Time taken to complete a meal: a distinctive study of full-service restaurants in India

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Abstract: The present study aims to investigate the relationship between the number of people dining in a table and time taken to complete the meal in three different dinner settings in five-star hotel restaurants. For the purpose of the study, two five-star hotels which has a dinner setting with an all-day dining restaurant, speciality restaurant, and a rooftop restaurant were selected for the study. The customers of the selected restaurant were unobtrusively observed by the experts. Age and sex of the restaurant customers were not recorded. A significant positive relationship associated with the number of people dining in a table and the time taken to complete the meal in all the dinner setting. The time taken to complete the meal was longer in the rooftop restaurant and moderate in the speciality restaurant, whereas in all-day dining restaurant was a shorter one. The serving style of the food, ambience of the restaurant had an influence on the time taken to complete the meal. The results will enlighten the restaurant managers to understand the dining time relationship and the associated factors. The study results will help the waiters in planning up the service time of the food and beverage served in the restaurant. This is the first study conducted in the Indian context particularly in the five-star hotel restaurants. The valuable findings will help to formulate and to amend the existing meal serving technique to ensure the promptness of the service and to maximise the revenue generation.

Keywords: five-star hotel; meal duration; all-day dining restaurants; speciality restaurants; rooftop restaurant; group size; ordering type; ambience; service style.

Reference to this paper should be made as follows: Sudhagar, D.P. (2018) ‘Time taken to complete a meal: a distinctive study of full-service restaurants in India’, Int. J. Business Forecasting and Marketing Intelligence, Vol. 4, No. 1, pp.1–12.

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1 Introduction

Time is one the precious resource, time once lost will not come back again. The restaurant business is one of the perishable businesses where production and consumption need to happen on the same day. Failing to sell in a day lets the revenue down and the expenses to go up. The restaurant customers expect the service efficiency of the restaurant. Research findings of Namin (2017) indicated that restaurant customer’s satisfaction was improved due to the service quality, food quality and price-value ratio delivered in the restaurant. Service promptness can be ensured only when the restaurant employees understand the time relationship while performing service in the restaurant. Providing service to a customer involves the participation of the several employees in the service department and the production employees from the kitchen. So, the knowledge about the service time relationship in the restaurant service is very important for the effective restaurant operation. Kim et al. (2016) identified that customer overall rating, guest served per labour hour, and the food quality offered by the restaurant influence restaurant performance.

The service strategies applicable to one type of restaurant may not be applicable to another type of restaurant, because of the nature of the restaurant which includes the restaurant ambiance, choice of food and beverage menu offered to the guest and the expectation of the restaurant customer. For example, Ehsan (2012) studied the selection criteria used by the fast food customers while visiting fast food outlets. The results of the study reported that the price, variety of food, promotional deals, and timely service were the important factors. Marshall and Bell (1996) identified that different eating environments were perceived as different due to the amount of time given to complete the meal and the degree to which the customer’s feels rushed. Fast food restaurant customers had experienced shortest time to complete the meal. Hence, it resulted in more pressure to complete the meal. In the case of moderately priced restaurants, the customers indicated that more time was provided during the meal. Hence, the customers feel less pressurised to complete the meal and the cafeterias fell between these two categories of eating context. Previous research conducted by Sommer and Steele (1997) examined the time relationship in naturalistic settings and found a positive correlation between group size and meal duration. The study was conducted only in snack setting (a coffee shop) and one meal setting (a traditional restaurant). Depend upon the type of eating context, it might differentially influence the relationship between the group size and meal duration. Hence, an understanding relationship between the group size and the time taken to complete a meal would help the service and production employees to plan the service sequence based on the need and expectation of the customers dining in the restaurant.

