Chapter 3 – Food and Beverage Sector

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3.1 Introduction to the Food and Beverage Sector

3.1.1 Food and Beverage Operations (Hotel)

1. Functions of the Food and Beverage Department Within a Hotel

Besides, room sales, profit generated from the provision of food and beverage services is another significant source of income in many of the hotel businesses.

"Food & beverage" is a general term used in hospitality which usually represents the required food and beverage items in events, banquets or outside catering services. The food and beverage department within a hotel consists of various units and huge quantity of staff in order to cater the needs of customers inside or outside the hotel. Generally



speaking, the provision of food and beverage services are not only limited to restaurants and bars operating inside a hotel property. In fact, it also involves other functional units.

Related food and beverage departments and aspects in a hotel:

- Kitchens
- Restaurants
- Catering (internal and external)
- Banqueting (internal and external)
- Room Service (In-room dining)



Food and beverage operation

- Minibars
- Lounge bars
- Stewarding
- Staff Canteen

a) Kitchens

A kitchen is a place for the storage and preparation of food for consumption. In some hotels, there may be a variety of kitchens catering to different needs from breakfast, luncheon and dinner to events such as gala dinners and conferences. The number of customers being catered for varies depending on the size of the dining facilities and kitchen, the number of staff employed and the equipment being used.

The purpose of a kitchen is to produce the right quality of food of the highest standard for the required number of people, on time, by the most effective use of staff, equipment and materials.

Hotel kitchens can be divided into separate sections. Some examples are as follow:

- Production kitchen;
- Banqueting kitchen;
- À la carte kitchen;
- Grill room;
- Pastry kitchen; and
- Food preparation area.

It is sometimes necessary for a hotel to have different types of kitchens and cooking sections, especially for large-scaled hotels with more than one F&B outlets or units. Different types of kitchens / sections serve their unique functions. Let's have a look at the function of production kitchen as an example provided below:

Function of a Production Kitchen

Production kitchens produce foods for separate service areas in the hotel. The amount of food produced can be as large as in the production for airlines or functions centre dealing with several hundred people, or as in the food production for a counter area where smaller numbers of customers are catered for.



b) <u>Restaurants</u>

Most hotels have at least one dining room that can be used for breakfast, luncheon and dinner meals. There are some hotels that do not have a restaurant; in this case customers will have their meals at a local establishment. Some larger and higher-grade hotels may have several restaurants and dining areas, with the number and type depending on the type and service of the hotel, e.g. breakfast and coffee shop restaurant, formal dining room, banqueting facilities. Typically these food and beverage areas are run by a **Restaurant Manager**.

- A major chain hotel generally has at least two restaurants: a signature or upscale formal restaurant and a casual coffee-shop restaurant.
- The restaurants cater for both the hotel guests and the general public. Hotels
 will promote their restaurants to hotel guests, or in some cases a hotel will
 allow a brand name restaurant to operate within their hotel as this helps to
 reduce the hotel's food and beverage costs.



A casual and relax ambience created by 'Chef Mickey' Restaurant in the Hong Kong Disney's Hollywood Hotel



'Traditional-styled' decoration in restaurants of Ritz-Carlton, Tokyo

Restaurants often specialise in certain types of food or sometimes present a certain theme. For example, there are seafood restaurants, vegetarian restaurants or ethnic restaurants. Generally speaking, restaurants selling "local" food are simply called restaurants, while restaurants selling food of foreign origins are called, while restaurants selling food of foreign origins are called accordingly, for example a **Thai restaurant** or a **French restaurant**.

Hotels may have different restaurants to cater for different events and times of the day. For example, breakfast and luncheon may be served in the same restaurant whereas dinner may be in a more formal setting.

ACTIVITY 3.1

There are many different restaurants offering an array of foods and cultures in Hong Kong. Some specialise in foods from different countries. From the web sites **eatdrinkhongkong.com** and **www.vibesasia.com/restaurants/search.htm**, see how many different types of foods from different countries are offered in Hong Kong.

c) Banqueting and Catering (Internal and External)

A banquet, event or function can be described as the service of food and drink at a specific time and place, to a given number of customers at a known price. Banquet is a term used to describe a large formal occasion, e.g. Chinese wedding. Some examples of hospitality functions include:

- **Business functions:** Conferences, working breakfasts, luncheons and dinners, meetings
- **Social functions:** Gala dinners, anniversaries, weddings

A significant number of hotels in Hong Kong have banqueting facilities. Function rooms which are designed for multi-purposed uses enable customers to hold different kinds of catering functions, varying from personal wedding banquets to annual dinners hosted by enterprises. Some catering services have also



been extended outside the hotel properties, serving food and beverage items to customers in remote locations upon customers' requests, such as a private party organized inside a clubhouse.



which always requires advanced reservations by customers. The demand for banquet staff is less stable when compared with restaurants and may involved the recruitment of more part-time staff in this department, especially in the peak seasons of

Different from hotel restaurants which operate

daily, the banqueting service is on demand basis

events.

In Hong Kong, hotel catering events are usually organized in several different formats. Round tables are commonly used in the set-up for Chinese menu functions, as well as some Western menu functions. Set menus are generally preferred in most catering events. And some organizers would prefer choosing buffet style which is



suitable for offering meals, particularly in breakfast and lunch when time is limited for a whole-day program.

Additional Information:

Buffet is a meal-serving system where patrons serve themselves. It is a popular method of feeding large numbers of people with minimal staff. Customers select food from a display, and it is consumed either seated at a table or standing.

There are different types of buffets. One form is to have a line of food serving sections filled with fixed portions of food; customers take whatever food items they want as they walk along and pay at the end for each dish. A good example is a cafeteria.

