Cornell University School of Hotel Administration
The Scholarly Commons

Articles and Chapters

School of Hotel Administration Collection

5-1991

Assessing Customer Contact: Work Sampling in Restaurants

Sheryl E. Kimes
Cornell University, sek6@cornell.edu

Stephen A. Mutkoski
Cornell University, sam29@cornell.edu

Follow this and additional works at: http://scholarship.sha.cornell.edu/articles

Part of the Food and Beverage Management Commons

Recommended Citation

Kimes, S. E., & Mutkoski, S. A. (1991). Assessing customer contact: Work sampling in restaurants [Electronic version]. *Cornell Hotel and Restaurant Administration Quarterly,* 32(1), 82-88. Retrieved [insert date], from Cornell University, School of Hospitality Administration site: http://scholarship.sha.cornell.edu/articles/457/

This Article or Chapter is brought to you for free and open access by the School of Hotel Administration Collection at The Scholarly Commons. It has been accepted for inclusion in Articles and Chapters by an authorized administrator of The Scholarly Commons. For more information, please contact hlmdigital@cornell.edu.

Assessing Customer Contact: Work Sampling in Restaurants

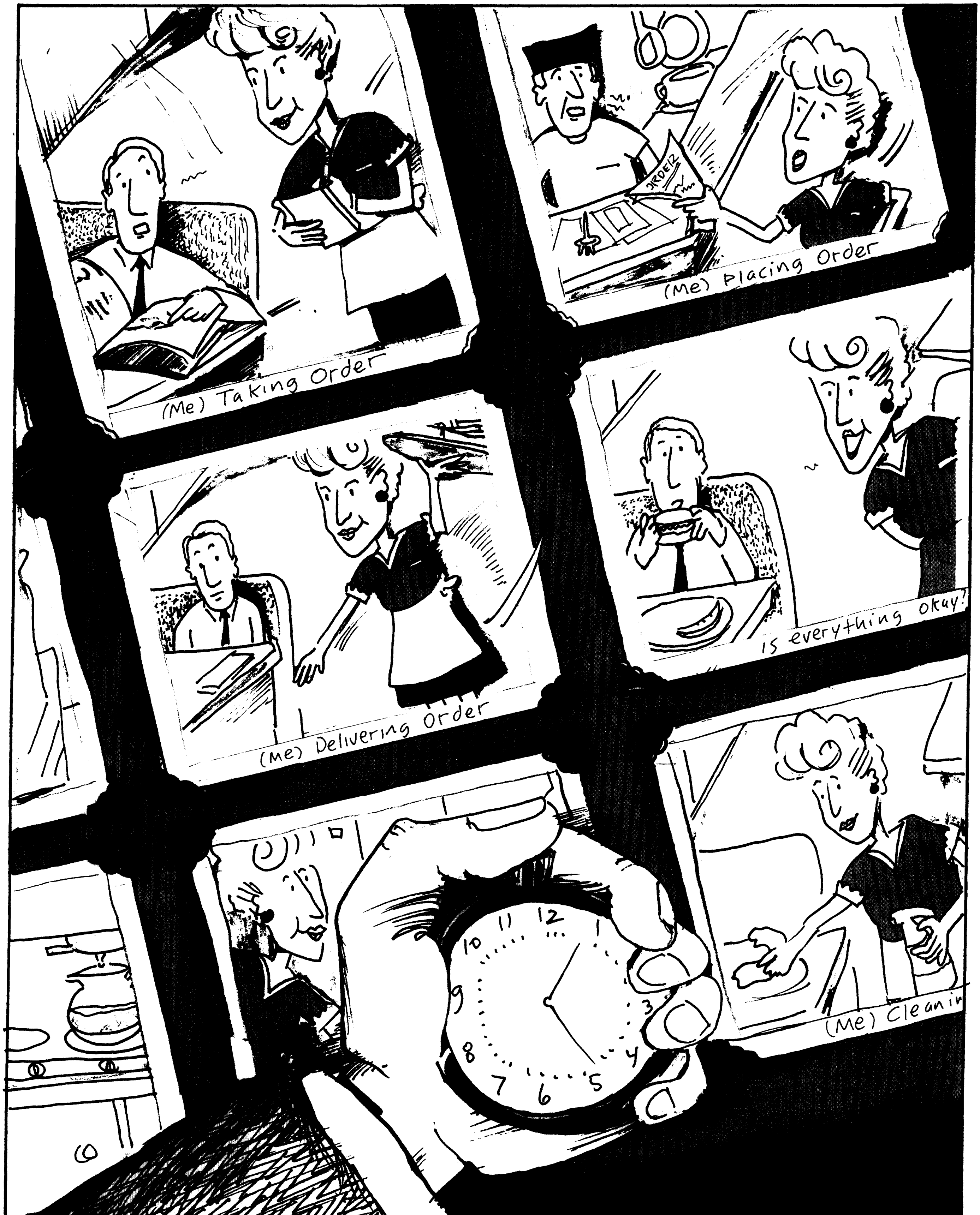
Abstract
Customer contact is a crucial element in food service. But how much actual contact do restaurant guests experience, and how much time do food servers' other tasks require? Here's a method to use in answering those questions.

