

# Revenue Management at Prego Italian Restaurant<sup>1</sup>

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*Prego Italian Restaurant needs to decide how to best apply revenue management to improve profitability in both peak and off-peak periods. It is important for the company to consider potentially negative effects of revenue management strategies on customers and on staff, and to manage potential conflicts that may arise.*

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After the busy lunch hours on a weekday afternoon, Francesco Caponeri<sup>3</sup>, Prego's restaurant manager, was looking at the half-empty restaurant, feeling that it was in total contrast to the lunch and dinner hours, especially during the weekends, when they had to turn away customers. If seats were occupied during the off-peak hours, more revenue could be generated. Dur-

ing the peak periods, when customer demand exceeded the supply of tables and diners were unwilling to wait for long, Prego was losing revenue and perhaps even future business. Francesco thought that there should be better strategies in which the revenue could be increased, and was planning to develop a revenue management strategy that would increase revenues without jeopardizing diner satisfaction.

## COMPANY BACKGROUND AND MARKET ENVIRONMENT

Prego is an upscale, trendy, and popular Italian restaurant in Singapore. It has repeatedly been rated as one of Singapore's best restaurants by

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<sup>1</sup> © 2005 by Jochen Wirtz and Sheryl E. Kimes. An earlier version of this case was published in *Asian Case Research Journal* 7, no. 1 (2003): 67-87.

The cooperation of Jeannette P.T. Ho, who was the Director of Revenue Management, Raffles the Plaza & Swissôtel The Stamford, Singapore (now, Jeannette is the Corporate Director of Revenue Management, Banyan Tree Hotels & Resorts, Singapore); Eric Blomeyer, F&B Manager; and Giorgio Olivotti, Restaurant Manager, Prego, are gratefully acknowledged. Selected financial and market data have been disguised for confidentiality reasons. The case writers gratefully acknowledge the excellent assistance of our student researchers Shawn Tay Teck Heong, Goh Chwee Suan, Handy Amin and Chua Hsiao Wei for the successful completion of the case.

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<sup>3</sup> The names of individuals have been disguised.

the *Singapore Tatler*, an authoritative review guide to the local restaurant scene. Prego is located right at the heart of Singapore within the Raffles City complex. Part of the complex are Singapore's largest hotel, the Swissôtel The Stamford, a five-star hotel with 1,261 rooms; Raffles The Plaza, a 5½-star deluxe hotel with 769 rooms; and the Raffles City Shopping Center. Prego enjoys a prime central location in the vicinity of Singapore's main shopping belt Orchard Road, and the Central Business District. The Raffles City complex is also conveniently accessible by public transport, and is located next to one of Singapore's three main subway train interchanges, the City Hall MRT Interchange<sup>4</sup>. Also, the three-level basement of the Raffles City complex provides ample parking space. Prego's prominent ground level location, at the busy intersection of Bras Basah Road and Beach Road, makes it highly visible to the large volume of passer-by traffic.

The restaurant industry in Singapore is fiercely competitive, with restaurants opening and closing on a regular basis. Singapore has a vibrant restaurant industry which accounts for US\$3 billion per year (including sales at hawker stalls). The 799 full-service restaurants accounted for some US\$900 million of the total market; the 245 fast-food restaurants for US\$325 million; and the 198 hotel restaurants for US\$650 million.<sup>5</sup>

Singaporeans eat out frequently. Nearly two-thirds (62.9 percent) eat at hawker centers (groups of local food stalls) at least once a week, while 56.9 percent patronize neighborhood coffee shops and 10.5 percent go to restaurants at least once a week.<sup>6</sup> Dining out expenditures increased from 46 percent of total average food expenditures some ten years ago to 55 percent of total average food expenditures in 2003.<sup>7</sup> The growth in dining-out expenditures is attributed to a number of factors, including (1) the increased affluence of Singaporeans, especially those under 40 years old, (2) lifestyle changes which have caused Singaporeans to prefer increased convenience, and (3) the increase in expatriate residents and tourists in Singapore.<sup>8</sup> A fact sheet on Singapore is provided in the Appendix at the end of the case.

Prego has been successful for over ten years, and maintained its reputation as a high-quality, authentic Italian restaurant. Prego's upscale positioning has contributed to its continuing success.

