and consistently serves between 450 and 550 covers on Fridays and Saturdays, with a typical table-turnover rate of between 2.5 and 3.05 and an average meal duration of approximately seventy minutes. The restaurant does not take reservations and the queue for a table normally begins between 6:00 and 6:30 p.m. on Fridays and between 5:30 and 6:00 p.m. on Saturdays. Guests’ waiting time often exceeds one hour during peak times on Friday and Saturday nights. Exhibit 1 displays the quoted wait times given by the host staff to guests upon their arrival. Those people who did not get seated were not included in our figures but are included in the arrival-pattern data.

Exhibit 2 displays guests’ average arrival pattern for the series of Friday and Saturday nights we investigated. The arrival pattern was assembled primarily from observation.

Measurement
Using the questionnaire presented in the accompanying box, we collected data from 371 restaurant patrons over three weekends (three Friday nights and two Saturday nights) in the early spring of 2002. The researchers approached guests after they were placed on the waiting list and asked them to complete a one-page questionnaire consisting of twenty questions. The questions gathered a demographic profile (i.e., age, gender, and household income) and their episode-specific dining characteristics: (1) party size, (2) with whom the guests were dining (i.e., friends, family, significant other, business associate), (3) the purpose of the meal (i.e., regular meal or special occasion), (4) anticipated wait time, and (5) expected per-person expenditure for their meal. In addition, the questionnaire asked whether the guests had flexibility in their arrival times and whether incentives would influence that flexibility at all. Likewise, the participants were asked to rate the desirability of five possible rate fences presented as general incentives on five-choice Likert-type scales ranging from a low of not desirable at all to a high of very desirable.

The five general incentives were as follows:

1. Time-limited coupon—defined as a nonphysical, time-based, limited-availability rate fence. It was presented to the respondents as a coupon that can be used during only a specific time period for free or reduced prices on items such as drinks, appetizers, and desserts.
2. Discounted fixed-choice menu—defined as a nonphysical, time- and transaction-based rate structure. It was presented to the respondents as a discounted menu package, such as an early-bird special, pretheater menu, or late-night menu.
3. Cash discount—also defined as a nonphysical, time- and transaction-based rate structure. This was presented to the respondents as a discount (i.e., 5 to 10 percent) from the total bill if guests were to dine during a specific time period (i.e., 5:00 to 6:00 p.m. or 10:00 to 11:00 p.m.).
4. Distinctive product offerings—defined as a nonphysical, time- and transaction-based rate structure. This incentive was presented to the respondents as a set of premium, gourmet offerings, or special items available only at off-peak times.
5. Distinctive service offerings—defined as a physical rate structure. This was presented to the respondents as services such as live music, entertainment, or activities that are offered to guests during off-peak hours.
In the analyses, the five incentives were examined in relationship to the participants’ sociodemographic characteristics and dining behaviors and preferences.

**Are Guests Interested in Demand-shifting Incentives?**

We first asked the guests, “If the restaurant offered you an incentive to dine earlier or later to avoid waiting for a table would you take the incentive?” Of the 367 guests responding to the question, 284 (77.3 percent) indicated that they would be willing overall to receive an incentive to dine at an off-peak time, while the remaining 83 (22.7 percent) indicated that they would not be interested in receiving incentives to dine at alternative times.

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**Exhibit 1:**
Quoted Wait Time in Minutes to Guests in Half-hour Increments

<table>
<thead>
<tr>
<th>Time</th>
<th>Friday 1</th>
<th>Friday 2</th>
<th>Friday 3</th>
<th>Saturday 1</th>
<th>Saturday 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30</td>
<td>0</td>
<td>15</td>
<td>15</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>6:00</td>
<td>0</td>
<td>45</td>
<td>30</td>
<td>75</td>
<td>60</td>
</tr>
<tr>
<td>6:30</td>
<td>10</td>
<td>60</td>
<td>45</td>
<td>75</td>
<td>90</td>
</tr>
<tr>
<td>7:00</td>
<td>60</td>
<td>90</td>
<td>75</td>
<td>105</td>
<td>120</td>
</tr>
<tr>
<td>7:30</td>
<td>60</td>
<td>90</td>
<td>75</td>
<td>90</td>
<td>120</td>
</tr>
<tr>
<td>8:00</td>
<td>60</td>
<td>80</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>8:30</td>
<td>30</td>
<td>90</td>
<td>90</td>
<td>75</td>
<td>60</td>
</tr>
<tr>
<td>9:00</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>45</td>
<td>60</td>
</tr>
</tbody>
</table>

**Exhibit 2:**
Restaurant Arrival Pattern

Note: Mean arrival times for five nights of the study described in the accompanying article.
As series of *t*-tests revealed that the guests would be interested in receiving three of the five incentives to dine at an alternative time (see Exhibit 3). The guests interested in receiving incentives favored time-limited coupons, discounted fixed-choice menus, and cash discounts. Regardless of the guests’ preferences for receiving incentives to dine during off-peak times, they rated the desirability of distinctive product offerings and distinctive service offerings similarly.

**Demographics and Potential Demand-shifting Incentives**

The respondents’ general demographic characteristics are summarized in Exhibit 4. We found few significant differences in the willingness of different demographic groups to shift demand.

**Age.** We used regression analysis to examine the relationship between the guests’ ages and their reported preferences for the five incentives presented to them. The data revealed that young respondents reported a preference for receiving time-limited coupons, receiving a cash discount, and special service offerings, suggesting that younger guests found these incentives to be more attractive than the older guests did. The relationship between the guests’ age and their preference for receiving either a discounted fixed-choice menu or a distinctive product offering was not significant.

**Household income.** The study participants’ incomes were measured using five categories (see Exhibit 4). Of the five income groupings, the analysis of variance (ANOVA) revealed a significant difference between the dependents and the guests who reported that they earned greater than $100,000 per year. The dependents indicated a significantly stronger preference to use a time-limited coupon than did the highest reported earners in the sample. (The dependents’ rating was $M = 3.57$, and for the high earners, $M = 2.92$). There were no other statistically significant differences across the other four incentives and the five groupings of income.

**Gender.** Our analyses revealed no statistically significant differences among the respondents’ preferences across each of the five demand-shifting incentives examined based on sex.