Keywords
customer contact, restaurant industry, efficiency

Disciplines
Food and Beverage Management

Comments
Required Publisher Statement
© Cornell University. Reprinted with permission. All rights reserved.

This article or chapter is available at The Scholarly Commons: http://scholarship.sha.cornell.edu/articles/457


(Me) Taking Order
ORDER
(Me) Placing Order
(Me) Delivering Order
Is everything okay?
(Me) Cleanin

Assessing Customer Contact:

Work Sampling in Restaurants

Customer contact is a crucial element in food service. But how much actual contact do restaurant guests experience, and how much time do food servers' other tasks require? Here's a method to use in answering those questions

by Sheryl E. Kimes
and Stephen A. Mutkoski

SERVERS FULFILL two main roles in restaurants. One role is to act as the representative of the restaurant in making the customer feel comfortable and satisfied. We call this the contact role, and it has also been called the conviviality dimension of customer service.[1] The other role is providing efficient delivery of food and beverage items, or the procedural dimension of service. Depending on the type of restaurant you operate, the relative emphasis you place on these dimensions will vary. Restaurants placing heavy emphasis on customer service may ask their servers to maintain attentive guest contact, while they rely on back-of-the-house workers for help in food and beverage production. Other restaurants will place the emphasis on speedy, efficient service and pay little attention to the customer.

Because servers have only so much time, a trade-off must be made between time spent on guest contact and service efficiency. If heavy emphasis is placed on guest contact, efficiency may suffer, but the restaurant may see an increase in average check, tips, and repeat business. On the other hand, if the emphasis is placed on efficiency, the restaurant will be able to turn tables, but guest satisfaction and add-on sales may decrease.

One helpful way of considering this trade-off is by using the matrix shown in Exhibit 1, which ranks various restaurant concepts according to the relative balance between efficiency, guest contact, and sales opportunities. An important point about this matrix is that any point can be the right one for a restaurant, depending on the market. Restaurants define their niche within that market by developing a unique mix of guest contact and efficient service.

Testing the Trade-Off

Despite the trade-off between efficiency and service, we believe that restaurateurs may find an oppor-

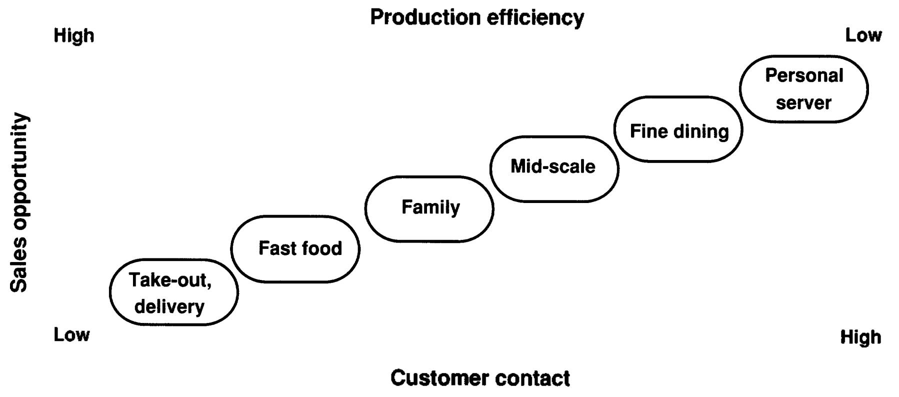
Sheryl E. Kimes, Ph.D., is an assistant professor at the Cornell University School of Hotel Administration, where ***Stephen A. Mutkoski****, Ph.D., is the Banfi Vintners Professor of Wine Education and Management.*