Prego serves Lunch (11.30 a.m.-2.30 p.m.), Snacks (2.30 p.m.-6.30 p.m.), Dinner (6.30 p.m.-10.30 p.m.), and Supper (10.30 p.m.-12.30 a.m.). The dining area consists of the Bar, Antipasto, Restaurant, Pizzeria, and Alfresco Dining sections, with a total capacity of 340 seats. **Exhibit 1** shows the floor plan of Prego, and **Exhibits 2 to 5** give an impression of the interior and de-

<sup>4</sup>"MRT" is the acronym for the Mass Rapid Transit passenger service in Singapore. There are currently 67 train stations linking all areas of the island.

<sup>5</sup>Singapore Department of Statistics (2002), *Retail Sales Index and Catering Trade Index December 2002*; and Singapore Department of Statistics (2000), *Economic Surveys Series—Hotels & Catering 2000*.

<sup>6</sup>Kau, Ah Keng, Tan Soo Juan, and Jochen Wirtz, *7 Faces of Singaporeans: Their Values, Aspirations and Lifestyles* (Singapore: Prentice Hall, 1998).

<sup>7</sup>Singapore Department of Statistics (2003), *Retail Sales Index and Catering Trade Index December 2003*; Singapore Department of Statistics (2000), *Economic Surveys Series—Hotel & Catering 2000*.

<sup>8</sup>Kau, Ah Keng, Tan Soo Juan, and Jochen Wirtz, *7 Faces of Singaporeans: Their Values, Aspirations and Lifestyles* (Singapore: Prentice Hall, 1998).

Exhibit 1 Restaurant Layout

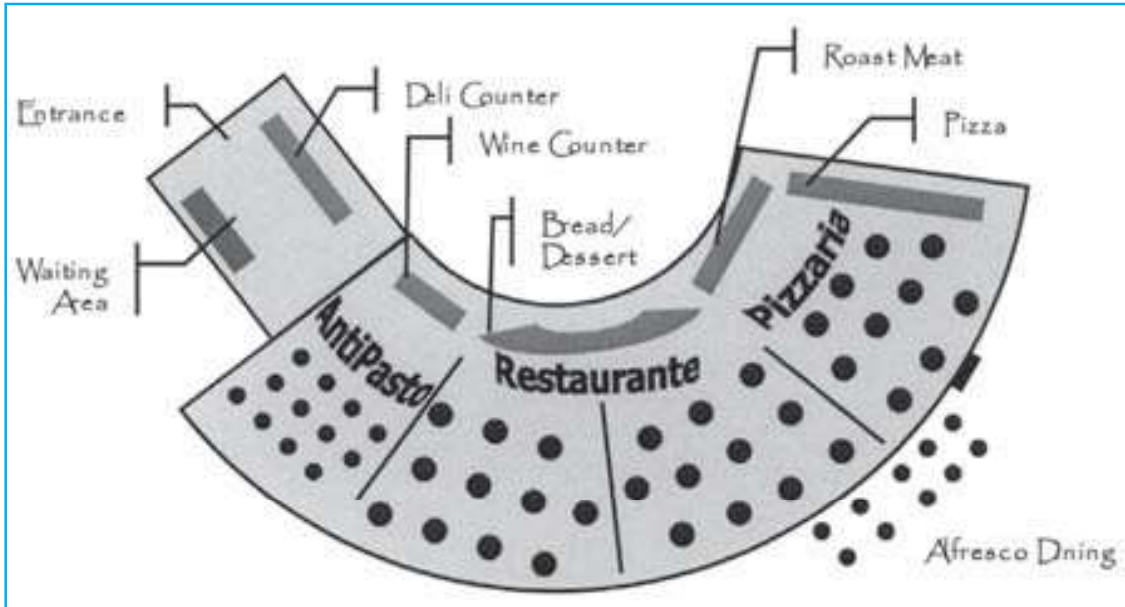


Exhibit 2 Entrance to Prego Italian Restaurant



Exhibit 3 Dining Area



Exhibit 4 Wine Counter and Bar in the Restaurant



**Exhibit 5** Deli Counter at the Entrance to the Restaurant

sign of the restaurant. The restaurant also includes a take-away Deli counter and a waiting area that can accommodate up to 12 diners.

The standard menu comprises approximately eight appetizers and salads, three soups, 27 entrees including pasta, pizza, fish and meat, and seven desserts. Prego also offers a wide selection of wines from Italy, France, Australia, California and New Zealand. A manager is always on duty. Approximately 20 percent of the customers are hotel guests at Swissôtel The Stamford and Raffles The Plaza, 30 percent are tourists, and the remaining 50 percent are local diners.