(i) Well-known in Hong Kong is the *all-you-can-eat* buffet, where customers pay a fixed price and help themselves consume as much food as they wish in a single meal. This type of buffet can be either breakfast; luncheon or dinner and is found often in restaurants, especially in hotels here in Hong Kong.

As a compromise between self-service and full table service, a staffed buffet may be offered. Here diners bring their own plate along the buffet line and are given a portion from a server at each station. This method helps reduce food wastage and is becoming more common in Hong Kong.

(ii) Another style of buffet is the traditional buffet offered in Sweden, the *smörgåsbord*, which literally means *table of sandwiches*.

(iii) Counter, Cafeteria or Self-service

Customers collect a tray or plate from the beginning of the service counter and move along selecting their meal and then pay and collect appropriate cutlery. Customers may stand or sit while dining, and may also take food away. Schools and work cafeterias are good examples.

(iv) **Tray line**

Queuing in a line past a service counter and choosing menu requirements.





Buffet in Hong Kong



Dessert buffet in a Hong Kong restaurant

ACTIVITY 3.2

Write about the last experience you attended a buffet, either in Hong Kong or abroad.

- 1. How may different food items were offered?
- 2. What was the service like?
- 3. Was there sufficient food offered during the entire buffet?

Cocktail reception is another common but less formal catering event that can be provided by hotels. Only finger foods and drinks are provided during the events and no formal dining tables and chairs are required in the set-up for a cocktail reception.

Hotels, which provide banqueting facilities and services are always equipped with banqueting kitchens (An example of kitchen layout will be provided and explained in the later section). The setting of a banqueting kitchen should be spacious which allows mass production of food items required for every single event. In some hotels, special preparation areas are also available in adjacent to the banquet kitchen for the plating of dishes as the end stage of food production as shown in Figure 3.1. Movable warmers are always used to transport and keep prepared food in good condition before serving them in the banquet rooms.

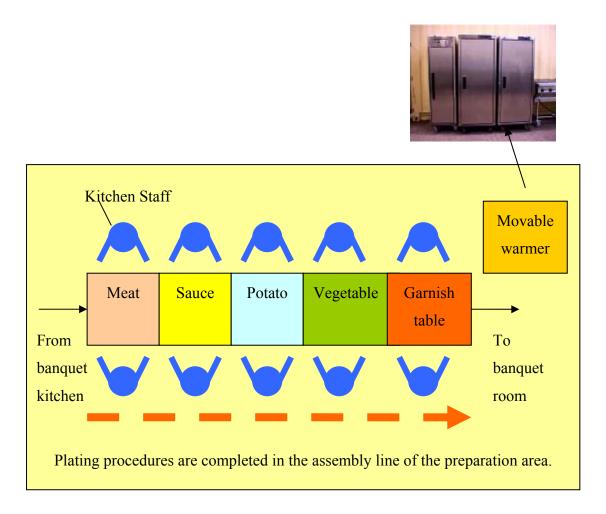


Figure 3.1 – Banquet Preparation Area

Note—Some hotels can cater for functions/banquets outside their establishment. The use of refrigerated vans and trucks is necessary for the transportation of food items.



Conference in a Hotel



Special Function at a Hong Kong Hotel

ACTIVITY 3.3

From the list below, which can be described as a function, banquet or event?

Service style	Function	Banquet	Event
Chinese wedding			
Hong Kong Hotels Association Gala Ball			
Premiere of a new film starring Tony Leung Chui Wai			
The launch of a new car for the Hong Kong market			
Conference dinner for the management of Hong Kong Tourism Board			

ACTIVITY 3.4

Can you think of any outside catering opportunities here in Hong Kong, for example a hospitality tent or booth at the Annual Dragon Boat Racing at Stanley? Give three other opportunities that you consider would be profitable in Hong Kong. Browse through the following website: www.discoverhongkong.com for more examples.







Outside catering

d) Room Service

This is the service provided in a hotel that allows customers to order food and drink to be delivered to their rooms

Although not all hotels have room service available for their customers, such a service does give conveniences and enhance guest satisfaction during their stays. Customers who order food and beverages to be delivered to their



rooms can enjoy high privacy and personalized services in their dining experiences.

In order to enhance the efficiency of this service unit, the room service department should be located conveniently near the kitchen and the service elevators. Some hotels offer 24-hour room service which enable customers to place food orders at any time, ranging from breakfast to night owl menus. Orders are normally taken by room service staff through telephone and some hotels have assigned such a responsibility to the telephone operators which serve as centralized points for handling all internal and external phone calls.



To ensure the freshness of food orders, hot dishes are kept in the warmer inside the service cart before being delivered to the room. Besides, close communications with the housekeeping department are essential to ensure no used trays and dishes are kept outside the guest rooms. In order to reduce the workload of room attendants, floor checks are performed regularly by room

service staff to ensure the hygiene and tidiness of corridors in each hotel floor.

This service will depend upon several factors:

- Typically found in larger city hotels, especially airport hotels;
- Level of service and menu vary;
- Challenges:
 - Delivery of orders on time;
 - Making it a profitable department within food and beverage;
 - Avoiding complaints, e.g. food being cold or delivered late; and
 - Forecasting when the busy times will be during a day or week.



Room service

ACTIVITY 3.5—Comparison Among Different Types of F&B Services in a Hotel

By referring to your dining experience plus descriptions from the handbook or in these supporting materials, discuss with classmates in groups of 4 and try to comment the different types of F&B services based on the attributes provided.

