

THE DAILY USE OF MODERN TECHNOLOGY IN THE RESTAURANT INCOME MANAGEMENT INDUSTRY

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ABSTRACT

Handheld devices, Computers, telephones, and websites use to speed up meal service preparation in the restaurant industry is becoming very significant. food service was a long battle in restaurants in Northern Cyprus. Waiters and waitresses had to take orders from customers with pens and papers, walk back to the kitchen to place orders for the meals to be prepared. This was causing delays and some times customers had to wait for long hours to get their food. The system cost a great deal of lost to the restaurant industry those times but today, food service and preparation has become more easy because of the modern technology in used. As the customers place their orders the handheld machine sends a message directly to the kitchen for the food to be prepared. Customers could make phone calls to order food to be taken away or call and reserve a table for two in a restaurant. Websites have also played a very big role in reducing the daily stress. Now a days it takes a very short time for meals to be prepared to server customers. The only problem in the Northern Cyprus restaurant industry is the meal duration during peak hours and according to our questionnaire results that we used to target five restaurants around the University campus, managers strongly agreed that the devices stated above helped to improve performance in the restaurants in terms of meal preparation but explained that meal duration was still a major problem as customers should not be rushed to finish their meals.

Key words: modern technology, income management industry, device, restaurants

INTRODUCTION

Quality customer service, good food and clean environment are the elements that immensely contribute to the success of a restaurant. When the right technology together with income management approved methods and standards are used properly may help make financial gain. In most restaurants on Campus where we had our survey, we noticed that table service was a major paramount element in restaurant management. Table service is grouped into two

sectors in the restaurant industry. The food brought in by the waiters and the fast food industry that use counters to serve customers and do not use table settings. These two categorized kind of restaurants both need modern methods to speed up their services to customers. In Northern Cyprus, the restaurants on the Eastern Mediterranean University campus [EMUC] accrue a huge income of about \$21 million yearly [Northern Cyprus restaurants] base on the huge student population. This study, shows how restaurants can apply modern technology to dinner experience, increase revenue benefits, satisfy customers and observe closely on table service. Meal duration has also been an issue facing the restaurant industry and researchers are working hard to overcome these obstacles facing the industry. Meal duration and customer service are very significant factors that can be use to assess the success of a restaurant in terms of food service operation. No matter what kind of business one is into, customer satisfaction should always be of paramount to the service. This is why restaurant managers from all parts of the industry continuously look for methods to strengthened their customer satisfaction. It is only when a customer is satisfy with a service that the customer may repeat it.

The front line service workers such as the waiters and waitresses who have direct contact with customers in the restaurants play a crucial role with regards to perfect or excellent customer dining experience and service. By making the dining experience a memorable occasion for a customer and using modern technology devices such as the digital dining handheld computers, enhance rapid food service to customers. This device can be use for food and drinks multiple orders. They make service faster to customer unlike some years back when front line workers in restaurants had to take orders in pieces of papers from customers walk to back to the kitchen for the meal to be prepared. These days, technology has eliminated those practices. Just a little handheld device place in the palm of a front line staff of the campus restaurant directly interact with the customers can do it all. Payment and orders are made more easy and quicker than some years back. These machines are very effect and they help restaurant managers to manage their resources efficiently. The device has a single database and monitor displayed in the kitchen that can be accessed by both the handheld device and the cooks in the kitchen. The cooks in the kitchen see as data is being inserted or updated during customer service. The process allows orders to be taken with out some one walking to the kitchen.