### REVENUE MANAGEMENT IN A RESTAURANT CONTEXT

Revenue management has been successfully applied to the airline and hotel industries for many years, but has only recently been applied to the restaurant industry.

Revenue management is a sophisticated form of supply and demand management. Its primary focus is managing customer demand through the use of variable pricing and capacity management to maximize profitability. The four strategic levers for yield management are: calendar (reservations, bookings), clock (duration controls, turnover rates), capacity (demand smoothing), and pricing (price fences, discounts). Through the application of information technology, pricing strategy, and service product/process design, revenue management helps companies to sell the right product at the right time to the right customer for the right price.

Revenue management is particularly suited for the restaurant industry, with its relatively finite capacity of available tables, perishable inventory, microsegmented markets of restaurant guests, fluctuating demand, relatively low variable to fixed costs ratios, and services that can

be sold in advance through bookings and reservations. Success in revenue management is typically measured in revenue per available time-based inventory unit. In the airline industry, this becomes revenue per available seat-mile; in the hotel industry, revenue per available room-night; and in the restaurant industry, revenue per available seat-hour (RevPASH). The revenue per available time-based inventory unit can be calculated by multiplying the capacity utilization by the average price.

For a restaurant to be able to apply revenue management, it should (1) establish its baseline performance, (2) understand the causes of performance, (3) develop a revenue management strategy, (4) implement the strategy, and (5) monitor performance.

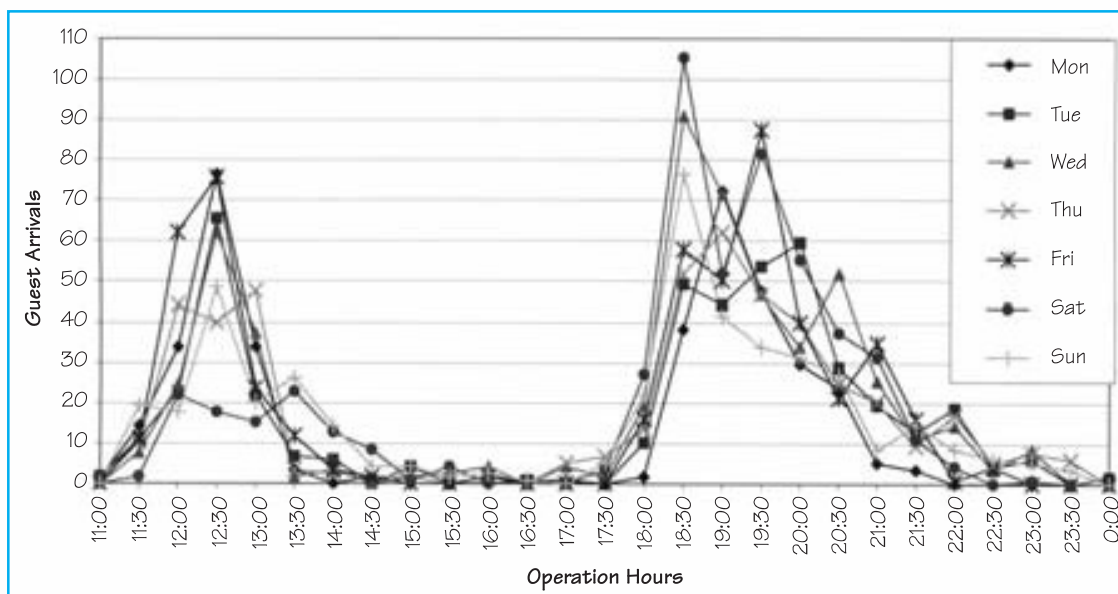
## PREGO DINERS

### Guest Arrival Patterns

As Prego's arrival patterns differ significantly by half hours during the peak periods, the data was captured on a half-hourly basis. Guest arrivals were captured from the opening time of a check. This was an accurate measure of arrival times, since more than 95 percent of the checks were opened within five minutes of guest arrival.

Lunch arrivals were heavily centered around 12.30 p.m. and attracted mainly diners on their lunch breaks or those on business lunches. Dinner arrivals were more widely spread between 6.30 and 8.00 p.m. (see **Exhibit 6**) and attracted mainly couples and working executives. On weekends, groups of friends and families were

**Exhibit 6** Guest Arrival Patterns in a Typical Week



more prevalent. The restaurant received relatively few shoppers and in-house guests (i.e., guests that stayed in one of the two hotels located in the Raffles City complex).