	Restaurant Service	Banquet Service	Room Service
Types of menu, e.g. Á la carte or table d'hote (if provided)			
Degree of interaction or communication between service staff and customers in the dining experience			
Degree of team work among service staff			

e) Bar Management

Bar management involves the functions of planning, organising, staffing, leading and controlling. Besides, a bar manager's responsibilities often include coordinating, training and evaluating the staff. Bars are run by managers that have a sound knowledge in the making, brewing and distillation of wines, beers and spirits, and also the ability to make alcoholic and non-alcoholic cocktails. Other duties may include:

- Supervising the ordering and storage of wines;
- Preparation of wine list;
- Overseeing staff, rotas and training;
- Scheduling of staff;
- Maintaining cost control;
- Assisting in wine selection by customers;
- Correctly serving wine; and
- Knowledge of other beverages.



Hotel bar



Restaurant bar in Hong Kong



Lobby bar in a Hong Kong hotel

f) Stewarding Department

The correct cleaning, drying and storage of all equipment used in the preparation and cooking of food is critical to prevent the spread of bacteria and cross-contamination.

Responsibilities of the Chief Steward are:

- Cleanliness of back-of-house;
- Washing of pots and pans and other kitchen equipment;
- Cleanliness of glassware, china and cutlery;
- Inventory of chemical stock;
- Maintenance of dishwashing machines; and

• Pest control, where necessary.

g) Staff Canteen

Most hotels have their own staff canteens which are always managed by the food and beverage department. In some cases, hotel appoints catering company in managing and offering food and beverage services for employees' restaurant. Some of them operate 24-hour a



day which provide free meals to staff working in different shifts. Operational cost would not be counted as an expense of the food and beverage department but budgeted by the financial controller of the hotel as a cost of the HR department. Besides offering set meals to staff, some hotels



operate their canteens in buffet style which provide more flexibility and food choices to their employees.

Manager Assistant Manager(s) Captain (A) Captain (C) Host and/or Captain (B) Bartender Cashier Station Station Station Waiter (A) Waiter (B) Waiter (C) Waiter (A) Waiter (B) Waiter (C)

2. Organisation of Restaurant and Duties of Key Positions

Figure 3.2—Restaurant Structure

- Duties of Key Positions

a) Food and Beverage Manager

The responsibilities of a Food and Beverage Manager will typically cover a number of areas. They will have the sole responsibility for the day-to-day running of the F&B department and ensuring budgetary controls while overseeing pricing and purchasing in all food and beverage areas. They will also be involved in the recruitment and supervision of a highly skilled F&B team and be responsible for the creation and implementation of seasonal F&B marketing strategies including input into menu planning. Their responsibilities can also include:

- Dealing with all matters concerning spirits, wines and beers;
- Ensuring that the profit margins are achieved for each food and beverage outlet;
- Purchasing, receiving, storing and issuing liquor as well as controlling the overall inventory;
- Interviewing and selecting staff;
- Training of staff for supervisory level;
- Promotion of the beverage department and marketing;
- Co-ordinating requests from other departments within the hotel;
- Complying with health and safety regulations; and
- Holding regular meetings with section heads to ensure that all departments are working efficiently.

ACTIVITY 3.6

You are employed as <u>a Food and Beverage Manager</u> with a major hotel in Hong Kong. Make a list of the duties that you think you would be responsible for during the course of one week's work.

ACTIVITY 3.7

You are employed as <u>a Bar Manager</u> in a major hotel in Hong Kong. Make a list of the duties that you think you would be responsible for during the course of one week's work.

b) Restaurant Manager

A Restaurant Manager can also be referred to as the *maitre d'* (short for *maitre d'hotel* which literally means "master of the hall"). In a suitably staffed restaurant or hotel this person is in charge of assigning customers to tables in the establishment, and dividing the dining area into areas of responsibility for the various waiting staff on duty. He or she may also be the person who receives and records advance reservations for dining, as well as dealing with any customer complaint and making sure all servers are completing their tasks in an efficient manner. In some localities or traditions, particularly small organisations like a single restaurant, the post is also known as the headwaiter, host or restaurant manager. Their duties include daily operations, staffing and human resources, legal aspects of the business, accounting, finance, marketing, advertising and public relations. Their duties also extend to the followings:

- Responsibilities to the customers;
- Responsibilities to the employer;
- Responsibilities for health and safety;
- Responsibilities for staff training; and
- Interviewing and selecting new staff.

c) Assistant Restaurant Manager

An Assistant Restaurant Manager will assist the Restaurant Manager in the organisation and running of the restaurant. They will assume full responsibility when the Restaurant Manager is unavailable, on leave or absent. Their duties will include daily operations and staffing and will also extend to:

- Responsibilities to the guests;
- Responsibilities to the employer;
- Responsibilities for health and safety;
- Responsibilities for staff training; and
- Helping and assisting the Restaurant Manager with interviewing and selecting new staff.

d) Station Head Waiter or Section Supervisor

This person is responsible for a team of staff serving a set number of tables in the restaurant or function; this is known as a *station*.

e) Station Waiter

In larger hotels this position is sometimes called a *chef de rang*. This employee will work under the direction of the Station Head Waiter and serve customers.

f) Waiter/Waitress

This employee will work under the direction of the Station Waiter and is usually an apprentice or a person who is just beginning to learn the skills of serving customers.