---

[1] William B. Martin, *Quality Service: The Restaurant Manager's Bible*, Second Edition (Ithaca: NY, Cornell University School of Hotel Administration, 1991).

EXHIBIT 1

Continuum of restaurant concepts: efficiency, contact, and sales



tunity to maintain efficiency and create an illusion of greater guest contact—if the relative amount of guest contact can be determined. In this article, we present a discussion of work sampling —a method for discovering exactly how your servers are spending their time. To show how work sampling functions, we will discuss the results of a study in which we measured the relative amount of customer contact in family restaurants and mid-scale restaurants.

Although these two restaurant types are adjacent on the continuum in Exhibit 1, we thought that mid-scale restaurants would have a greater amount of guest contact than family-style restaurants and would be able to charge correspondingly higher prices. We hypothesized that family restaurants would place greater emphasis on efficiency and increased table turnover, while mid-scale restaurants would aim for more guest contact and add-on sales.

Work sampling. To test our hypotheses, we used work sampling, a method developed in manufacturing to assess the proportion of time a worker spends on different activities. Work sampling has been used in a variety of situations. It is used in industrial sales to find out what percentage of the time sales representatives actually spend selling.[2] Bankers used work sampling to determine the amount of time bank tellers spent on tasks requiring high skills versus those requiring little skill.[3]

To use work sampling, you first make a complete list of work activities for your servers and then devise a plan for observing the worker. The trick in work sampling is that you observe the worker at selected times, but not constantly. Since managers rarely have the time (or the inclination) to watch their workers constantly, work sampling can be a handy technique. If the sampling plan provides an appropriately representative sample, you should be able to get a good idea of the amount of time your servers spend on different activities.

The intent of work sampling is to give managers an idea of how workers spend their time, but it should not be used as ammunition for disciplinary action. If you think your employees are not spending their time correctly, make the changes in the work situation.

Ninety-Minute Minimum

We studied a total of 24 restaurants, half of them family operations and half mid-scale. We observed the restaurants at lunch and dinner. Our observers studied two servers at each restaurant for a minimum of 90 minutes. All restaurants were located in Ithaca, Rochester, or Syracuse, New York.

To develop our list of functions, we divided the server's job into eight distinct categories. We kept the number to eight because work sampling is most effective when the categories are relatively few in number, do not overlap, and provide enough detail to have informational value. We observed only the activities on the floor and did not seek to measure what the servers were doing when they were out of sight. Our eight categories were as follows:

(1) *Guest contact:* The server was interacting with the customer. This category included such activities as taking orders, delivering food and drink, and talking.

(2) *Walk—Empty:* The server was walking without carrying any food or beverage items. The server was on the way to place an order, to take an order, or to clear a table.

(3) *Walk—Full*: The server was walking and carrying food and beverage items. That meant he or she was taking food to a table or clearing items from a table.

(4) *Bus:* The server was clearing a table after guests had departed.

(5) *Prepare:* The server was preparing or finishing a food or beverage item for delivery.

(6) *Can't see:* The server was off the floor.

(7) *Check:* The server was delivering or processing a customer's check.

(8) *Rest:* The server was taking a break.