A sample of the collected data on the pattern of dinner guest arrivals and revenues, per half-hour periods, for two weeks is provided in **Exhibit 7**.

Hostesses recorded the names of waiting diners who could not immediately be given a table. Prego found that approximately 15 to 30 customers could not be accommodated immediately for dinners from Tuesdays to Saturdays. Of those asked to wait, approximately 33 percent did not wait and left for other restaurants. Diners with reservations were rarely turned away, as all reservations were accepted and honored.

### Meal Duration

Both the mean and the standard deviation of meal duration for peak times were recorded and

are shown in **Exhibits 8 and 9**. The average dining time was approximately one hour and 25 minutes with a standard deviation of 37 minutes. Means and standard deviations varied by half-hour periods and by day of week.

### Course Timing

Measurement was carried out by conducting a detailed timing study of ten random tables (with fewer than six diners) per dinner sitting for each of the days from Wednesday to Saturday. Courses timed included (1) arrival to seating/drinks, (2) seating/drinks to food order, (3) food order to appetizer, (4) appetizer to entrée, (5) entrée to dessert/coffee, (6) dessert/coffee to check request, (7) check request to check clearance, (8) check clearance to leaving table, and (9) arrival to departure. During busy periods, the restaurant will take an average of 9 minutes (with a standard deviation of 6 minutes) after guest departure before each table is being bussed. The

**Exhibit 7** Sample Dinner Guest Arrivals

Day of Week	Arrival Times								Dinner Revenue
	18.00	18.30	19.00	19.30	20.00	20.30	21.00	21.30	
Monday	3	59	88	37	36	24	10	7	\$10,301.32
Tuesday	15	51	53	51	42	31	36	14	\$11,470.39
Wednesday	14	90	73	42	39	73	25	19	\$14,658.84
Thursday	24	59	61	53	42	17	8	15	\$11,493.06
Friday	10	39	56	75	27	27	46	25	\$10,501.53
Saturday	15	117	14	70	51	32	32	14	\$13,543.46
Sunday	31	58	53	15	36	19	17	8	\$8,052.16
Monday	0	17	56	58	24	24	0	0	\$6,462.71
Tuesday	5	48	36	56	76	27	3	12	\$13,085.65
Wednesday	25	92	70	51	29	31	25	3	\$12,328.54
Thursday	3	44	63	41	37	32	32	3	\$11,121.85
Friday	22	76	44	100	53	15	24	7	\$12,702.21
Saturday	39	93	90	93	59	42	31	8	\$14,398.04
Sunday	14	95	31	53	27	36	0	20	\$10,230.51

**Exhibit 8 Lunch Meal Duration: Mean and Standard Deviation**

Day of Week	Arrival Times			
	12.00 Duration (STD)	12.30 Duration (STD)	13.00 Duration (STD)	13.30 Duration (STD)
Monday	1:14 (0:29)	1:01 (0:20)	0:51 (0:17)	0:22 (0:05)
Tuesday	1:23 (0:21)	1:19 (0:28)	1:15 (0:26)	0:49 (0:07)
Wednesday	1:12 (0:41)	1:05 (0:22)	0:53 (0:12)	0:30 (0:05)
Thursday	1:28 (0:30)	1:13 (0:44)	0:49 (0:15)	0:20 (0:05)
Friday	1:10 (0:34)	1:17 (0:23)	0:50 (0:19)	1:20 (0:11)
Saturday	1:04 (0:25)	1:19 (0:22)	0:50 (0:07)	1:22 (0:22)
Sunday	1:09 (0:18)	1:25 (0:34)	1:17 (0:19)	1:19 (0:27)