Describe the roles of the staff positions listed below: Position Responsible to: Restaurant Manager Assistant Manager Section Supervisor/ Captain Station Waiter Waiter/Server



Waiting staff at work



Helping a customer

3. Organisation of Kitchen and Duties of Key Positions

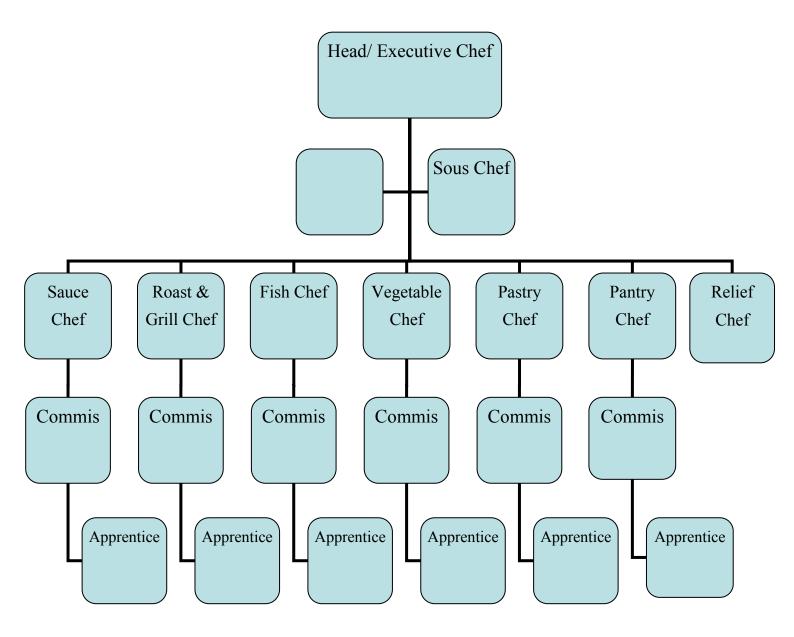
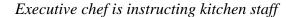


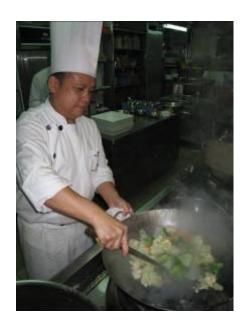
Figure 3.3 – Example of a traditional kitchen brigade in a large hotel

- Duties of Key Positions

a) Head Chef / Executive Chef







Chef at work

In large establishments the duties of the Head Chef / Executive Chef are mainly administrative; only in small establishments would it be necessary for the Head Chef to be engaged in handling the food. The functions of the Head Chef / Executive Chef are to:

- Organise the kitchen;
- Compile the menus;
- Order the food;
- Show the required profit;
- Engage the staff;
- Supervise the kitchen (particularly during service hours);
- Advise on purchases of equipment;
- Be responsible, in many cases, either wholly or partially, for the stores, still room and the washing up of silver crockery etc.;
- Be responsible for guest satisfaction; and

• Ensure food quality and consistency.

The Head Chef / Executive Chef also has to work in conjunction with:

- Other chefs and cooks;
- Food and beverage staff;
- Function staff; and
- Kitchen stewards.

Note—In the late nineteenth Century, when labour in Europe was relatively cheap, skilled and plentiful, the public demand was for elaborate and extensive menus. In response to this, Auguste Escoffier, one of the most respected chefs of the era, devised what is known as the partie system. The number of parties required and the number of staff in each will depend on the size of the establishment. This system is still used to some extent in today's large hotel kitchens.



Head Chef giving instructions to staff

b) Sous Chef

The Sous Chef relieves the Head Chef when they are off duty and is the Chef's 'right hand'. Their main function is to supervise the work in the kitchen so that it runs smoothly and according to the Chef's wishes. In large kitchens there may be several sous-chefs with specific responsibility for separate services such as banquets and grill room.

c) Station Chef

Each Station Chef is a senior chef in charge of a section of the work in the kitchen, such as sauces and soups, fish, vegetables, roast or pastry. This is the job of the specialist. The Station Chefs organise their own sections, delegate the work to assistants and are in fact the 'backbone' of the kitchen.



Kitchen staff at work

Brief descriptions of responsibilities of different Station Chefs are as follow:

Sauce chef	Responsibilities include the sauté station and preparation of most of the sauces	
Roast and Grill chef	Responsible for all grilled/broiled/roasted items	
Fish chef	Responsible for all fish and shellfish items	
Vegetable chef	Responsible for all hot appetizers, soup and vegetable/starch/pasta	
Pantry chef	Responsible for cold appetizers, canapés and salads	
Relief Chef	Literally the "turning" chef, this chef fills in at any position	
Pastry chef	Responsible for all baked items and sweets	

d) Assistant Cooks / Commis

The Station Chefs are assisted by *commis* or assistant cooks, the number varying with the amount of work done by the section, e.g. the vegetable section is larger than the fish section due to the quantity of work to be prepared, so there are more assistants in that section. The Assistant Cook is usually capable of taking over a great deal of responsibility, and in some cases will take charge of the section when the Chef is off duty.

e) Apprentice

The apprentice is learning the trade and rotates among the parties to gain knowledge of all the sections in the kitchen.

For those of you who still desire to become a Chef, the main element that is required is hands-on experience. This experience coupled with an education in the culinary arts has the potential to give you an opening in the culinary world. You should gain this experience as early as possible, perhaps by working in a restaurant while you are in high school.

Even if you are not cooking food, you will still have the chance to observe and understand what is needed for the preparation of meals for a large number of people. From this starting point you can decide whether you want to become a chef.





ACTIVITY 3.9

Explain the differences between a Sous Chef and a Chef de Partie. What are their roles within a kitchen?

ACTIVITY 3.10

Describe the role that an Executive Chef would have in a large hotel in Hong Kong today. Use the criteria listed above and give six important functions that you think would be necessary for this position.