LITERATURE REVIEW

The role by Information Technology (IT) in the restaurant industry has been very useful according to reseachers. In the restaurant industry world wide, Information Technology has made a big difference in the food service sector by changing the customer dining experience too much faster than many years ago. With the help of IT today the industry has handheld devices that make food service faster and efficient. Customers do not have to wait for hours to have their food ready unlike before. According to the research by [Buhalis & Main, 1998; Siguaw, Enz, & Namasivayam, 2000; Whitaker, 1987] however stated that IT has been very slow in the hospitality Industry because it took a long time for these handheld device to come to surface and he inferred that the hospitality industry was not IT oriented but today this statement is being proved wrong. Most hotels, restaurants and flight that play an important role

in tourism all adopted to IT. Reservations are made online in restaurants and hotels including flight to destinations. Credit cards are being used to reserve places in these industries so the IT industry is proving this research work amiss. Apart from the above stated elements, smart kitchen apparatus used daily in restaurants to increase profitability and efficiency [Oronsky & Chathoth, 2007]. Restaurant managers need equipments such as fryers, ovens, freezers and chillers to exchange information with each other for effective service [Perez, 2002]. With the right technology together with income management techniques all restaurants can be assisted to increase their income and profits. The Northern Cyprus University restaurants accounts for millions of dollars each year [Northern Cyprus Restaurants association, 2011] because of tourism and the student population in the country. The local Northern Cyprus citizen are less than 150 thousand in population. Eastern Mediterranean alone has more than 18,000 students from 68 countries, Near East University has about 15,000 students from 35 countries. We have many Universities located in Northern Cyprus with large number of students from different countries. Each of these Universities have campus restaurants but our research was based on the Eastern Mediterranean University campus restaurants

RESTAURANT INCOME MANAGEMENT

Income management in hotels, airlines and car rentals have been recognized for many years but restaurant income management methods gain popularity less than a decade ago [Grimes and Carrol, 1995]. Revenue increment has been active for two factual reasons which are food prices and meal duration control [Kimes and Chase, 1998; Kimes et al. 1998]. To be able to manage meal duration properly, there is a need to take the necessary steps to control and get familiar with the period customers come to the restaurant in large numbers, how long it takes each of them to finish eating their meals and when they vacate their tables for the next available customers to occupy. Reducing meal duration during peak hours can help to serve in coming customers who are waiting for empty places to seat. Though customers eating their food fast and leaving their seats for other customers to come in is very important but care should be taken to avoid rushing customers to eat quickly. Meal duration control needs to be dealt with carefully to avoid problems with customers. If customers are rushed, they won't be satisfied with the service and that could lead to a loss.

A meal duration in a restaurant consist of the total period that a table has been occupied by a customer. This process can be managed by taking note of customers arriving time to when the diner finishes and the table taken by another customer. A good restaurant manager can predict or foretell when customers come to his restaurant in large numbers. It is a simple way to manage the number of visitors that come into the restaurant. This can be use as a strategy to improve accurate predictions of customer arrivals. Managers should be able to monitor delays on tables by customers, waiting time and denial of seats. Managers should come up with a better strategic plan as to how visitors should sit. When reservations are made for seats, a follow up phone calls or email should be made to confirm the exact time of arrival. Some times it is important to ask for deposit to guarantee the customers coming as promised. The purpose of managing meal duration is to reduce dining periods of customers so that seating space could be made available for other customers in queues during peak hours to reduce long hours of occupying tables. Meal duration can be efficiently managed by commencing from the orders, the meal preparation, delivery of the food and giving customers the free time to eat their food. Managing the time on meals between customers bring profit to the

restaurant. Modern technology such as the handheld computers are needed to fasten the meal preparation and service as stated in the other chapters.

CUSTOMER DINING EXPERIENCE

A previous research performed by [Kimes, Wirtz, and Noone 2002] elucidated how long a customer should take to eat his lunch or dinner but then [Noone and Kimes 2005; Noone et al. 2007] was of the view that a customer satisfaction was significant and he wondered how a customer should be satisfied with the findings of the research. Taking into consideration of customers opinion and reaction to amendments in pacing that differ in different stages of meals and the kind of restaurant a customer is eating. Dining experience according to our research has five main types of processes.