**Exhibit 9 Dinner Meal Duration: Mean and Standard Deviation**

Day of Week	Arrival Times					
	18.00 Duration (STD)	18.30 Duration (STD)	19.00 Duration (STD)	19.30 Duration (STD)	20.00 Duration (STD)	20.30 Duration (STD)
Monday	—	1:22 (0:24)	1:13 (0:38)	1:08 (0:27)	1:11 (0:19)	0:46 (0:17)
Tuesday	1:58 (0:25)	1:09 (0:23)	1:10 (0:31)	1:27 (0:40)	1:34 (0:33)	1:14 (0:34)
Wednesday	1:23 (0:38)	1:15 (0:39)	1:13 (0:34)	1:08 (0:40)	1:21 (0:24)	1:09 (0:33)
Thursday	1:20 (0:08)	1:11 (0:33)	1:12 (0:43)	1:32 (0:41)	1:18 (0:37)	1:16 (0:23)
Friday	1:20 (0:27)	0:48 (0:29)	1:23 (0:31)	1:22 (0:43)	1:11 (0:40)	1:02 (1:10)
Saturday	1:20 (0:25)	1:20 (0:42)	1:10 (0:27)	1:07 (0:44)	1:25 (0:24)	1:18 (0:23)
Sunday	0:55 (0:22)	0:50 (0:30)	1:23 (0:45)	1:17 (0:28)	1:10 (0:30)	1:20 (0:17)

average time needed to buss each table in order to be ready for new arriving guests is about 5 minutes. The findings are shown in **Exhibit 10**.

**Revenue per Available Seat Hour**

Not surprisingly, the RevPASH performance (see **Exhibit 11**) followed the arrival patterns, with the highest RevPASH being achieved between 12.30 and 1.30 p.m., and between 7.00 p.m. and 9.00 p.m. The afternoon period between 2.30 p.m. and 5.30 p.m. showed very little activity.

**PREGO'S SERVICE BLUEPRINT**

A service blueprint for Prego was developed (see **Exhibit 12**). It shows the individual steps of the

whole dining process, starting from making reservations to customer departure.

**1. Advance Reservations**

Phone reservations were taken as long as tables were still available, at the exact time requested by the customer. No credit card guarantees were asked, except for special occasions like Valentine's Day, Christmas Eve, New Year's Eve and Chinese New Year.

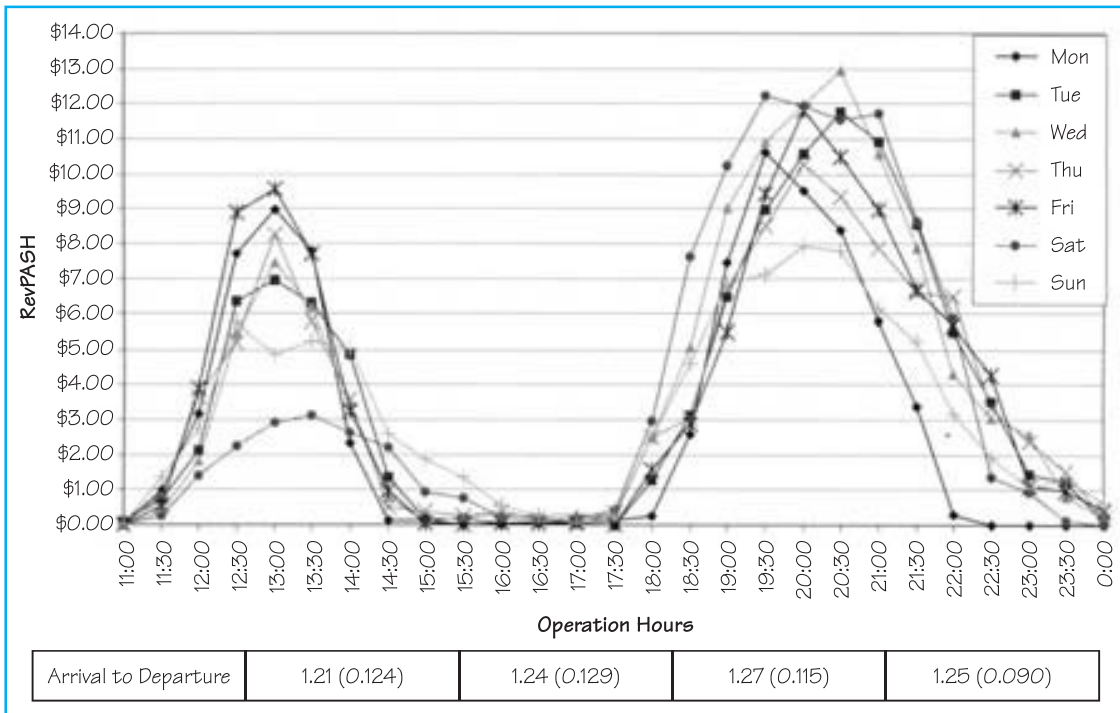
**2. Customer Arrival**

Reservations generally accounted for about 50 to 60 percent of all arrivals, with an even higher proportion on peak days. When a table becomes avail-