**Guests’ Dining Behavior**

The average expected spending was $25.21 ($SD = $9.31, median = $25), rang-

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**Exhibit 3:** Examination of the Guests’ Interest in Receiving Demand-shifting Incentives

<table>
<thead>
<tr>
<th>Favored Incentives</th>
<th>Did Not Favor Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time-limited coupon*</td>
<td>3.40</td>
</tr>
<tr>
<td>Discounted limited or fixed-choice menu*</td>
<td>3.20</td>
</tr>
<tr>
<td>Cash discount*</td>
<td>4.13</td>
</tr>
<tr>
<td>Distinctive product offerings</td>
<td>2.94</td>
</tr>
<tr>
<td>Special service offerings</td>
<td>3.40</td>
</tr>
</tbody>
</table>

*a. Indicates a significant difference between the two groups at the $p < .01$ level.
ing from $10.00 to $80.00, which is consistent with the $28.00 average check reported by the point of sale system during the study. Regression analyses revealed that the five demand incentives were not significantly related to guests’ anticipated spending—with one exception. Guests who reported a higher level of anticipated spending per person also indicated that special product offerings might entice them to dine during the restaurant’s off-peak times.

38 **Party size.** The average party size was 4.3 ($SD = 2.71$, median = 4) and ranged from one to twenty. Regression analyses revealed that none of the five demand incentives was significantly related to party size.

39 **Waiting time.** We asked how long participants were typically willing to wait to dine at this restaurant (where they were already waiting). The average time the guests reported they were willing to wait was 38.71 minutes ($SD = 17.86$, median = 30 minutes). Regarding demand-shifting incentives, the shorter the time the guests were willing to wait to be seated, the more interested they were in receiving - discounted fixed-choice menus ($\beta = -3.04$, $p < .001$). None of the other four incentives was seen as a significant incentive to dine at an off-peak time for the restaurant.

40 **Dining companions.** We asked participants to report with whom they were dining. The study participants reported the following three main categories of dining companions: friends (44.7 percent), family (38.8 percent), and significant others (15.9 percent). Only two participants indicated they were dining for business purposes (0.5 percent), which is no surprise given that the study was conducted on weekend evenings. The one-way ANOVA revealed significant effects for two of the five demand incentives: time-limited coupons and discounted fixed-choice menus. A closer examination of the guests’ responses revealed that guests dining with significant others were more interested in receiving time-limited coupons ($M = 3.64$, $p < .05$) than those who were dining with friends ($M = 3.13$) or with family members ($M = 3.23$). In addition, guests dining with significant others were more interested in receiving discounted fixed-choice menus ($M = 3.36$, $p < .05$) than those dining with friends ($M = 2.92$). We found no significant differences when comparing parties comprising friends and family members ($M = 3.16$) and significant others and family members. In each case, guests din-

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**Exhibit 4:**
**Guests’ Demographic Profile**

| Age: ranging from 18-75, $M = 32$, $SD = 13.46$, Median = 27 |
| Sex: 62 percent female |
| Annual household income: |
| Dependents | 114 (30.7 percent) |
| Less than $25,000 | 22 (5.9 percent) |
| $25,000–$49,000 | 55 (14.8 percent) |
| $50,000–$99,000 | 61 (16.9 percent) |
| Over $100,000 | 44 (12 percent) |

a. These respondents are generally college students who are still dependents of their parents.
ing with significant others were more interested in receiving demand-shifting incentives.

**Dining occasion.** Asked to describe their dining occasion, participants reported the following two categories of dining purpose: 47.5 percent reported they were having a regular meal, and 52.5 percent reported some type of special occasion (e.g., birthday, anniversary, work- or school-related celebration, or social gathering). The ANOVA revealed that the special service offering was the only incentive that produced a significant effect in the analysis by dining occasion. A closer examination of the guests’ responses revealed that those dining for a regular meal were less interested in receiving a special service offering as an incentive (M = 2.94) than were those dining for a special occasion (M = 3.40).

**Discussion and Practical Implications**

In this study, we examined restaurant guests’ preferences for demand-shifting incentives relative to their demographic characteristics and dining characteristics. We did so with the hope of offering restaurant operators some insight into how guests may react to the use of rate fences to smooth out demand and revenue flow across time periods. This study builds on the work of Kimes and Wirtz, who examined restaurant consumers’ perceptions of fairness in the application of rate fences, and found that consumers view coupon pricing, time-of-day pricing, and daypart pricing as more fair than day-of-the-week pricing and table-location-based pricing. Echoing those conclusions, our findings showed that consumers favored discounts over surcharges or service enhancements, which is also consistent with consumer-behavior and hospitality-management findings. In this study, we have highlighted and examined several direct incentives and processes that when implemented and managed by operators, can lead to increased opportunities for revenue enhancement, by shifting guest demand to underutilized times.

In this study, 284 (76.5 percent) of the guests we surveyed indicated that they would be interested in using incentives to dine earlier or later to avoid waiting, and the same number of guests also reported that they generally had flexibility in their arrival time. Moreover, 220 respondents indicated they had both flexibility in their arrival time and interest in receiving incentives to dine during off-peak hours, although that relationship is not significant (r = –.05, p = .15). This suggests that there is room to implement incentives in this context, but the incentives offered must be carefully matched to the guests’ needs and dining profiles.

As noted in Exhibit 1 and Exhibit 2, there is little room to shift guest demand to earlier times during the weekend meal periods, as the restaurant fills up quickly starting at 5:00 p.m. with an initially short wait for tables becoming a substantial wait until 9:00 p.m., when demand appears to taper off. It seems that the restaurant could benefit from having customers dine late, given that many guests have apparently figured out that the easiest way to get a table with a short wait is to arrive early.