4. Relationship Between Food and Beverage Department and Other Departments

a) Rooms Division

F&B department always has coordination with Rooms Division in performing different duties. For example, in some hotels, they are supported by the telephone department in taking room service orders. Some housekeeping departments would also help the F&B department to collect used trays and utensils after the consumption of food items by in-room guests on each floor. Besides, it is the responsibility of F&B department to give support to the executive lounge in providing snack and beverage services to the hotel guests.

b) **Engineering**

Engineering department takes its responsibility to maintain all restaurant and kitchen facilities in good condition. In general, engineering staff will have close coordination with the F&B department and perform their duties, like repairing and conducting maintenance tasks for all kitchen equipment in a regular basis or upon request.

c) Security

F&B department relies heavily on the support of security department in ensuring the safety and security in its operations. For example, the F&B department will inform the security in advance if large-scaled conferences or banqueting events are to be held in the property, so safety and security measures can be formulated and executed to avoid any risks and uncertainties.

d) Human Resources

The relationship between human resources department and F&B department is similar to those mentioned earlier with the front office and housekeeping departments. The need of F&B department in recruiting a large quantity of casual staff in case of peak seasons and large-scaled events relies heavily on the support of the human resources department.

e) Sales and Marketing

F&B department should have close communication with sales and marketing department which aims at fulfilling the sales and marketing objectives set by the hotel in each financial year. For example, banqueting menus and menus of all outlets are always submitted to the sales and marketing team for formulating sales and promotional strategies to attract more business for the company.

f) Purchasing

F&B department relies on the purchasing team for ordering food materials in its daily operations. Close coordination are required between the departments for purchase decisions, such as quantities, types and prices of food materials to be ordered.

g) Accounting

The accounting department gives advice to the F&B department on budgeting and business performance analysis. Head of F&B department should work closely with the accounting department to set targets on sales, profit and cost control which can be in monthly or yearly basis.

3.1.2 Classification of Food and Beverage Services

Food and beverage (F&B) services refer to the provision of different kinds of food and drinks to customers in different types of premises. As the scope of food and beverage services is very broad, the ways of classifying them are various without a standard. Recommended below are some common methods in classifying the food and beverage services.

1. Classification Based on Market Segments / Types of Customers

On simple way of classification is based on different types of market segments or target customers of the food and beverage services. Figure 3.4 is an illustration of how food and beverage services can be grouped into different market segments.

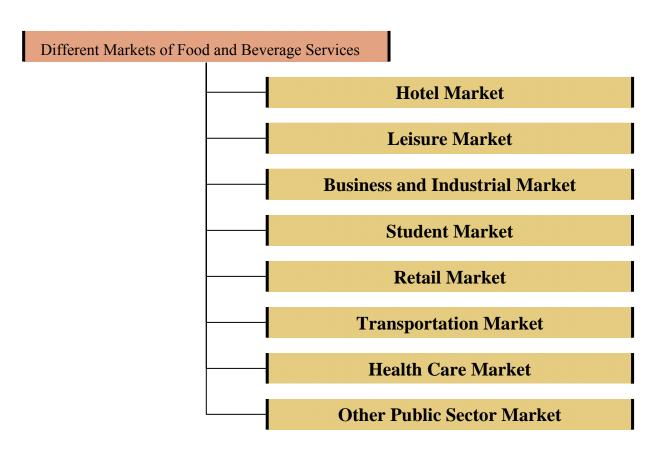


Figure 3.4—The Market Segments or Customer Types in Food and Beverage Services

a) <u>Hotel Market</u>

Service providers in the hotel market represent those restaurants or outlets which provide food and beverage services inside the hotel properties for their customers, many of them are owned by the hotels as sub-units in serving the hotel guests and generating extra income for the companies.





b) Leisure Market

Leisure market refers to those restaurants operating in the sites of tourism attractions or leisure places. For example, food and beverage services available in attractions, theme parks, club

houses (e.g. gold club) or snack counters located in beaches.

c) **Business and Industrial Market**

Most of them are purposely built inside the commercial or industrial buildings which provide a convenient dining place for those who work in the same building.



d) Student Market



Cafeterias or canteens operated in schools or universities which provide cheap food and beverage services to students and staff in the properties.

e) Retail Market

It generally refers to those self-service operations which sell food and beverage items for 'on-site' consumption (usually quick turnover) or 'off-site' consumption (take away). For example, food courts in department stores, convenient stores or vending machines.



f) <u>Transportation Market</u>

It refers to food and beverage services provided in transportation, such airplanes, rails and cruises.

Food and beverage outlets which are located at the transportation terminals, such as airport and cruise terminals are also categorized under the transportation market.



g) Health Care Market

Food and beverage services in the health care market basically refer to meals provided in hospitals and nursing homes. Since the main target group involves patients or people with health concerns, more emphasis would be put on to the food control with ingredients suitable for the diners.



h) Other Public Sector Market

Food and beverage operations owned by the government or run by the contract caterers as approved by the government can be categorized under the public sector market. Examples in this category include catering service provided in prisons, police stations and military campuses, etc. Most of the operations are subsidized by the government and non-profit in their natures with cost minimization as their core objectives.

2. Different Modes of Operations

Besides classified by market segments and customer types, food and beverage services can also be categorized into:

- 'Independent ownership' or 'chain ownership'; and at the same time positioned as 'profit making focused' or 'non-profit making focused' in their operations

a) Independent Ownership

Usually refers to small family-run food and beverage services where the owners have complete control. This was the only existing option before the emergence of chains. These food and beverage services do however have the highest failure rate. You often find that groups are made up of 'independently-run' food and beverage services. Depending on the location, the clientele may vary accordingly. However, business usually relies on local customers or its neighbourhood. Examples of independent ownership of food and beverage services in Hong Kong would be family-owned and operated.

b) Chain Ownership

There are many food and beverage service chains in Hong Kong, the Mainland, Asia and other parts of the world. These chains can be grouped into single-concept chains and multiple-concept chains. The general public usually has no idea multiple-concept foodservices chains are owned by the same company.