Exhibit 10 Course Timing: Mean and Standard Deviation

Course Timing	Day of Week			
	Wednesday Duration (STD)	Thursday Duration (STD)	Friday Duration (STD)	Saturday Duration (STD)
Arrival to Seating/drinks	0.03 (0.01)	0.04 (0.02)	0.03 (0.02)	0.03 (0.01)
Seating/drinks to Food Order	0.05 (0.02)	0.04 (0.01)	0.04 (0.02)	0.04 (0.03)
Food Order to Appetizer	0.09 (0.02)	0.10 (0.04)	0.11 (0.03)	0.09 (0.03)
Appetizer to Entrée	0.15 (0.05)	0.14 (0.08)	0.16 (0.04)	0.14 (0.04)
Entrée to Dessert/coffee	0.30 (0.10)	0.31 (0.08)	0.28 (0.05)	0.32 (0.07)
Dessert/coffee to Check Request	0.14 (0.04)	0.15 (0.03)	0.18 (0.08)	0.16 (0.03)
Check Request to Check Clearance	0.03 (0.02)	0.03 (0.02)	0.03 (0.01)	0.04 (0.02)
Check Clearance to Departure	0.02 (0.01)	0.03 (0.02)	0.04 (0.03)	0.03 (0.01)
Arrival to Departure	1.21 (0.124)	1.24 (0.129)	1.27 (0.115)	1.25 (0.090)

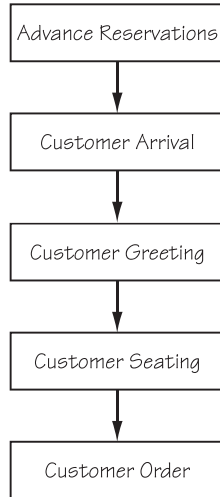
Exhibit 11 Revenue per available seat-hour (RevPASH) Patterns



able near the reserved time, the table was “held” even when other guests were waiting to be seated. If a customer with reservations was late or did not show up, the reserved table might have been sit-

ting empty for some time even though other guests were waiting. Prego had approximately nine or ten no-show parties on a typical weekday, and around 13 no-show tables on a typical weekend.

Exhibit 12 Service Blueprint



### 3. Customer Greeting

This was handled by two or three hosts stationed at the entrance. These hosts were responsible for the flow of tables and must track when tables become available. However, Prego had no table management system and the large size of the restaurant often made it difficult for the hosts to know which ones were available. The hosts relied on servers to notify them about available tables and there sometimes was a significant time lag before a server was free to go to the entrance to pick up new diners. Often, the hosts had to leave the entrance to find available tables.

### 4. Customer Seating

Once a table became available, the host was notified and tried to find the next party on the waiting list. There were often lags between the time when the table was ready and when the host was notified, and until the waiting party was identified.

### 5. Customer Order

Drink orders were taken first. Once the drinks were delivered, food orders were then taken.

With the wide variety of wines and food available, customers may spend some time making their choices.

### 6. Appetizer and Entree Delivery

The kitchen comprised three sections (Hot, Cold, and Dessert and Rotis), which made it difficult to coordinate common delivery times at the diners' tables. Two back runners and one or two front runners were deployed to run food to the serving stations. Courses which had become cold after being left waiting for too long on the counter had to be redone. The servers handled ordering, serving, occasional food running, check clearance and bussing. This saved on overall labor requirements but was extremely challenging to operate during peak times. The high staff turnover prevalent in the restaurant industry made it difficult to adequately train all the new staff and part-timers on the variety of tasks. There were often times when the restaurant operated on 50 percent part-time staff.

### 7. Dessert and Coffee

The restaurant tried to use suggestive selling to increase the average check and guests were encouraged to order dessert and coffee, even during peak hours.

### 8. Payment and Departure

Most payments were done via credit card, which took longer to process than other payment methods. Delays could occur when customers could not attract the server's attention; when staff prepared the check and delivered it to the diner; and during payment processing. After payment, some customers chose to linger at their tables for a bit longer before departing.

## DEVELOPING A STRATEGY TO MAXIMIZE REVENUE

Prego's Profit and Loss Statement for a typical month and financial status are shown in **Exhibit 13**. The Profit and Loss Statement shows that Prego had a contribution margin ratio of about 71.4 percent per dollar of revenue; fixed costs were at a monthly average of \$250,126. The break-even point was at about \$350,317 per month, or approximately 10,616 covers. Profit margins were approximately 14.2 percent of to-

tal revenues.