**Guests’ Preferences for Incentives**

Our analyses of this restaurant’s patrons did uncover several patterns of demographics and dining behavior that can be used to further develop a demand-shifting strategy for restaurant operators through the application of rate fences. First, we found that guests who favored incentives were most interested in a cash discount.
This type of incentive is offered by other service-based businesses (e.g., grocery stores) where guests with club cards receive cash discounts on specific products or during specific time periods. These card-based systems also allow the operator to track guests’ use of the incentives and can be combined and merged with large database systems, such as Gazelle, that offer detailed information about consumers’ shopping habits and lifestyles. The next-most-popular incentive was that of time-limited coupons. These are easily distributed to guests through direct mail or local newspapers and can specifically target coupon discounts to guests at the most appropriate time to shift demand. For example, a free-drink or free-appetizer coupon may be more appropriate during early evening hours, while free-dessert coupons might be best suited to later time periods, when the restaurant traffic has slowed down. The third-most-popular incentive was the discounted fixed-choice menu. This type of menu can also be time variable, targeting different guests with an early-bird menu, happy-hour menu, or a late-night menu. Because these types of menus bundle menu items, the operator has better control of the average check during the times at which the specials are offered, and can therefore focus on filling seats at a predetermined revenue level during those time periods.

While not significant in the analyses, distinctive service offerings and special product offerings were ranked fourth and fifth, respectively. These findings are consistent with the research which shows that customers view price discounts more favorably than price premiums or surcharges. Although less popular among guests, distinctive service offerings can include various forms of entertainment to enhance the guests’ experience while dining or waiting. It is important, however, that the entertainment or service enhancement be carefully matched to the restaurants’ theme and clientele. For example, Darden’s Bahama Breeze restaurants regularly offer live performances of steel drums or Caribbean music to enhance the guests’ experience in the restaurant. These features appear to stimulate additional demand and compensate for normally long waiting times.

Likewise, special product offerings available during off-peak periods to stimulate additional demand were perceived as less popular among study respondents. Only those reporting a high-income level were interested in such features. An incentive of this type could be implemented by serving prime rib or lobster from 5:00 to 6:00 p.m. (or from 9:00 to 10:00 p.m.) at a premium price to entice guests to arrive earlier (or later) to enjoy the special items in time-limited supply. While this option was viewed as the least desirable of the incentives by our study participants, programs such as this are popular in Asia, where special menus and products are viewed as a luxury and are not readily available throughout the day and may even require preordering prior to arrival.
### Study questionnaire

Q1. Who are you dining with? (Please select one)

<table>
<thead>
<tr>
<th>Friend(s)</th>
<th>Family</th>
<th>Significant Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Other (please specify)</td>
<td></td>
</tr>
</tbody>
</table>

Q2. Why are you dining today?

<table>
<thead>
<tr>
<th>Regular Meal</th>
<th>Celebration (i.e. Birthday, Anniversary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Other (please specify)</td>
</tr>
</tbody>
</table>

Q3. Activity before coming to this restaurant: (Please select one)

<table>
<thead>
<tr>
<th>Home</th>
<th>Work</th>
<th>Travel/Vacation</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Shopping/Errands</td>
<td>Other</td>
</tr>
</tbody>
</table>

Q4. What time did you arrive at the restaurant?  ____ : ____ PM

Q5. Were you the decision maker about the time to come and eat?  Yes    No

Q6. Regarding payment will you be:  splitting the bill    paying for the whole bill    not paying

Q7. What is your:

- **Age:**  ____  ____
- **Sex:**  Male  Female
- **Number of people in your party:**  ____  ____

- **Household Income:**
  - Dependent
  - Under $25,000
  - $25,000–$50,000
  - $50,000–$99,000
  - $100,000+

Q8. Generally how long are you willing to wait to dine at a restaurant like this? (e.g., 50 minutes, 90 minutes)  ____  ____ minutes

Q9. Generally, if the restaurant offered you an “incentive” to dine earlier or later to avoid waiting, would you take the incentive?  Yes  No

Q10. Which of the following incentives would be the most desirable to you?

<table>
<thead>
<tr>
<th>A. Time-limited Coupon (Only usable at a specific time, e.g., free drink, appetizer, or dessert)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not desirable at all</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Discounted Limited, or Fixed-Choice Menu (e.g., early bird menu, pre-theater menu, or late night menu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not desirable at all</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
Guest demographics and incentives. We found that certain demographic characteristics offered additional insight beyond the analyses described above. This is particularly relevant because specific guest-based data are now readily available from companies like Gazelle.

Young respondents indicated a preference for cash discounts, time-limited coupons, and distinctive service offerings. Consistent with income data reported about this young demographic subgroup, they seem to be relatively price sensitive and may be the best candidates to be enticed to dine during off-peak hours. They are also more likely to be accustomed to taking advantage of specials or discounts (as dependents). With the skewed arrival patterns that indicate a large inflow of guests during the early evening hours, it seems that this subgroup could be moved toward the later hours with discounts or coupons or offered entertainment during the later operating hours that would be more consistent with a young demographic groups’ lifestyle.

Dining behavior and incentives. Those customers intent on above-average spending during their visits expressed interest in receiving special product offerings. This is consistent with the proposition that consumers who are willing to pay more for quality and product differentiation may do so at the expense of other factors, such as convenience.

Customers who indicated that they are not willing to wait long periods of time expressed interest in discounted, limited-choice menus. Fixed-choice menus such

<table>
<thead>
<tr>
<th>Q11. Did you have any flexibility in your arrival time to come earlier or later than you did?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q12. Did you use the “phone ahead” seating system offered by the restaurant to reduce your wait time?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q13. How much do you think you will be spending per person for your meal (including food &amp; beverages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$<strong><strong>.</strong></strong></td>
</tr>
</tbody>
</table>
as early-bird specials and pretheater menus are known for offering a realistic sample of a restaurant’s offerings at a higher value proposition, delivered in a more time-efficient manner than is typical of the regular menu. This type of offering could clearly be used between 5:00 and 6:00 p.m. but would likely appeal to a different demographic segment from that of a late-night menu (as noted above).

People dining with significant others (as opposed to friends and family) showed a preference for time-limited coupons and discounted fixed-choice menus. This may be a result of the combined nature of activities that constitute a “date.” A date will often combine a meal with other activities—such as a movie or a concert, making an off-peak incentive more attractive to this demographic group.