- **Single-concept chains** include: McDonald's, MOSS Burgers, Subway, Burger King and KFC.
- Multiple-concept chains include: Maxim's Catering Limited operating
 fast food, Chinese and Western fine dining restaurants; Lan Kwai Fong –
 operating bars and fine dining restaurants; King Parrott Group and Igor's –
 operating bars, theme restaurants and specialty restaurants. Usually they

have a centralised reservation system and some chains offer franchise opportunities.

The opportunities for promotion are considerable as they usually have a strong local and international brand identity. Normally, a percentage of sales is automatically taken for advertising. Again, depending on the location of restaurants the clientele may vary accordingly. Many non-adventurous tourists prefer these international food services chains given their consistency in quality and service. Examples are:

- International food services chain McDonald's, Burger King, KFC, Moss Burgers, Pizza Hut, Subway, Tanyoto Hotpot, COVA, Haagen-Dazs and Outback Steakhouse, Starbucks Coffee, TGI Friday's.
- Local food services chain Maxim's Catering Limited, Lan Kwai Fong, Igor's, Caffe Habitu, King Parrott Group, Café de Coral.

c) Profit Making Focused

Most food and beverage services available in the market are commercial-based which aim at generating profit. They include general restaurants, restaurants in hotels, fast food restaurants, bars and club restaurants, etc.

d) Non-Profit Making Focused

Food and beverage services which are non-profit making focused are mainly subsidized or welfare in their nature. Cost reduction is emphasized in the operations, which explains their relatively low prices when compared with those profit-oriented ones. Some of these food and beverage services may even provide meals for free. Common examples of these kinds of food and beverage services include cafeteria of enterprises, school canteens and cafeteria in hospitals, etc.

Figure 3.5 below shows a detail classification of food and beverage services based on the modes of 'independent ownership' or 'chain ownership'; and the directions of 'profit making focused' or 'non-profit making focused'.

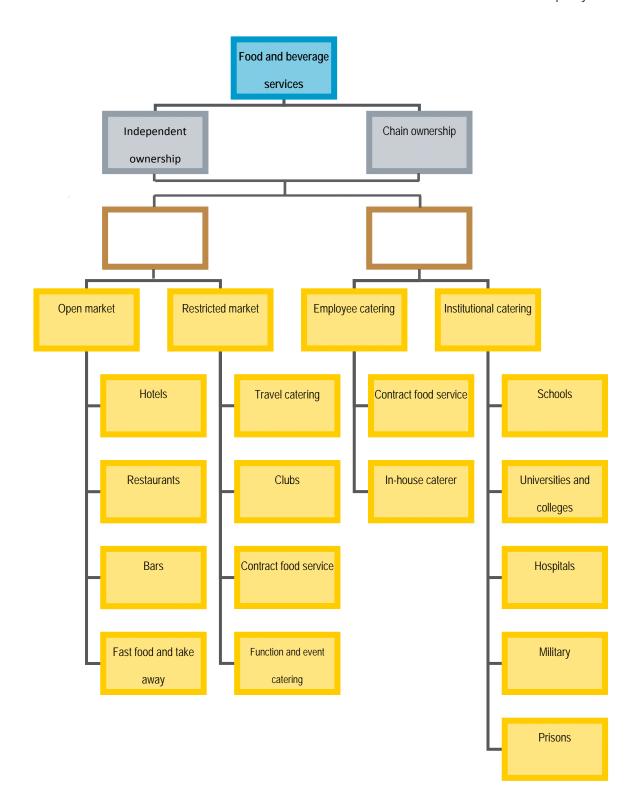


Figure 3.5—Classifying Food and Beverage Services Under the Dimensions of 'Profit Making Focused' and 'Non-profit Making Focused'

Source: Davis, B. *et, al* (2008). Food and Beverage Management. 4th ed. Burlington, Mass: Elsevier Butterworth-Heinemann

3. Common Examples of Food and Beverage Services and Their Characteristics

Since types of food and beverage services are numerous, only 4 common examples of food and beverage services would be focused and introduced in this section:

- Fine dining restaurants;
- Casual dining restaurants;
- Fast food restaurants; and
- Bars

Different food and beverage services have their unique characteristics and can always be reflected by their menus, services and themes. Their differences as stated as follow:

a) Fine Dining Restaurants

Fine dining restaurants are those establishments that offer very high standards in all aspects of their operation – an extensive à la carte menu, silver service, good quality facilities and décor, service accompaniments, etc. They can be found in four and five star hotels or as free standing restaurants. Table 3.1 shows some characteristics of a fine dining restaurant.



Service Staff in a Fining Dining
Restaurant

Types	Characteristics		
Fine Dining	<u>Menu</u>		
Restaurants	Serve 'A La Carte' menu;		
	Beverage menu with long lists of wines and alcohols are always provided and is separated from the main menus;		
	Food are cooked-to-order;		
	Orders can be customized according to the customers' preferences;		
	Emphasis on using high-quality and fresh ingredients;		
	High-priced menu.		
	<u>Service</u>		
	High staff-to-guest ratio;		
	Low seat turnover;		
	Some require membership and dress code;		
	Dining etiquette is required;		
	Well-trained and well-groomed staff;		
	Full table service with formal table setting;		
	Unwritten rules on tipping;		
	• Service charge of 10% is required;		
	Some may require advanced reservations of customers.		
	<u>Theme</u>		
	Well-decorated;		
	Spacious which provides certain levels of customers' privacy;		
	Quiet and comfortable dining environment;		
	Project a classy and elegant atmosphere.		