BEFORE A CUSTOMER REACHES A RESTAURANT

This is from the period a customer make up his mind to visit a particular restaurant and when he gets to the restaurant.

AFTER A CUSTOMER REACHES THE RESTAURANT

When a customer gets to the desire restaurant and takes his seat a front line worker comes to talk to him

BEFORE THE MEAL PROCESS IN THE RESTAURANT

After a customer has gotten to the restaurant got a seat for himself and now a waiter comes to ask him what he wants to eat or drink

AFTER THE CUSTOMER HAS FINISHED EATING HIS MEAL

This is when the customer finishes eating his food and drinks and pays the bill and wait for his change if any to leave.

THE CUSTOMER LEAVES THE RESTAURANT

The customer leaves the table after collecting his change or giving tips to waiter and vacate the table for another customer to use.

According to our research that we conducted on the campus restaurants, we noticed that most of the managers in these restaurants put more attention on the reduction of meal duration by customers and how long it takes for food to be prepared by the restaurant cooks to serve customers. They are considering many strategies including purchasing of new technologies to speed up customer meal process and all the other stages mentioned above to dining experience. They intend to make dining fast and memorable to customers in their restaurant. In dining experience the first impression is always very important. It can create an ever lasting positive thinking in the minds of customers about a restaurant.

TECHNOLOGY AND DINING EXPERIENCE

The use of technology in a restaurant is not cheap. It is very expensive but at the same time, it can create profitability. Before a restaurant manager decides to use technology in his restaurant

to speed up work, he has to consider the cost and benefits of the systems to his restaurant. A comparison should be made to find out if the new system is more beneficial than the old one and the time the manager wishes to use for the payment. If the analysis favors and the manager thinks the system worths buying and it's return on investment is not going to take many years to complete then, the apparatus could be bought. Take a handheld computer for instance which can help process food at a faster rate and reduce meal duration that is an important step to increase productivity in every restaurant or to avoid customers from waiting for a long time to get food service.

A RESTAURANT FINANCIAL ISSUES

In order to find out the value of productivity in a restaurant business, the manager needs to do financial analysis to come up with how long customers have to wait for food service, what kind of technology can be use to speed up the process and the cost involved. A mathematical calculation of average table duration in theoretical terms by using the following method for the simple calculations in weeks.

Number of weeks * (number of peak hours per week)* (average number of food served in an hour)* (food price+ drink)

Meal duration in an hour

Example calculations is without any handheld machine to speed food service process and this calculation is base on 10 months of serious work by a restaurant

Restaurant Capacity = 100 seats
 Peak hours per week = 10
 Average number of food plates served per hour = \$10
 Average people served per hour = 70
 Average meal duration = 60 minutes (1 hour)

We can therefore calculate how long how much money the restaurant makes from 4 - 10 months. This formular is not going to calculate profitability of the restaurant yet. it is just to find out how much money the restaurant makes from one to ten months by selling food and drinks to the public at busy periods 10 hours a week

40 weeks* 10 peak hours per week*70 average people served per hour* 10 food price

60 / 60

= **\$280,000.00**

If the restaurant has a handheld device that it bought to speed up services and the machine was very efficient and really reduced food service and meal duration by 4 minutes for 10 months then the income for this period of duration can be done as the calculations below. one hour equal to 60 minutes minus four minute that sum up to fifty-six minutes. Forty weeks multiply by 10 busy hours in the restaurant for each week multiply by the seventy as an average number of people that come to the restaurant each week at that peak period and the price of a plate of food and a drink cost \$10 This method is use to calculate the benefit on the new technology by decreasing the duration time from 60 minutes to 56 minutes which means the service and meal duration is decreased by 4 minutes

4 weeks	8 weeks	12 weeks	16 weeks	20 weeks	24 weeks	28 weeks	32 weeks	36 weeks	40 weeks
\$28,000	\$56,000	\$84,000	\$112,000	\$140,000	\$168,000	\$196,000	\$224,000	\$252,000	\$280,000