Study Limitations
This study has the key limitation that it uses a sample of patrons from a single restaurant during five weekend meal periods—the restaurant’s busiest times. This limits our ability to apply these findings directly to the restaurant’s own weekday meal periods and to other restaurants in general. While most studies of restaurant revenue management ultimately need to be site specific to be implemented, broad-based studies clearly add value to our understanding of how restaurants and their patrons interact. These data do, however, offer insight into a sample of guests’ perceptions and dining behavior during a restaurant’s busiest time. Second, when asking respondents about their preferences for and flexibility to take advantage of incentives to dine earlier or later, we did not delineate these issues well. From the data, we could not tell the extent to which guests were flexible in their dining behavior (e.g., two hours versus thirty minutes) or whether they found dining earlier or later to be more (or less) desirable. In addition, we could have better described the definitions and application of the five demand-shifting incentives we explored. Our demographic and behavioral analyses suggest that this distinction is important and should be considered in further research of this kind.

Third, we did not record the guests’ actual waiting times in the restaurant and reported only the average wait quoted to guests by the host staff. As a result, the wait time experienced by the customers is probably inflated, as these figures were not adjusted for those patrons that used the phone-ahead system (or for the fact that the hostess may overestimate waiting times). In the current study, the correlation between the guests’ anticipated waiting times in minutes ($M = 40.4, SD = 17.28$) and the quoted waiting times ($M = 75.89, SD = 26.46$) was weak ($r = .04, p = .19, N = 366$). This would be problematic for the operator if this set of figures represented the precise relationship between expected wait time and actual wait time. This relationship should be measured more precisely in future investigations.

Last, we intentionally did not combine this study of guests’ characteristics and preferences with the operational elements normally associated with studies of revenue management. Analysis that combines guests’ perceived needs and desires with the specific capacity and ability of the restaurant to handle structural or operational changes that actually meet those needs (as a condition for maximizing demand) is an important next step in this line of research. We recognize the importance of service blueprints and maximizing worker productivity in terms of ticket times, greeting, seating, and concluding the guest experience. A related issue is resource use. Since labor scheduling and other operational characteristics that are directly
under management’s control (e.g., pay rates, motivational strategies) can have substantial implications on revenue, these operating inputs must be recognized as potential factors in defining the optimal revenue-generating model.  

Conclusion

As with all revenue-management strategies, it is important to gauge the effectiveness of any tactic that is used. It makes no sense to offer a discount to customers who are willing to pay full price, for instance, just as it makes no sense to offer guests incentives to do things that they are not interested in doing. The outcome from any restaurant revenue-management effort should be to maximize the amount of revenue you can collect from each transaction in each daypart without diminishing the guests’ experience. It should be noted, however, that it is worthwhile to offer discounts and incentives only if such incentives will bring in additional business at low-demand times sufficiently above marginal costs without at the same time compromising the regular flow and demand for the products and services. That is, one should not offer discounts during peak demand periods or offer incentives to guests who are willing to pay top dollar for their chosen dining experience. That insight introduces another set of questions regarding price elasticity and how demand curves relate to pricing strategies—all of which are beyond the immediate scope of this article.  

Waiting is part of life and particularly part of an experience with a restaurant of the type we studied here. Having long waits for tables in a restaurant does not necessarily mean that there is a problem. Demand in restaurants like Cheesecake Factory, Houston’s, and Outback Steakhouse far exceeds supply on most days—meaning that guests usually must wait for tables. The presence of queues may indicate untapped opportunities that can be used to better satisfy guests, to enhance a restaurant’s top line, and ultimately, to fortify the bottom line. A prime example of capitalizing on uncaptured demand is Outback Steakhouse’s pioneering takeaway service that has now been institutionalized in one form or another in most of the casual-dining chains. Outback does not offer price discounts or specials but merely found a way to streamline takeout orders to the extent that it enhanced uncaptured revenue, actually lowered the cost of service for a portion of its earned revenue, and enhanced the experience for those guests both dining in and carrying out. This represents just one example of an operator matching its capacity and structure to guest needs to create additional value for the guests and revenues for the company—revenue management at its best!

Endnotes

4. Ibid.


9. Ibid.


11. For a discussion of the application of duration-control techniques, see: Sheryl E. Kimes, “Restaurant Revenue Management: Implementation at Chevys Arrowhead,” on pages 52–67 of this *Cornell Quarterly*.


22. Ibid.


24. Exceptions to this characteristic are prix fixe menus, banquets, and catering where the revenue per guest (or average check) is predetermined by the operator or by contract prior to consumption by the guest.

25. See: Kimes and Wirtz, pp. 31–38; and Kimes, on pages 52–67 of this *Cornell Quarterly*.


27. For applications see: Ibid.; Kimes et al., pp. 18–29; and Kimes, on pages 52–67 of this *Cornell Quarterly*.


33. Ibid.

34. Missing data were treated listwise, on an analysis-by-analysis basis throughout the manuscript. This data treatment resulted in a slightly different n for each grouping of analyses reported. The usable sample size for each set of analyses is reported along with the statistical tests for reference.
35. Time-limited coupons: $β = -2.26, \ p < .001$; cash discounts: $β = -1.71, \ p = .02$; and service offerings: $β = -1.37, \ p < .001$. $F(5, 339) = 5.71, \ p < .001, \ R^2 = .08, \ n = 345$ for the equation.

36. $F(5, 339) = 3.03, \ p = .01, \ η^2 = .04, \ n = 345; \ p = 0.006$ for the dependent and greater than $100,000$ income categories using Duncan’s multiple range test of difference.

37. To ensure that the missing income data were not systematic, the missing data were treated as a separate (sixth) factor in the one-way ANOVA.

38. $β = 1.19, \ t(1) = 2.17, \ p = .03$, and $F(5, 296) = 1.65, \ p = .15, \ R^2 = .03, \ n = 302$ for the equation.

39. $F(5, 325) = .40, \ p = .85, \ R^2 = .006, \ n = 331$.

40. $β = -3.04, \ p < .001$ and $F(5, 341) = 3.15, \ p < .001, \ R^2 = .04, \ n = 347$.

41. Time-limited coupon: $F(2, 340) = 3.65, \ p = .03, \ η^2 = .02, \ n = 331$; and discounted fixed-choice menu: $F(2, 340) = 3.53, \ p = .03, \ η^2 = .02, \ n = 331$.

42. $F(1, 337) = 13.33, \ p < .001, \ η^2 = .04, \ n = 339$.

43. $t(337) = -3.65, \ p < .001$.

44. Kimes and Wirtz, pp. 31–38.


46. $χ^2 (1) = 1.06, \ p < .30, \ η^2 = .003, \ n = 358$.