Francesco's main concern was to increase revenue and contribution by filling up the tables during off-peak periods and to reach higher turnover of tables without affecting customer satisfaction during peak periods. Francesco understood that to be able to achieve it, it not only required a well-planned and creative strategy, but also a careful implementation that does not alienate customers and staff.

**Exhibit 13 Profit and Loss Statement for a Typical Month**

PREGO		
<b>Revenues:</b>		
Food	\$322,718	73.8%
Beverage	\$114,827	26.2%
Total Revenues	\$437,545	100.0%
<b>Costs:</b>		
<b>Variable Costs:</b>		
Variable Costs:	\$96,882	22.1%
Cost of Beverages	\$28,232	6.5%
Total Variable Costs	\$125,114	28.6%
<b>Fixed Costs:</b>		
Rental of Premises	\$104,528	23.9%
Depreciation of Furniture, Fittings & Equipment	\$5,713	1.3%
Total Labor Costs	\$121,111	27.7%
Laundry	\$4,146	0.9%
Linen (Table Cloths & Napkins)	\$1,164	0.3%
Uniforms	\$748	0.2%
Breakage & Utensil Replacement	\$49	0.0%
Cleaning Services & Materials	\$1,360	0.3%
Utilities (Electricity, Water & Gas)	\$1,521	0.3%
Telecoms	\$316	0.1%
Music & Entertainment	\$732	0.2%
Printing, Stationery, & Menus	\$3,722	0.9%
Advertising & Promotion	\$2,512	0.6%
Miscellaneous	\$2,502	0.6%
Total variable Costs	\$250,126	57.2%
Total Costs	\$375,240	85.8%
Gross Operating Profit	\$62,305	14.2%
Food Costs/food Revenues	30.0%	
Beverage Costs/Beverage Revenues	24.6%	
Total Number of Covers	13259	
Average Check	\$33.00	

Note: The data are based on authors' estimates, and would be typical for an Italian restaurant of Prego's size and location.

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**Study Questions**

1. Suppose Prego hired you as a consultant to help them develop and implement a strategy to increase revenue and contribution. Using the financial data given, assess the potential revenue and profit impact of potential revenue management measures Prego should consider, and make any logical assumptions needed for doing this.
2. Next, consider the potential customer and staff responses to these measures.
3. Finally, given the potential profit impact, and customer and staff responses, what revenue management measures would you recommend that Prego implement, and what should Prego do to minimize potential customer and employee conflicts resulting from these measures?

# Appendix

## Singapore Fact Sheet

### Geographic Data

Location	South-eastern Asia, islands between Malaysia and Indonesia
Land Area	692.7 sq. km
Climate	Tropical; hot, humid, rainy; two distinct monsoon seasons— North-eastern monsoon from December to March and South-western monsoon from June to September; inter-monsoon— frequent afternoon and early evening thunderstorms

### Singapore's People

Population	4,608,595 (July 2003 est.)
Age structure	0-14 years: 17.3 percent (male 411,656; female 385,575) 15-64 years: 75.5 percent (male 1,687,217; female 1,793,783) 65 years and over: 7.2 percent (male 144,277; female 186,087) (2003 est.)
Population growth rate	3.42 percent (2003 est.)
Life expectancy at birth	Total population: 80.42 years female: 83.6 years (2003 est.) male: 77.46 years
Ethnic groups	Chinese 76.7 percent, Malay 14 percent, Indian 7.9 percent, other 1.4 percent
Religions	Buddhist, Islam, Christian, Hindu, Sikh, Taoist, Confucianist
Languages	Chinese (official), Malay (official and national), Tamil (official), English (official)
Literacy rate (population 15 years and older)	93.2 percent

### Economy

GDP at current market prices	Purchasing power parity—US\$112.4 billion (2002 est.)
GDP—real growth rate	2.2 percent (2002 est.)
GDP—per capita at current market prices	Purchasing power parity—US\$25,200 (2002 est.)
Inflation rate	-0.4 percent (2002 est.)
Labour force	2.19 million (2000 est.)
Unemployment rate	4.6 percent (2002 est.)

Sources and further information can be found at <http://www.odci.gov/cia/publications/factbook/geos/sn.html>