2 Review of literature

Significant studies in the past have studied the concept of time across various disciplines. The discipline includes economics, psychology, sociology, home economics and cultural anthropology (Mosakowski and Earley, 2000). The study conducted by de Castro and his colleagues (de Castro, 1990; de Castro and Brewer, 1992) using data from food diaries kept by community volunteers documented the social facilitation effect. They indicated a
positive relationship between the number of people presented while eating and the calories consumed by each. The study identified a strong effect regardless of whether the meals contained alcohol or not, taken place on weekdays or weekends, consist of breakfast, lunch, dinner, or snacks or are eaten at home or away from home (de Castro, 1991; de Castro et al., 1990). Klesges et al. (1984) discovered that people eating in restaurants were those eating alone and they consumed significantly less than those eating in groups. Studies conducted in the field settings by Hirsch and Kramer (1993), Klesges et al. (1984) and Krantz (1979) indicated that people eat more when they are in groups than when they are alone. Laboratory experiments conducted by Edelman et al. (1986) provided participants a meal for either in groups or alone in the laboratory. Both studies found that greater intake among participants who ate socially than among those who ate alone and it was happened because of the social facilitation effect. One generally accepted justification for the effect in the above studies was time extension in the meal period. When more people present, the longer the meal takes, the longer the meal takes, the greater the intake and it was also supported by the correlational data from de Castro’s studies (1992) which indicated that increasing the number of people extended the mealtime. In two experimental studies conducted by Clendenen et al. (1994) in which a number of eaters were manipulated and time to eat was observed, the meal duration was a positive function of group size.

In the food establishments, factors that determined the choice of food and amount of intake of the food were divided into three main groups. They were sensory, individual and the dining environment. The appearance, texture and flavour of the food represent sensory group, consumer age, gender and status of the health are an individual group and finally, the physical ambience of the establishment which includes the physical environment and place are grouped under dining environment (Shepherd and Sparks, 1994; Meiselman, 1996). García-Segovia et al. (2015) study indicated that the amount of food consumed by the consumer varied based on the availability of the table setting and eating location. Hollands et al.’s (2015) analysis reported that customers consumed more food and drink when served in larger portions, containers or tableware than when presented in smaller sizes. Studies also found that environmental factors which include ambient scent and background music influenced patron’s food choice (Stroebel and de Castro, 2004; Meiselman, 2006). Sudhagar’s (2017) study identified that fast food customer’s exhibited strong importance towards food taste, healthy food, nutritional value of the food, hygienic food service, reasonable pricing, food safety, and other food services compared to menu varieties, prompt food service, food presentation attractiveness and innovation in fast food. Ha and Jang (2010) indicated that service and food quality had a positive and significant impact on customer satisfaction and loyalty. Ryu and Han (2010) highlighted that improving customer satisfaction level was vital to increase the revisit and recommendation intention of the restaurant customers. Longart (2010) study found a clear linkage between customer satisfaction with food and drink served in the restaurant and positive word of mouth communication intentions. Sudhagar (2017) examined the selection criteria of customers of Chinese restaurants and their dining habits. The results indicate that the restaurant quality was emerged as top dimension while selecting the Chinese restaurant for dining. The restaurant quality includes food quality, service quality, overall hygiene and cleanliness of the restaurant, restaurant environment quality and value for money. Anwar and Guilzar (2011) reported that food quality, service quality, nutrition quality entertainment quality, and physical
environment quality were the vital factors to create value and satisfaction with the restaurant. Based on the previous research findings it can be concluded that service promptness is a very critical factor which determines customer satisfaction and positive behavioural intention. Service promptness can be achieved through increased awareness of consumer dining time and the influencing factors. The present study aimed to contribute and enhance knowledge in this specific area.

3 Need for the study

Most of the previous studies reported in the review of literature were conducted in the foreign context. To the best of the knowledge, not even a single day has been conducted in the Indian context. Restaurant customers dining habits would vary from one country to another country for several reasons, mainly because of the eating habits, culture and the motivation behind dining out in the restaurants. The present study will help to identify the significant similarities or differences. Most of the time relationship studies were conducted in a snack bar, a traditional restaurant, coffee shop and cafeteria setting. Restaurant customer’s visits star hotels especially five-star hotel restaurants would like to spend significant time in the restaurant for dining. Understanding the time relationship in the star hotel restaurants context would help in framing better serving strategies to provide the service efficiency preferred by the customer and to improve the sales in the restaurant through proper service sequence planning by the service personnel working in the restaurant.

4 Base for the study

The present study is based on the social facilitation effect where a positive relationship exists between the number of people dining in a table and the time taken to complete the meal. The type of eating location/restaurant type might differentially influence the relationship between the group size and the meal duration. The base for the study is based on the previous research which empirically explained the social facilitation effect in a reliable manner. The present research includes the choice of ordering in the restaurant as one of the factors which might also influence this relationship.