40 weeks* 10 peak hours per week*70 average people served per hour* 10 food price

56 / 60

= \$301,075.27

Working with handheld device for 10 months duration increases the restaurant income by

\$301,075.27 - \$280,000.00 =21,075.27

By this calculation we can conclude that the return on investment for the handheld computer that the restaurant use to speed up service can be paid within the 10 months working period

\$21,075.27- \$15,000 = \$6,075.27

However, in order to come up with the profit the restaurant makes at the end of 10 months, we have to find out the cost of raw food bought for the 10 month, the cost of labor, rental fees, water and electricity bills. After the deductions of above calculations then profit can be obtained. The 10 months working period is not the net income. These calculations are made based on the deducted from the total sum of money from the ten months working duration. Let's imagine that the manager reviews the restaurant budget and there is an increase of 60% income that can be down size to increase contribution to $0.6 * 21,075.27 = \$12,645.16$. Since we know the cost of the handheld technology to be \$15,000 we can find how long it takes for the handheld machine to pay back itself by doing the following simple mathematics

**15000.00
12,645.27 =1.19**

This means that the handheld apparatus can pay back itself in one month nineteen days on condition that it can down size refusal of customer reservation, reduce meal and table duration or increase productivity in the restaurant. However, it should be noted that this technology activity does not include intangible gains linked to the technology usage. This is just a way to analyze the return on investment on the technology system. According to previous research work by [Kimes et al. 1998; Thompson 2008 Kimes and Chase 1998;] explained that any activity that can be performed during busy periods to reduce meal duration time and increase productivity should be acted upon quickly. Clearing and resetting of tables for new customers is part of the meal duration that should be acted upon quickly. Implementing of a new technology and income management systems can lead to dispute and misunderstanding between customers and waiters most especially when the system is new and not yielding the satisfaction customers need [Wirtz et al. 2003] A new successful technological system in a restaurant should assist customers to make online orders, have quick service and pay by ATM or credit cards for their meals.

CONCLUSION

A large number of restaurant owners on our University campus rely on technology to handle kinds of jobs in their restaurants and the internet is the fastest growing sector where most restaurant owners target. The restaurants have handheld small computers, ATM cards, credit cards and online open service

for reservations and ordering food. Technology has made it easy for restaurant managers unlike some years ago when service was very slow because there were no technologies. People had to take orders from customers, walk back to kitchen for orders to be made and meals to be prepared. The point of sale systems are not just cash registers. They have both hardware and software that restaurant managers use for orders, put them in the kitchen for staff use and the performance of additional duties such as recording of inventory count and labor cost. The point of sale system is such that all required orders from a customer are entered through the touch screen method. Most of the restaurants on our university campus accept major credit cards by using the point of sale systems. The kitchen display system has a monitor that it uses to display all orders from customers through the use of handheld small computers. This makes it easy for food to be prepared and delivered on time to customers. These technologies help to reduce dining experience and meal duration that was a problem to many restaurants during peak periods. The handheld device can also be used for recording inventory in written and printed form or faster reports.

Apart from the above mentioned elements that help restaurant managers to efficiently perform their responsibilities, software programs can also be installed in these computers and can be used to manage and organize data such as pay roll information reports, labor hours per each worker in the restaurant, inventory, items bought and expenses incurred for the day, month and a year. Majority of the well known restaurants on our University campus have these facilities and other software programs that they use for various activities. One example of such program is the paging system of communication when visitors are many and tables are in short supply. The paging form is used to notify a waiting customer of an empty seat in the restaurant. There are also some two technologies called coaster and paddle paging. They vibrate to notify a customer of an empty seat. The coaster page looks like a drink called coaster and the paddle also looks like a drink. They all function the same and they do rapid services in restaurant. A meal duration which was a problem is becoming easy to deal with through the help of modern technology.

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