Table 3.1 – Fine Dining Restaurants

b) Casual Dining Restaurants

A restaurant that serves moderately-priced food in a causal atmosphere is called a casual dining restaurant. Such restaurants usually provide table service and comprise a market segment between fast food establishments and fine dining restaurants. In terms of menu, service and theme, casual dining restaurant has the following characteristics:

Menu Casual • Serve 'A La Carte' menu, buffet and healthy food; **Dining** Restaurants • Some provide set menus in certain occasions, e.g. lunch menu and tea-set menu; Drink list is either combined with or separated from the main menu with less choices on wine but beer when compared with fine dining restaurants; Dishes are moderately-priced; • Generally provide more choices of dishes than fine dining and fast food restaurants; • Food can be pre-cooked or cooked-to-order. Service • Low staff-to- guest ratio when compared with those in fine dining restaurants; No formal dress code or dining etiquette is required; Full table service with simple table setting, and customers order their food from a counter and serve themselves before paying. Service charge of 10% is required by most of the restaurants. **Theme** • Less formal in decoration when compared with fine dining restaurants;

Table 3.2—Casual Dining Restaurants

Under the category of casual dining restaurants, there are three extended types of food and beverage establishments which are commonly seen in Hong Kong, including (i) café; (ii) specialty restaurant; and (iii) cafeteria. Variations in their characteristics

• Project a relax atmosphere

when compared with the traditional casual dining restaurants can be observed and compared as follow:

(i) Café

A small social gathering place (shop) which sells food and drink.

Cafés

Menu

- Simple menus with limited choices for customers' selection;
- Mainly provide beverage items rather than food items;
- Only light foods or easy-to-prepared items are provided;
- Menus can be in the format of printed booklets or simply presented at the sales counters;
- Customers can either choose to dine-in or take-away the orders.

Service

- Low staff-to-guest ratio;
- Self-serviced: customers are required to go to the counters for ordering and collecting their own orders;
- Free seating and no reservation is needed;
- No table set up;
- Generally no service charge is imposed;
- Servers should have certain knowledge about coffee and give suggestions to customers if necessary.

Theme

- Comfortable seats which encourage customers to stay longer and socialize with others for various purposes, including business and gathering with friends;
- Home style decoration with warm colors and lightings to create a relax and casual atmosphere;
- Open-kitchens which create a friendly environment and high transparency in operations.

(ii) Specialty Restaurants

A specialty restaurant was defined as a dining establishment that emphasized on one particular food product or one type of ethnic cuisine in its menu and in its advertising.

Specialty Menu Restaurants Choices are moderately limited based on their specialties; Food and beverage items' ranged from ethnic to healthy cuisine; Generally emphasis unique features such on health-conscious market - salad bar, Non Genetic Modified (organic) food and beverage; traditional / local food - e.g. spicy cuisine in Sichuan, and hot dogs and milkshakes provided in classic American diners, etc; Menus can be in the format of printed booklets or simply presented at the sales counters. **Service** Varied from low staff-to-guest ratio to full service. **Theme** Specialty food service establishments are those whose focus is on maximizing the uniqueness of food and beverage concepts, therefore, varied from simple decoration to well-decorated atmosphere; Create a friendly environment;

Table 3.4 – Specialty Restaurant

(iii) Cafeteria

A cafeteria is a type of food service establishment in which there is little or no table service. A cafeteria can also be a restaurant in which customers select their food at a counter and carry it on a tray to a table available after making payment, if necessary. It is also a dining area in an institution where customers may select meals at a counter which are then purchased. Alternatively meals may be brought in from elsewhere and consumed on the premises.

Cafeteria

Menu

- Choices are always limited;
- The menu items available at cafeterias usually cover a variety of tastes, e.g. rice or noodles with a choice of vegetable, meat or fish. Soups, sweets and beverages are also available;
- Customers can simply refer to the brightly lit menus with photographs near the counters for choosing their orders;
- Customers can either choose to dine-in or take-away the orders.

Service

- Very low staff-to-guest ratio;
- High seat turnover;
- Counter: Customers line up in a queue at a service counter and then choose their menu items. The chosen items are then placed on a tray and taken to the payment point;
- Free flow: The selection is counter service. Customers move at will to random service points exiting via a payment point;
- Supermarket: Island service points within a free flow area;
- Free seating and no reservation is needed;
- No table set up;
- No service charge is imposed;
- Less staff-to-guest interaction.

Theme

- Simple decoration;
- Narrow which cannot provide certain levels of customers' privacy.

Table 3.5 — Cafeteria

c) Fast Food Restaurants

Customer demand has resulted in a rapid growth in fast food outlets here in Hong Kong. There are a variety of establishments offering a limited to very comprehensive choice of popular foods at reasonable prices. Some establishments may be small and suited to the local area offering local delicacies, whereas others may be part of an international chain employing a particular theme, e.g. the type of food and range of items available depends on the type and location of the establishment.

Fast Food Restaurants

Menu

- Choices are always limited;
- Generally provide 'quick-food' which are easy in preparation and convenient for take away, e.g. burgers, hot dogs, chicken, pizzas, sandwiches and lunch box;
- Items generally have lower health values when compared with other types of restaurants;
- Cheap menu items which are affordable by all general public;
- No book menu is available in fast food restaurants and customers can simply refer to the brightly lit menus with photographs near the counters for choosing their orders;
- Food ingredients are semi-processed in central kitchen before delivering to the restaurants;
- Food can be consumed either on the premises or taken away.

Service

- Very low staff-to-guest ratio;
- Self-serviced: customers are required to go to the food counters for ordering and picking up their own food;
- Free seating and no reservation is needed;
- No table set up;
- No service charge is imposed;
- Less staff-to-guest interaction;
- There is little or no waiting time;

• Long hours of operations: some operate 24-hours a day.

Theme

- Modern in decoration;
- Sharp colors and logos are always used to create a unique image of the brand;
- Sharp uniforms of staff help strengthening the brand images of restaurants.