5 Methodology

The study is planned systematically in order to investigate the relationship between the number of customers dining in a table and time taken to complete the meal in three different dinner settings in five-star hotels in Chennai City, South India.

5.1 The following are the steps followed to conduct the study

The first step was selecting the five-star hotel restaurants and the second step was choosing the period of a visit to the restaurant, the third step was training the experts to perform the observation and the fourth step was formulating the observation procedure and the final step was performing the actual visit to the restaurants.
5.2 Selecting the five-star hotel restaurants

Only two five-star hotels expressed their interest in conducting this observational study in their restaurants, both the hotels had an all-day dining restaurant, speciality restaurant, and rooftop restaurant. The all-day dining restaurant serves breakfast, lunch, evening snack, dinner and midnight meal whereas the speciality restaurant serves only for lunch and dinner and the rooftop restaurant serves only for the dinner session. The ordering style of all-day dining restaurant for dinner was a self-service buffet and the speciality restaurant and the rooftop restaurant served a la carte menu. Important differentiating factor for the restaurants were the richness of the ambience, rooftop restaurant has an astonishing view of the whole city and open sky with natural sceneries which makes the guest to spend more time in the restaurant, the speciality Chinese restaurant has ambience projecting the interior decors, lighting, seating and music of the Chinese culture. Whereas the all-day dining restaurant typically called as the coffee shop had light ambience, which mainly focuses on quick service of the food and beverage.

5.3 Choosing the period of the visit to the restaurant

One-month period was chosen as the period of a visit to the restaurants, the selected period is considered as the peak business month where the inflow of people from different parts of the world and Chennai residents visit the restaurants for dining.

5.4 Training the experts to perform the observations

A group of six experts was selected to observe the group size and time taken to complete the meal in the restaurant and to enter on the tracking sheet. The tracking sheet consists of the date, the details about the group size, customer’s meal beginning time, ending time and the total time taken to complete the meal. The experts were trained to behave as a mystery guest while observing the diners in the restaurant, the waiters, supervisors and restaurant managers would assist the experts in terms of any clarifications required during the observation period in the restaurants.

5.5 Formulating the inspection procedure

The experts observed the restaurant customers dining in the restaurant during the dinner session between (6 p.m. to 12:30 a.m.) in three different types of restaurant: all-day dining restaurant, speciality restaurant and rooftop restaurant located in the heart of the Chennai City in both the five-star hotels. The experts were behaving as mystery customers, seated at a corner table in the restaurant which has a clear visibility in observing the overall group size and time taken to complete the meal in the restaurant. Once the hostess seated the customer, the experts will start entering in the tracking sheet from the time customer starts eating the on the house short eats served in the restaurant till the time the customer left the restaurant. Groups were self-selected; no control over the number of individuals at each table was exercised.
6 Results

Table 1 provides the information about the observed data in average for both the hotel restaurants.

**Table 1**  Dinner setting vs. time taken to complete the meal

<table>
<thead>
<tr>
<th>Type of dinner setting</th>
<th>Dinner operational hours</th>
<th>Type of ordering system</th>
<th>Group size in a table</th>
<th>Time taken to complete the meal (average) in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-day dining restaurant</td>
<td>6 hours</td>
<td>Buffet</td>
<td>1</td>
<td>35 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>65 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>90 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>136 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5+</td>
<td>180 minutes</td>
</tr>
<tr>
<td>Speciality restaurant</td>
<td>6:30 hours</td>
<td>A la carte</td>
<td>1</td>
<td>100 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>125 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>144 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>180 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5+</td>
<td>255 minutes</td>
</tr>
<tr>
<td>Rooftop restaurant</td>
<td>6:30 hours</td>
<td>A la carte</td>
<td>1</td>
<td>250 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>280 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>285 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>310 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5+</td>
<td>340 minutes</td>
</tr>
</tbody>
</table>

All-day dining restaurant starts the meal service by serving crispy rice fries and followed by self-service buffet meal where the customer can choose to eat the preferred food in the buffet spread and the speciality restaurant starts the meal service by serving kimchi, followed by waiter taking food and beverage order from the menu, preparation and service occurs after the customer places the order, whereas in the rooftop restaurant meal service begins with the service of fresh vegetables and order taking, preparation and service takes place as similar to speciality restaurant.