Student observers went anonymously to each restaurant and used a form like the one partially shown in Exhibit 2 to record their observations of the two servers. We avoided announcing the time or purpose of our visits to minimize the Hawthorne effect, in which people alter their usual behavior because they know they are being watched. The observers noted what the servers were doing each minute (but not between minutes). Server #1's activities were checked on the minute, and Server #2 was noted on the half-minute. To obtain realistic results, the observers recorded their data during peak operating hours and sat at a table with a good view of the servers being studied.

---

[2] B.L. Foote, "A Queuing Case Study of Drive-In Banking," *Interfaces,* 63, No. 4, pp. 30-36.

[3] Noble Hall and Jack Staehle, "The Industrial Engineer's Role in Reducing Cost of Distribution," *Proceedings of the 16th Annual National Time and Motion Study Clinic,* 1953, pp. 88-92.

Since observations taken every minute can hardly be considered random, we drew a random sample of observations from each restaurant. In this way, we attempted to avoid some of the problems associated with non-random samples, while keeping the observation procedure relatively simple.

Interaction and Outer-Action

The servers in our study interacted with guests about one-third of the time, on average. Given that we observed the restaurants only during busy periods, we infer that the proportion of the time spent with customers is lower than what we observed. If your restaurant's strategy is to increase check averages with add-on sales or to raise guest-satisfaction levels, guest contact that occurs just one-third of the time may not be sufficient. Needless to say, servers cannot spend all of their time talking to guests because the servers have side work and other duties, but if some of that activity could be transferred to other employees, the server could have more potential sales time.

Also of note is the time spent out of the customer's sight. Servers in family restaurants were off the floor over 40 percent of the time, and that figure was about 33 percent in mid-scale restaurants. While some of this time out of sight is unavoidable, guests may become dissatisfied if they cannot contact their server when they need something. If servers are responsible for some food-preparation tasks (e.g., setting up salads or desserts), they will generally be off the floor more than in restaurants where other personnel handle such tasks.

Customer interaction and floor time were the two job categories that seemed to separate mid-scale restaurants from family restaurants. As we expected, servers in mid-scale restaurants generally spent more of their time (35 percent) interacting with customers than did servers in family restaurants (just under 29 percent). Likewise, mid-scale servers were on the floor somewhat more of the time than family servers (66 percent versus 57 percent). The proportion of time spent on other activities was essentially the same in both types of restaurants.

Day Parts

Comparing the individual meal times at the two restaurants, we found similar relationships in the proportion of time spent with customers. During lunch at the mid-scale restaurants, the server spent more than 32 percent of his or her time with the customers, while this percentage in family restaurants fell to just over 25 percent. Moreover, the wait staff at mid-scale restaurants was visible nearly 75 percent of the time, but servers at family restaurants were on the floor just 60 percent of the time.

This pattern held at dinner. Mid-scale servers spent more than 37 percent of their time with customers during dinner, compared to just under 31 percent for family servers. Family-restaurant wait staff was off the floor nearly 45 percent of the time at dinner, compared to barely 39 percent of the time for mid-scale servers.

In both restaurant types, the servers spent more time with the customers at dinner but also more time off the floor.

Server variations. Since we observed two servers in each restaurant, we could assess whether there was much variation in how they spent their time. In general, we found that both servers spent a similar proportion of their time on the various activities. In some instances, however, we observed that one or the other server would spend a great deal more time interacting with customers. We'd like to have found out whether these servers received better tips.

Developing Your Work-Sampling Study

Here are the seven steps for creating your own work-sampling study: **(1)** define all activities, **(2)** design the observation form, **(3)** determine the length of the study, **(4)** test the form, **(5)** determine the sample size and observation pattern, **(6)** conduct the study, and **(7)** analyze the data.

(1) *Define all activities.* First, you must identify the various activities you wish to study. Make sure the categories cover all the possibilities and don't overlap. Try to keep the number of categories small to make it easier to observe your servers' behavior.

(2) *Design the observation form.* After defining the activities you wish to study, you need to design the form you will use to record your observations. Make it easy to use and conducive to future analysis. You may wish to start with the form shown in Exhibit 2.