48. This statement is based on the observations of the third author, as a function of her work in the Asian hospitality industry.

49. For examples of operationally focused applications see: Sill and Decker, pp. 22–30; and Kimes et al., pp. 18–29.


51. For a detailed discussion of perceived pricing practices in restaurants, see: Kelly, Kiefer, and Burdett, pp. 48–52; and Kimes and Wirtz, pp. 31–38.

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Despite hotel revenue managers’ increasing reliance on computers, human judgment is still indispensable. A study of fifty-seven experienced revenue managers found that the nature of the user interface influenced the way the revenue managers adjusted the computers’ forecasts—even though the managers were all given the same predictions regardless of the interface. The managers were divided into four groups of four possible interface designs they experienced. Those with a deliberate computer and no chart made the smallest volume of adjustments to the computer’s forecast, about half that of the managers using a speedy computer and a chart. That group was followed by those with a speedy computer and no chart. The managers with a slow computer and an interactive chart made the highest volume of adjustments. Further research should indicate the exact nature of the interface’s influence on human judgment.

Keywords: revenue forecasting; hotel revenue; hotel revenue management

Rapid advances in information technology account for the heavy use of computers in hotel revenue management. Computers store information on historical occupancy patterns, guest preferences, current guest records, and reservation bookings. The Internet is increasingly used to disseminate information to potential customers and to record room reservations. Computers also play an increasing role in the two crucial elements of any revenue-management system: the forecast, mostly of occupancies, length of stay, and rates; and sometimes more elusive constructs such as probabilities, room rates, and allocation decisions. Yet despite the increasing reliance on computers, human judgment is still indispensable in setting revenue-management rules. For reasons discussed later in the article, we suggest that even the best computer-generated recommendations might be suboptimal and require adjustments based on human judgment. Indeed, in many hotel systems, computers and human decision makers interact in the sense that...
the computer-generated prediction and recommendation is evaluated and modified by the hotels revenue manager. Even though human judgment is essential to revenue management, that judgment is prone to bias. This study explores whether the nature of the interaction between the computer and the revenue manager (i.e., the computer’s interface) might promote human-judgment bias. Specifically, the study examines two elements of the user interface and tests whether these elements affect the manager’s ability to provide an unbiased assessment, one that would fully correct the computer-generated prediction.

Quantitative Models and Judgments in Revenue Management

A schematic description of the rate- and allocation-decision process is illustrated in Exhibit 1. A hypothetical automated system scans historical bookings, occupancy patterns, and reservation and rates information and fits quantitative forecasting models to the data. Using the fitted models, the system arrives at predictions, which are then used as an input in making rate and allocation decisions. That is, the optimization algorithms recommend rates and allocation based on the predicted values of the forecasted variables.

While the entire process can be computerized or automated, all of the steps illustrated in Exhibit 1 involve and benefit from intervention based on human judgment. Human judgment is applied when data and models are selected, models are fitted, forecasts are evaluated and adjusted, and final decisions on rates and allocation are made. The accuracy of the forecast is essential: inaccurate predictions lead to suboptimal decisions that in turn diminish the hotel’s revenues and profit margin. 2 In addressing the importance of occupancy forecasts, Weatherford, Kimes, and Scott state, “The forecast is the most important driver of any revenue-management-optimization approach.”

One way to improve the accuracy of quantitative occupancy-forecasting models is to consider the role of human judgment. Forecasting scholars argue that more accurate predictions are obtained when quantitative methods and judgment are combined, 4 and research supports this notion. Research on subjective revisions (or adjustments) of objective forecasts indicates that some improvement in accuracy can be expected from the revisions. Studies by Armstrong and by Mathews and Diamantopoulos demonstrate that revisions of quantitative forecasts by experts (e.g., economists and product managers) often improve the forecasts’ accuracy. 5 In addition, it was demonstrated that the accuracy of quantitative-forecasting models of daily occupancy could improve when an explicit structured process of judgment-based adjustments is applied. 6 As we explain next, this is the case because human judgment supplies additional relevant information, and it functions as an independent source.

Additional information. A revenue manager might be aware of information that has not yet been entered into the database used by the model, for example, a large group booking that has not yet been recorded, because the contract has not been signed. Then again, the revenue manager might be aware of information that cannot be handled by the model, such as a one-time event that is likely to affect hotel occupancy. If the operating environment is changing, until the models are refitted or replaced by more adequate ones, judgment-based adjustments might prove both necessary and effective. Finally, should an experienced revenue manager identify a
recurring inaccuracy (bias) in the quantitative model’s performance, she or he could correct it by simply adjusting the forecast.

**Independent source.** When an additional independent forecasting model is used, the combined forecast is often more accurate than is a single-source forecast. The reason for this is intuitive: independent models tend to cancel out each other’s errors. Thus, a strong argument can be made for a combination of forecasts, where a simple way of doing this is to let the combined forecast be a weighted average of the individual forecasts. Collopy and Armstrong argue that rule-based forecasting (RBF), an expert system that employs features of time series to select and weight extrapolation techniques, provide more accurate forecasts than could be obtained from an equal-weights combination. In this case, whether it is a combination of several quantitative models or a mix of a quantitative model and expert judgment, accuracy is likely to improve.

It goes without saying that for best results, both the quantitative models and the revenue manager’s judgment-based forecast adjustment or independent assessment must be as accurate as possible. While considerable attention has been given in recent years to the accuracy of hotel quantitative-forecasting models, the literature has barely addressed issues regarding revenue managers’ own predictions and adjustments. This is especially surprising in light of laboratory research on the psychology of reasoning and judgment, which shows that forecasters may be prone to bias in generating predictions and in evaluating outcomes.

While judgment-based forecasting has been studied extensively, its relevancy is still being debated. Surveys on forecasting indicate that human judgment is applied ubiquitously. Researchers advocating judgmental forecasting argue that given the appropriate conditions, judgment can be precise, reliable, and accurate. Research under these conditions (in which
improved forecast performance can be expected) reveals that people who are experts in the subject area make predictions that are more accurate than those of novices. Furthermore, based on their review of 137 studies, Bunn and Wright concluded that when experts use an explicit judgment process to make real forecasts, the resulting forecasts are more accurate than those produced by models from these experts. Groups often make more accurate forecasts than do individuals. Lichtenstein and Fischhoff argue that people who were trained and those who received feedback about their predictions made better forecasts than those who operated in solitude. However, more recent studies show that training in forecasting methods does not seem to improve a person’s ability to make extrapolations.