If any customer joins the table after the group began eating, they were added to the group size. If the customer completes the meal and left the table before other guest finished, they were subtracted in the group size. So the group sizes at each table were defined by the number of people present from the beginning to the completion of the meal in the restaurant. Group size of all the restaurants ranging from one to eight or more, to eliminate cells with small numbers, the expert combined the observed data for tables of five or more into a single category.

6.1 Analysis

For evaluating the correlation between the group size and time taken to complete the meal, correlation coefficients were calculated from product moment values (Pearson’s r). The Pearson’s correlation coefficients for the restaurants are all-day dining restaurant:
Time taken to complete a meal

\[ r = 0.992, p < 0.001; \] speciality restaurant: \( r = 0.958, p < 0.001; \) rooftop restaurant \( r = 0.977, p < 0.001. \) The value indicates a positive correlation between the group size and the time taken to complete the meal. This relationship was similar to the correlations found in the studies conducted by de Castro and Brewer (1992), Sommer and Steele (1997) and Bell and Pliner (2003). For understanding the meal duration comparison of the restaurants, descriptive statistics with mean score were employed to interpret the observed data. The mean score of the restaurants is provided in Table 2.

**Table 2** Mean values of time taken to complete the meal across the restaurant types

<table>
<thead>
<tr>
<th>Restaurant type</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-day dining restaurant</td>
<td>1.26</td>
</tr>
<tr>
<td>Speciality restaurant</td>
<td>2.01</td>
</tr>
<tr>
<td>Rooftop restaurant</td>
<td>4:06</td>
</tr>
</tbody>
</table>

The interesting results obtained from present study are given in line chart on the basis of dinner setting. A significant and positive relationship exists between the number of customers dining in a table and the time taken to complete the meal in the restaurants. As the number of customer increases in the table, the time is taken to complete the meal also increases in all the three different dinner settings. It is mainly because of the relaxed conversation happens between the guests in the table which tends to slow down the concentration of completing the meal soon. And the richness of the ambience stimulates the guest to spend extra time while dining in the restaurant and this relationship indicates a positive note. The times taken to complete the meal were longer in the rooftop restaurant (4 hours: 6 minutes), speciality restaurant were moderate (2 hours: 1 minutes) and all-day dining restaurant was the shortest one (1 hour: 26 minutes). The type of food and beverage ordering system in the restaurant played a role in the time relationship because of the time required to take the order, prepare and to serve would decide the time the guest spends in the restaurant for dinner.

7 Discussion and conclusions

The dinner settings considered for the present study were all-day dining restaurant, speciality restaurant and rooftop restaurant. Each restaurant atmosphere, theme, staffs, the type of food and beverage menu offered, preparation and serving style were different in nature. The all-day dining restaurant was offering dinner buffet, the buffet food style was usually preferred by the customers who likes to have a faster meal in the shortest span of time. So their concentrations were completing the meal as soon as possible and leave the premises. This type of service atmosphere definitely will have an effect on the restaurant atmosphere and in turn, it may influence the guest perception to complete the meal. As expected, the time taken to complete the meal had an influence on the group size on the table. When the number of people in the table increases the time taken to complete the meal also increases positively and the time span spent by the guest in all-day dining restaurant where shortest when compared to the speciality and the rooftop restaurant because of the serving style of the food and atmosphere of the restaurant.
Whereas the speciality restaurant offered a la carte menu to the customers with the whole theme of the restaurant projecting the Chinese culture. The theme of the restaurant includes the lighting, interior decoration, uniform of the staff, music played, entertainment offered, table seating arrangements, serving equipment and the food and beverage menu offered to the guest were creating the mood of the Chinese culture in the customer’s mind. Since the menu offered where a la carte menu, the customers need to wait for the food and beverage to get ready after placing the order to the waiter. The customers dining in the restaurant were entertained by the music and the live entertainment facilities during the waiting time while the food and beverage were being prepared by the chef and the barman in the restaurant. Because of the choice of food and beverage menu ordering and the theme of the restaurant, the customers dining in the restaurant usually spends time in enjoying the entire meal period in the restaurant. The uniqueness in the speciality restaurant stimulates the restaurant customers to engage in the conversation among the people dining in the table. So the dining experience becomes more social in nature and it increases the time spent in the restaurant for dining. The group size in the table influences the time the restaurant customers spent in the restaurant for completing the meal. As proposed, the time taken to complete the meal positively influences the group size in the table, by increases in the time taken to complete the meal as the number of people in the group increases. The average time spent in the speciality restaurant where moderate when compared to all-day dining restaurant and the rooftop restaurant. Figure 2 represents the time taken to complete the meal in the speciality restaurant based on the group size in the table and the mealtime.