(3) *Determine the length of the study.* Decide how long a study you wish to conduct. Since one of your main objectives is to obtain a representative sample, you certainly need to study more than one day of operation. Spreading your observations over the period of one

EXHIBIT 2

Partial work-sampling form

Restaurant________________ Lunch ___ Dinner ___
Date ____ Time ____

Key OB #	Guest Contact	Walk— Empty	Walk— Full	Bus	Prepare	Can't See	Check	Rest	Key OB #
1		✓							1
2	✓								2
3	✓								3
4		✓							4
5						✓			5
6						✓			6

34						✓			34
35						✓			35
36						✓			36
37			✓						37
38	✓								38
39		✓							39
40							✓		40
Sum									**Sum**

By noting what the server is doing once each minute, an observer can obtain a sampling of which tasks occupy the server's time. The 40 observation points indicated on the above form would not constitute a sufficient sample by themselves, but would be part of a lengthier study.

week to one month will probably work best.

(4) *Test the form.* Before you do your final study, it's a good idea to test your form to see whether it works the way you want it to. Take a few hours to try it out. Are the categories well-defined? Is the form easy to use? Is it hard to determine when to record your observation? You should also decide how you are going to make your observations. The easiest way is probably to record observations over a meal period that lasts several hours.

You can make your observations either at some pre-determined interval or at random. As we mentioned above, we used a combination of the two approaches. First, we took observations at pre-determined intervals and then we drew at random from those observations. To draw a random sample, you should have access to a device that generates random numbers. You can get random numbers from a table, from some calculators, or from most computer spreadsheets. If you are not overly concerned with how accurate your sample is, you can skip this step and still get a good idea of what is going on in your restaurant.

Remember that you must record exactly what the observed persons are doing at the designated observation time. Try not to anticipate actions or record history. Just note what the servers are actually doing.

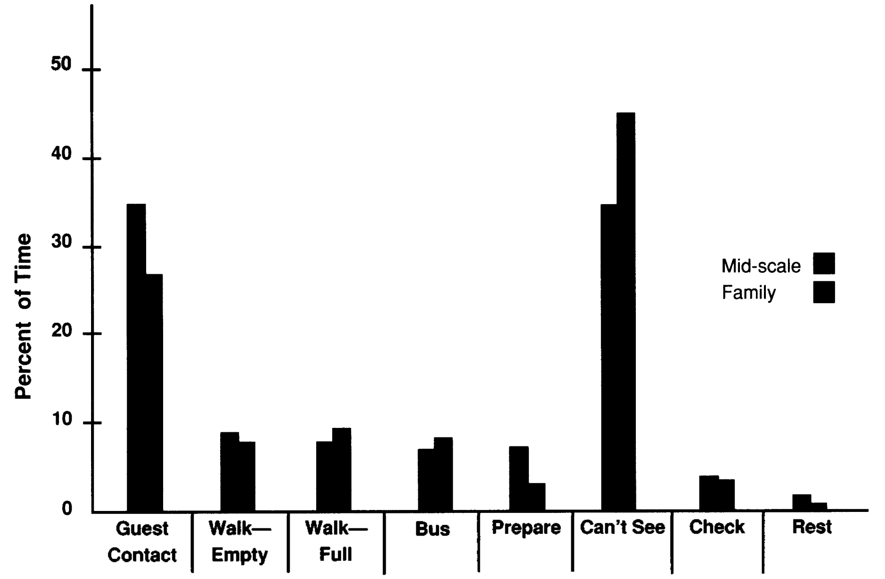
(5) *Determine the sample size and observation pattern.* Once you have finished testing your form, you can firm up your plans for how many observations you will take and how you will ensure that you obtain a representative sample. Many books discuss ways to calculate your sample size.[4] As a rule of thumb, the larger the sample, the more accurate and representative it will be. In some cases, 100

---

[4] For example, see: R.M. Barnes, *Work Sampling* (New York: John Wiley & Sons, 1980); or Benjamin Niebel, *Motion and Time Study* (Homewood, IL: Richard D. Irwin, 1976).