Conversely, a considerable number of studies show that while human forecasters are able to reason well, they do not necessarily do so. That is because human forecasters are prone to bias for a variety of reasons. For example, Evans reviewed studies that show that people’s ability to test a hypothesis is often restricted, leading to false conclusions and biased predictions. Among those restrictions are the belief bias and the illusory bias. Lord, Ross, and Lepper and Evans, Barston, and Pollard demonstrated the prevalence of the belief-bias effect: people are prone to accept evidence uncritically if the conclusion favors their prior belief. Champan and Champan demonstrated the existence of the illusory bias where people see association in data that agree with theories they hold, even when such patterns or association do not exist statistically. Bolton examined another impediment to judgment, finding that scenarios and analogies have persistent effects on judgment, despite subsequent use of corrective analytic techniques such as counterfactual reasoning, counterscenarios, counteranalogies, decomposition, and accountability. Bolton’s findings underscore the robustness of nonanalytic processes and the need to be cognizant of their effects.

Our own experience with hotel revenue-management systems yielded anecdotal evidence that revenue managers’ judgmental assessment might indeed be biased. The main reason for combining quantitative and judgment-based predictions is the large amount of additional relevant information possessed by revenue managers. For this reason, rather than formally average two independent forecasts (quantitative and judgmental), many hotel revenue managers review the predictions of the quantitative models and then use their experiences to adjust those predictions based on their own additional information.

Each computer system presents a forecast using its own particular interface in terms of the way both the computer prediction is presented and the revenue manager’s input is solicited. Given the biases that exist in the way humans exercise their expert judgment, we hypothesize that the user interface itself might create a bias effect on the expert’s judgment. In other words, elements of the revenue-management system and specifically the user-interface design might inadvertently compromise the accuracy of the occupancy forecast. If true, the unfortunate result would be suboptimal rate-allocation decisions and reduced profit margins for the hotel. This study further investigated whether the forecast made by revenue managers or their adjustments to the computer’s quantitative forecast are affected by built-in elements of the revenue-management system. That is, is the forecaster’s ability to produce independent and accurate predictions significantly compromised by the user interface? In the
following section, we describe the experiment where changes in two elements of the user interface are tested, outline the results, and discuss the implications, limitations, and avenues for future research.

**Method**

Participating in the study were fifty-seven expert subjects (twenty-seven women and thirty men) working at thirty-five randomly selected hotels in three cities in Israel. All fifty-seven managers are revenue managers who are involved in forecasting daily room occupancies. Rather than bring each expert to the laboratory, the study was conducted at the participants’ offices over a period of two months by a research assistant using a simulated forecasting program loaded on a laptop computer. Of the thirty-five hotels, fifteen were located in Eilat, a tourist destination on the shores of the Red Sea; eleven were located at the Dead Sea—a health- and spa-oriented destination with a mix of local and tourist guests; and nine were in Tel-Aviv and served mainly business travelers. The study participants averaged 12.8 years of experience in the hotel industry (with a standard deviation of 8.06 years).

**Motivation and procedure.** The revenue managers were told that the goal of the study was to test new quantitative occupancy-forecasting algorithms and that their cooperation, opinion, and input on the performance of the tested models were being solicited so that the models could be improved. See Exhibit 2 for the opening screen and the about window.

In the first screen, the subject was asked to enter the following personal data: name, organization, job title, years of experience, and gender. On the second screen, each subject was shown a table listing daily-occupancy figures for seven consecutive weeks (forty-nine historical daily-occupancy figures) and the computer forecast for the next seven days (i.e., the eighth consecutive week). Note that all fifty-seven participants were shown the same historical data and the same computer-forecast occupancy figures. The subjects were then asked to enter their own forecast of daily occupancies for that eighth week in a column adjacent to the computer forecast column (see Exhibit 3). Thus, when forming their own predictions, the subjects were aware not only of the historical data but also of the computer-generated forecast. This mimics the typical situation in many hotels, as discussed above, in which revenue managers correct the computer’s forecast rather than provide their own independent estimate to be averaged with the computer forecast.

After the participants completed entering their predicted occupancies and clicked the save and exit buttons, they were asked to rank the level of confidence they had in their forecast.

**Experimental design.** The computer software randomly assigned subjects to
the test conditions—a $2 \times 2$ factorial design such that each cell contained nearly an equal number of respondents. Exhibit 4 outlines the number of participants who experienced different combinations of each of the following test treatments:

- the computer generated the forecast slowly, informing the user about the progress, or
- the computer generated the forecast instantaneously, in an uninformative process; and
- the computer presented an interactive chart or
- the computer presented no chart.

Thus, the four test groups are as follows: fast computer, interactive chart; fast computer, no chart; slow computer, interactive chart; and slow computer, no chart.

**Independent Variables**

The first variable has to do with how fast the computer forecast is generated, that is, the time it takes the computer to finish the computation and present its forecasted occupancies on the screen. Twenty-nine participants witnessed a speedy forecasting process. The computer forecast was presented on the screen instantaneously—a split second after the user had requested it. The other twenty-eight participants waited twenty-three seconds for the process to be completed. That is, after the user clicked the forecast button, it took twenty-three seconds for the computer to display the forecast on the screen. In the meantime, the user was shown a progress report. A small popup window listed the various steps the computer was going through while generating the forecast: compiling data, activating forecasting models, analyzing patterns, fitting models, and testing accuracy (see Exhibit 5).