The rooftop restaurant also offered a la carte menu to the customer with a fantastic view of open sky, natural sceneries and the overview of the whole city. It is very difficult for the restaurant customers to enjoy the entire rooftop atmosphere with a visit because of the evolving nature of the natural atmosphere. The music played in the restaurant was
very soft in nature ensuring a calm and relaxing atmosphere to the customers dining in the restaurant. The waiter takes food and beverage order from the customer and the preparation, service takes place at a slow pace. The restaurant atmosphere and serving styles create a mood in the customer’s mind to relax and enjoy the dinner in the restaurant. This environment makes the customer engage in the deep discussions without any disturbance. This type of situations tends the customers to spend more time while dining in the restaurant. As proposed even in the rooftop restaurant the time taken to complete the meal positively influences the group size in the table. The average time spent in the roof top restaurant were longest when compare to the all-day dining and the speciality restaurant. All three restaurants confirm the relationship; the group size in the table influenced the time taken to complete the meal, and the choice of food and beverage ordering and restaurant atmosphere also influenced the time the restaurant customers spent in the restaurant.

Figure 3  Rooftop restaurant: group size vs. mealtime (see online version for colours)

<table>
<thead>
<tr>
<th>Table of 1</th>
<th>Table of 2</th>
<th>Table of 3</th>
<th>Table of 4</th>
<th>Table of 5+</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>280</td>
<td>285</td>
<td>310</td>
<td>340</td>
</tr>
</tbody>
</table>

When comparing all three restaurants, it clearly indicates the time taken to complete the meal in the rooftop restaurant were longest, followed by the moderate time in the speciality restaurant and short time in all-day dining restaurant and the group size in the table has positive relationship with the time taken to complete the meal in all the three dinner restaurant setting. Figure 4 indicates the time relationship very clearly.

Figure 4  Three restaurants combined: group size vs. mealtime (see online version for colours)

<table>
<thead>
<tr>
<th>Table of 1</th>
<th>Table of 2</th>
<th>Table of 3</th>
<th>Table of 4</th>
<th>Table of 5+</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>280</td>
<td>285</td>
<td>310</td>
<td>340</td>
</tr>
</tbody>
</table>

8 Study implications

The present study would help the hoteliers, restaurant managers, supervisors and waiters to enhance the understanding of the time relationship between the group size and time taken to complete the meal in the Indian context. The results would assist in the areas
such as formulating better serving strategies in the restaurant, to plan the choice of food and beverage menu should be offered in the restaurant, to decide the reservation system, to increase the revenue, for supervisors and waiters to plan up the service sequence and to overall enhance the dining experience of the customers.

9 Limitations of the study

The study is not free from limitations; the following are the limitations of the study. Only two five stars approved to conduct the study. Therefore generalising the results should occur cautiously. The study does not record the age and sex of the customers dining in the restaurant which resulted in a barrier in performing an analysis on age and sex relationship in group size and the time taken to complete the meal. Despite these limitations, the present study extends prior research by assessing the effect of group size on meal duration in three different dinner settings in a five-star hotel context. This increases the generalisability and understanding of the dining time relationship in the restaurants.

10 Avenues for future research

The research in this particular area is evolving; rigorous research is required to understand the restaurant customer dining time relationship. Similar research can be conducted in other categories of the star hotels in Chennai City as well as other parts of the world to compare the results produced earlier and now, statistical technique can be used to interpret the observed data in order to enhance the reliability of the results produced in the study. The time taken to complete the meal differed based on the type of the eating establishment, hence researching on a different type of restaurant and meal setting will produce interesting results in this area of study. The restaurant serves meals for the customers staying in the hotel and for the guest visits the restaurant as walk-in, so it will be worth investigating the time relationship between this two type of guest and a comparative study can be made between Indian and foreign guest time spent in the restaurant dining. The overall quality of the service rendered would vary based on the star categorisation of the hotel and it will be interesting to research on understanding the time relationship difference or similarities between the different star categories of the hotel.

References


Time taken to complete a meal