EXHIBIT 3

Work-sampling comparison—mid-scale versus family restaurants



observations will be adequate, but you might need close to 1,000 in other situations.

When you've determined the number of observations needed, set up a schedule for your observers. If you will take 300 observations over 10 days, for instance, you will need to make at least 30 observations each day. If you follow our methodology and take a random sample of minute-by-minute observations, you will obviously need many more than 30 observations to create the pool from which the random sample will be selected.

Make sure that you spread your observations over different meal periods and different days. You might even decide to conduct separate studies for lunch and dinner or for weekends and weekdays.

(6) *Conduct the study.* If you will have other persons record the data, train them on how to use the form. To minimize the Hawthorne effect, you will either need to be discreet about your observations or inform the employees of the study and assure them that the information is not part of a personnel evaluation.

(7) *Analyze the data.* Your analysis involves adding up the observations in each category and calculating the percentage of time that each activity occurred.

Making Change

Once you have collected and analyzed your data, you can decide whether you want to restructure your servers' jobs so that they spend more (or less) time with customers or more (or less) time on the floor. If you decide that your servers are spending too much time bussing tables, you might want to hire more bus help. If you decide that the servers aren't turning the tables fast enough, you may want to limit customer interaction or make other changes.

We took our results back to two of the restaurants we observed, and discussed the study with the owners: John Parmelee, of Old Port Harbour Restaurant, and Michael Turback, of Turback's Restaurant, both in Ithaca, New York, and both mid-scale restaurants. Neither restaurateur had seen this type of study before.

Both were surprised at the actual percentage of guest-contact time. The study results were higher than they expected. The overall 35-percent average at dinner was far above Turback's typical contact level of 20 percent. While we thought 20 percent an extremely low level of guest contact, it makes sense in view of Turback's strategy, which is as follows:

The menu includes a complete description of each course. Servers do not recite specials orally, so order taking is streamlined. Turback knows each customer will order a main-course entrée, so the servers are to concentrate on selling the extras. Moreover, a large percentage of the client base at dinner is business-related. Such guests are usually looking for efficient, unobtrusive service.

Parmelee thought the study was interesting for its capability of assessing variations among servers. He was particularly interested in tracking comparative sales and tips generated to see whether those figures correlate with the amount of guest contact.

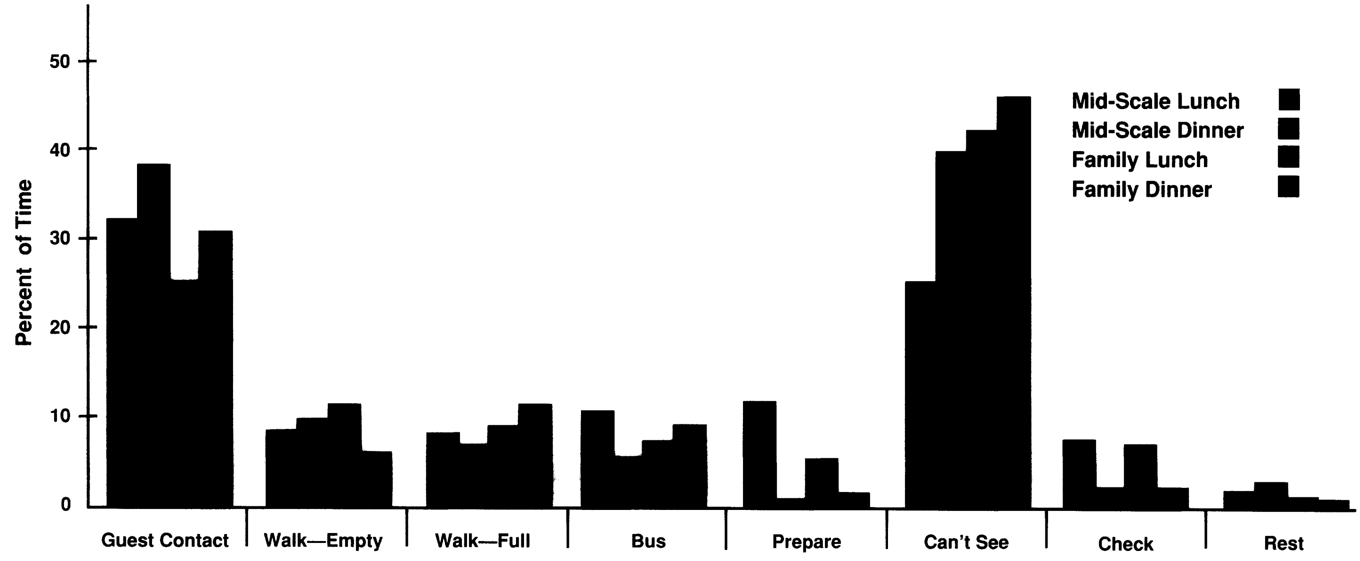
Both operators thought a comparison of their operations to their competition might give them an edge in formulating service strategy. They also were anxious to investigate the scores for "walk—empty" and "walk—full," to measure efficiency of work habits or restaurant-design deficiencies.