**Interactive chart.** The other variable involved the presence or absence of an interactive chart. Twenty-eight participants had an interactive charting tool on their screens, as shown in Exhibit 6. Several studies have examined the effects of graphical displays of forecast data. Willemain studied the process in which the forecaster modifies the graph of a statistical exploration and found that with both artificial data and real data, accuracy
can be improved when the subjective adjustment of objective forecasts is done using graphic displays of the data. Willemain argues that the improvement from graph-related adjustment correlates with excess error. Excess error is the difference in mean absolute percentage error (MAPE) of unadjusted automatic and nave forecasts (in the case of real data) and the difference in MAPE of the unadjusted automatic statistical forecasts and the theoretically optimal Box-Jenkins forecasts (in the case of artificial data). In their summary of research on how to improve judgmental forecasts, Goodwin and Wright conclude that it is best to use graphical time series displays when short-term forecasts are required, the series is nonseasonal, and the data are not noisy. In the study, the twenty-eight users who had a chart could select any single day of the week (or all seven days together) from a drop-down menu and examine a chart listing occupancies for the selected period. Once a forecast had been entered by those twenty-eight users, forecast data points were added to the interactive chart so that the user could graphically assess whether her or his forecast made sense given the history for that day. The remaining twenty-nine participants had no chart and generated their expert prediction based on the occupancy-figures table only.

**Dependent Variable**

The dependent variable, \( Y \), is the sum of the experts’ seven forecast adjustments (absolute value), that is, the sum of all seven absolute deviations of the expert forecasted occupancies from the computers predictions. It is given by

\[
Y = \sum_{j=1}^{57} \left| E_{ij} - C_i \right|
\]

where

- \( C_i \) denotes the computer forecast for day \( i \),
- \( E_{ij} \) denotes the subject \( j \)'s forecast for day \( i \), and
- \( i = 1, \ldots, 7 \); \( j = 1, \ldots, 57 \).

### Exhibit 3

**Historical Data Available to All Respondents**

<table>
<thead>
<tr>
<th></th>
<th>Historical Average Weekly Occupancies</th>
<th>Forecasted</th>
<th>Computer</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Month</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Monday</td>
<td>25%</td>
<td>25%</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Tuesday</td>
<td>30%</td>
<td>30%</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Wednesday</td>
<td>35%</td>
<td>35%</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Thursday</td>
<td>40%</td>
<td>40%</td>
<td>7</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Friday</td>
<td>45%</td>
<td>45%</td>
<td>8</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Saturday</td>
<td>50%</td>
<td>50%</td>
<td>9</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Sunday</td>
<td>55%</td>
<td>55%</td>
<td>10</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

### Exhibit 4:

**Number of Participants in Each Treatment**

<table>
<thead>
<tr>
<th></th>
<th><strong>Short, Uninformative Forecasting Process</strong></th>
<th><strong>Long, Informative Forecasting Process</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chart</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>No chart</td>
<td>15</td>
<td>14</td>
</tr>
</tbody>
</table>
Thus, regardless of any adjustments direction, expert forecasts that deviated more from the computer forecast (i.e., larger judgmental adjustments by the expert) led to a higher value of $Y$. Using the absolute value of the difference ensures that negative and positive deviations do not cancel each other. Consider the following example: the computer prediction for Sunday occupancy was 82 percent, and for Monday, it was 84 percent. If an expert participant predicted occupancy of 85 percent on Sunday and 80 percent on Monday, the value of $Y$ (for these two days only) is 7 percent; thus, $Y = |85\% - 82\%| + |80\% - 84\%| = 3\% + 4\% = 7\%$.

**Hypothesis**

The study tests whether elements of the user interface affect the revenue manager’s forecast. If that is the case, we expected that the four combinations of the two tested elements, speed computation and availability of the interactive chart, would influence the degree to which subjects adjust the computer forecast, computed as the average $Y$ in each treatment. Formally, the null hypothesis is as follows:

$$Y_j = \frac{\sum_{j=1}^{15} Y_j}{15} = \frac{\sum_{j=16}^{29} Y_j}{14} = \frac{\sum_{j=30}^{43} Y_j}{14} = \frac{\sum_{j=44}^{57} Y_j}{14}$$

where each of the elements of Equation 2 represents one of the four study treatments. Note that each element in Equation 2 is identical to the forecast error measure mean absolute deviation (MAD). In the context of this research study, MAD measures the difference between two sets of forecasts (quantitative and judgmental), while in a typical forecasting setting, MAD is used to measure the difference between a forecast and the actual figures.

**Results**

The results are summarized in Exhibit 7. The figures in the table cells and on the chart’s $y$ axis represent the average of the absolute prediction adjustment, that is, the
mean absolute deviation of the experts’ forecasts from the computer prediction. The results indicate that the two elements have some type of interaction effect, as shown by the crossing lines of the chart in Exhibit 7. The smallest average adjustment (4.6 percent occupancy) is by experts who were subject to a long, informative, forecasting process with no chart. Revenue managers who had a fast forecasting process and a chart follow with an MAD of 8.1 percent—an increase of 76.1 percent. Next are participants who had a fast computer process but no chart, with an average adjustment of 12.3 percent occupancy, an increase of 51.9 percent over the group of revenue managers who had a fast forecasting process and a chart. The largest adjustment, 13.2 percent occupancy, was made by revenue managers who had a slow forecasting process and a chart—an increase of 7.3 percent over the fast-process-but-no-chart treatment.

Our statistical tests on the above results support the notion that hotel revenue managers’ judgment-based occupancy forecasts are prone to bias. The study demonstrates that the participants’ occupancy predictions are altered in a statistically significant manner in response to changes...
in elements of the user interface. Within the group of experts who had a chart, those who were subject to a slow forecasting process deviated (on average) 13.2 percent, and those with a fast forecasting process deviated only 8.1 percent. The difference of 5.1 percentage points is statistically significant at \( p < 0.05 \). For those who had no chart, the effects of a speedy computer seem to reverse. Participants who had a slow forecast process had an MAD of only 4.6 percent, while those with a fast process had an MAD of 12.3 percent. The difference of 7.7 percentage points is statistically significant at \( p < 0.01 \). Within the group of participants who had a fast process, those with a chart had an MAD of 8.1 percent, and those without a chart had an MAD of 12.3 percent. The 4.2-percentage-point difference is statistically significant at \( p < 0.05 \). The average adjustment of participants who had a slow forecast process and a chart was 13.2 percent, while the adjustment of those with a slow process but without a chart was 4.6 percent. The difference of 8.6 percentage points is statistically significant at \( p < 0.01 \).

**Discussion**

The results of this study show that the judgment of revenue managers is prone to bias, based on the statistically significant differences in their interaction with the computer. All participants based their predictions on exactly the same historical occupancy patterns and computer prediction. The extent to which their prediction deviated from the computer’s prediction could have depended only on the two tested elements of the user interface, namely, forecast speed and availability of a charting tool. We can only speculate about why these two elements affected the participants’ forecasts. Given the study’s framework, it is possible that changes in user-interface elements affected the way in which the participants perceived the two sources of information (i.e., the historical occupancy patterns and the computer forecast). For example, in the absence of other information, the decision maker might interpret the computer’s forecasting speed to be an indication that the forecast is more reliable because a fast forecast would suggest a fast and modern computer, which one might reasonably conclude is more reliable. Such increased confidence in the computer’s forecast is likely to result in a smaller adjustment by the revenue manager. On the other hand, the slower forecasting process had the popup window with the online progress report, which might have had a similar effect of reassuring the manager and creating the impression that the computer’s algorithms are reliable—again resulting in smaller adjustments. Moreover, the charting tool might have had an effect because some people find it easier to interpret graphical information than numerical information, especially when it comes to identifying trends and evaluating the computer forecast and their own forecast on the basis of past numbers and occupancy patterns.

The findings of this study have important practical implications for hotel revenue managers. The results shed light on the role of the design of the computer–user interface on the decision maker’s performance. When a hotel adopts or designs a computerized revenue-management system and, more specifically, a system in which predictions and rate and allocation recommendations could be modified by revenue managers, it is important to ensure that the user interface is able to promote or evoke an appropriate human response. In other words, the interface
should not promote biased responses. Some hotels and management companies conduct periodic evaluations, monitoring the accuracy and performance of their revenue-management systems. When it becomes evident that these predictions or recommendations are less than optimal, managers take action to correct the problem. When searching for the cause of a malfunction, the interface design must be considered as a possible reason. Unfortunately, there is no recipe for an optimal interface design, since not enough is known at this stage about the effects of various interface elements on prediction and decision quality. In the absence of such hard data and until more studies are conducted, the best one can do is to experiment with suspected elements.

Limitations and Future Research

This preliminary investigation of revenue managers’ judgment demonstrates the following points:

- even highly experienced revenue managers are prone to bias, and
- the revenue-management system’s user interface might intensify (or promote) the expert’s bias.

It is possible to make only limited generalizations and specific recommendations given the limited scope of this study.

Exhibit 7:
Mean Absolute Deviation of Experts’ Forecast Adjustments (of hotel occupancy rates in percentages) by Treatment

<table>
<thead>
<tr>
<th></th>
<th>Short Process</th>
<th>Long Process</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chart</td>
<td>8.1</td>
<td>13.2</td>
<td>-5.1&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>No chart</td>
<td>12.3</td>
<td>4.6</td>
<td>7.7&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Difference</td>
<td>-4.2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>8.6&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Significant at $p < .01$.  
<sup>b</sup> Significant at $p < .05$. 

Absolute deviations of expert occupancy predictions from computer occupancy forecast

[Diagram showing deviations for Short process and Long process with charts and no charts]
and the research methodology. As with many behavior-lab experiments, the study had a relatively small number of participants. Furthermore, the goal was limited, that is, to demonstrate that even experienced managers could be biased by a computer interface. Therefore, the study did not systematically analyze how the interfaces design might affect the revenue manager’s judgment. Rather, the study arbitrarily selected two elements of the user interface and tested their effects on human predictions.

The results show that the matter of revenue manager’s judgment deserves more attention. Two avenues for future research might be beneficial. First, the industry could benefit from a comprehensive survey about the role of human judgment in the revenue-management process. Such a survey could educate readers on a wide range of questions, including what kind of judgment calls are made at each stage of the revenue-management process, who in the organization is making these decisions, how it has changed in recent years, where it is heading given the evolving technologies, and the extent to which human judgment plays a different role from one revenue-management system to another. A second avenue for research is a more technical one. Studies could further our understanding of the nature of revenue manager’s bias, causes for bias, how any bias could be reduced, and what is the effect of that bias and inaccuracy on the quality of allocation decisions (and on the hotel’s profit margin). While such studies should include an in-depth evaluation of the role and design of the user interface, it is expected that the quality of the revenue manager’s judgment will be affected by many other factors beyond the user interface. To achieve an improvement, these additional factors (whatever they may be) should also be identified and studied.

Endnotes

2. For a discussion on occupancy forecast-accuracy measures, see: Z. Schwartz, “Monitoring the Accuracy of Multiple Occupancy Forecasts,” FIU Hospitality Review, vol. 17, nos. 1, 2 (Spring–Fall 1999), pp. 29–42.
9. The use of a combination of hotel daily-occupancy forecasts is demonstrated in: Z. Schwartz and S. Hiemstra, “Improving the Ac-
18. Evans, pp. 31–47.
22. Through a contact person listed in the database, managers whose job description was the most relevant to the research question were identified and invited to participate in the study. The number of participants (fifty-seven) is larger than the number of hotels (thirty-five) because several hotels had more than one person dealing with occupancy forecasts and revenue decisions.
23. The sampling frame comprised over two hundred hotels in the three destinations, drawn from a list maintained by the department of Hotel and Tourism Management at Ben-Gurion University’s School of Management, which includes hotels that cooperate with the department. An initial sample of forty-five hotels (fifteen in each of the three cities) was selected randomly from the sampling frame. Of this initial sample, thirty-five hotels (77.7 percent) agreed to participate in the study.
24. Experience was defined as the number of years working in the industry, rather than the narrower definition of number of years in the recent position. The broader definition was adopted because previous positions in the hotel, leading to a position that involves rates and rooms allocation decisions, are often relevant in terms of the decision maker’s experience. For example, a hotel employee who spends years at the front desk, the reservation department, or the sales department prior to assuming revenue-management responsibility gains insight and a valuable understanding of many aspects of the issue at hand. These years of experience are most likely to contribute or affect
her or his rate and allocation decisions and assessments regarding future occupancies.

25. The information on the forecaster’s self-reported confidence level was recorded but not analyzed in this study. It is used in another project studying the role of revenue managers’ experience and self-confidence in their inclination to adjust the computer’s occupancy prediction.


28. \( t \)-test: two-sample assuming equal variances.

29. Note that in interpreting the results of this study, \( p < 0.05 \) is considered statistically significant.