Both Turback and Parmelee wanted to evaluate the "can't see" category, because the design and layout of each facility affects whether guests can see servers. Turback's is an elegant farmhouse converted into a restaurant, so it has several dining rooms. Old Port Harbour also comprises a series of dining rooms, plus an outdoor terrace overlooking an inlet to one of New York's Finger Lakes. (In good weather, guests may arrive by boat.) However, both restaurateurs agreed that staffing and operational policies also affected this measurement.

Parmelee, for instance, thought he would re-examine his lunch service, during which the can't-see

EXHIBIT 4

Work-sampling analysis by meal period



category was higher than during the dinner period. He explained that his servers set up their own desserts during lunch, a procedure that keeps them off the floor for some time. To rectify that situation, he planned to add another person in the kitchen.

Possibilities

Although work sampling has been used in many industries, it apparently has been employed little in the hospitality industry. We believe that attention to three categories from our survey can help improve your restaurant's productivity and customer satisfaction—namely, guest contact, walking empty and full, and out of guest's sight.

Guest contact. If you want to position your restaurant as the service leader in your segment, you could consciously increase the servers' contact with the guests. When Sizzler repositioned its family steakhouse restaurants several years ago, for instance, part of the change involved increased customer contact. The chain implemented "seven-step service," which called for servers to return to the table seven times during the meal. Sizzler also increased the number of servers on the floor from three to as many as eight or nine. The changes were made even though they would increase labor costs. Sizzler's management believed the change was essential if the chain was to move out of the low-price family category and into the mid-scale market, where it could capture more market share. Sales results showed that management's strategy was a good one. By the fourth quarter of 1987, the chain reported a 40-percent increase in revenues over the previous year.[5] While the increase in customer contact was just one of the changes made (menu and decor were also altered), that extra service was a necessary component for the repositioning to be successful.

Increasing guest contact might also allow you to increase prices or check averages. One of the chief differences we found between family restaurants and mid-scale operations is in the amount of server contact with guests. We think that a family restaurant could increase guest contact and prices at the same time.

Walking on empty. Comparing individual servers on the "walk—empty, walk—full" categories may help you pinpoint efficient work methods. Your servers cannot correct problems of which they are not aware. Moreover, improving their work habits will probably help your employees earn larger tips.

Out of mind. You should carefully examine the "cannot see" category. Since the customer's satisfaction is at risk when the server is out of sight, take a look at what servers are doing when they are off the floor. In some cases, you can pick up additional customer-contact time by streamlining the trips to the back of the house. Some operations use buzzers, bells, or vibrators to let servers know when their orders are ready for pick-up, thereby minimizing the time they are off the floor.

The study in this article gives you just one example of how work sampling can be used. Each position in the front of the house and the back of the house could be analyzed with this technique. Knowing what percentage of time an employee spends on each activity can help you ascertain ways of improving productivity while maintaining or increasing customer satisfaction. ☐

---

[5] Dolores A. Long, "Thomas L. Gregory, Sizzler Restaurants," *Restaurant Business*, November 1987, pp. 88-90.