Table 3.6 – Fast Food Restaurants





Hong Kong fast food

d) Bars

A bar can be part of a larger operation, like a restaurant, or it can be an individual business. The physical set-up of bars is critical to set the ambience and the theme of the establishment. A bar also allows customers to meet and socialise for both business and pleasure. There are many bars in Hong Kong, mostly in tourist areas and scenic locations, e.g. Lan Kwai Fong, SoHo, Tsim Sha Tsui, Wan Chai, the Peak and along the harbour front. Most bars will have a quick snack menu available for the customers to choose from. The profit percentage from beverages is higher than that from food and, unlike food, beverages can be held over if not sold.

Bars

Menu

- Mainly serve beverage items, especially alcoholic drinks, such as beer, cocktails and wines;
- Food provided are subsidiary and easy-to-prepared in nature which generally include snacks and finger foods;
- Some provide discount in non-peak hours (happy-hour offers) to attract more businesses.

Service

- Most of them operate in the evening;
- Only customers over 18 are served;
- Some require membership for entrance;
- Service charge of 10% is required;
- Bartenders and servers should have professional skills and knowledge of beverage items.

Theme

- Always have a bar table with bartenders preparing drinks visible to the customers;
- Dimmer lightings when compared with restaurants;
- Can have different themes which mainly depend on the entertainment provided to customers, e.g. discos are usually equipped with large dance floors with DJs or live bands playing music for the customers; sports bar are usually equipped with large TV screens which allow customers to enjoy watching sport events.

Table 3.7 – Bars



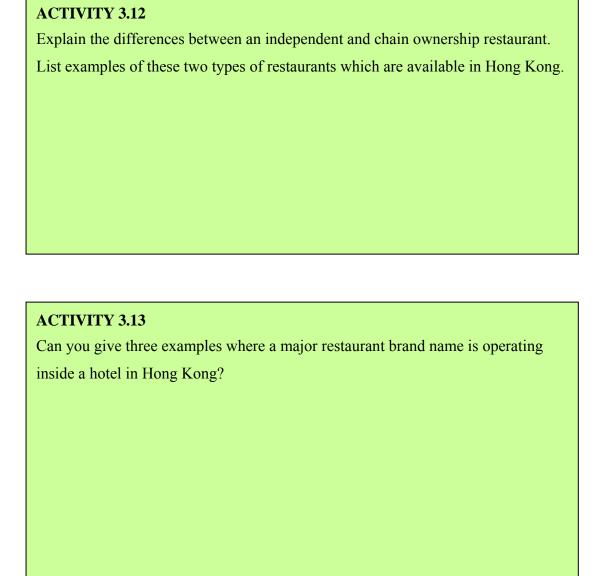


Lan Kwai Fong Bar Area

ACTIVITY 3.11- Different Markets in the Food and Beverage Sectors

By referring to Figure 3.4 which shows the scope of the food and beverage sectors, try to match up the following examples to their right markets.

Examples	Markets
1. John buys a coke from 7-Eleven.	A. Hotel market
2. May decided to stay and have her lunch at school instead of going out.	B. Leisure market
3. Patrick goes to have Christmas buffet in ABC Hotel.	C. Business and industrial market
4. Christine is wondering if meals are included in her train ticket.	D. Student market
5. Alex doesn't like the food provided in the elderly home.	E. Retail market
6. As Mary would be very busy, she can only go to the restaurant near her office for lunch today.	F. Transportation market
7. Peter thinks that the food in the Ocean Park is a bit expensive.	G. Health care market



ACTIVITY 3.14			
1.	Explain the differences between a Cafeteria and a Café.		
2.	Which would you prefer and why?		
3.	What type of service style is used in each?		

There are many theme bars in Hong Kong. Search the following areas and list four different theme bars that you can find?

- 1. Lan Kwai Fong
- 2. SoHo
- 3. Tsim Sha Tsui
- 4. Wan Chai

ACTIVITY 3.16—A Study of Western Food and Beverage Operations in Hong Kong

Based on the descriptions of the above table about the different types of Western food and beverage operations in Hong Kong, discuss with your classmates and try to complete the following table according to your dining experience or information collected from the Internet.

Types of F&B Services	Fine dining restaurants	Casual dining restaurants	Fast food restaurants	Bars
One Local Example				
Target Segments				
Characteristics of Menu Items				
Service Quality				
Price or Average Spending Per Person				

3.2 Food and Beverage Service Principles

3.2.1 Basic Knowledge of Menus

Menus were once used as a list of foods in a random order that the patron would choose from, including raw, prepared and cooked items. Not until the 19th Century did menus become more individual with different courses defined. With the formulation of menus, other things began to influence their structure such as the artistry and flair of different cookery methods and the creation of different styles or dishes named after famous people, e.g. Peach Melba, named after Dame Nellie Melba, a famous opera singer of her day.

As more people moved and settled from country to country they brought with them different styles of food and service resulting in a broad variety of restaurants offering an assortment of ethnic dishes. There are many types of food, service styles and menus on offer in Hong Kong that satisfy different budgets and tastes.

1. The Five Main Food Groups

Establishing a menu format is helpful in ensuring that each of the five food groups is represented. This will make certain that healthy balanced items are available from the menu. There must be at least one food item from each category on the menu:

- **Starchy foods:** Potatoes, pasta, rice or noodles, etc.
- **Fruit and Vegetables:** Mango, melon or broccoli, etc.
- **Meat, fish and other non-dairy sources of protein:** Meat, e.g. pork, beef or chicken, etc. Fish, e.g. grouper, sea bream, etc. Non-dairy sources of protein, e.g. tofu, red beans or soya products, etc.
- Milk, eggs and dairy foods: Cream, cheese, yogurt or sour cream
- **Fat-containing Foods and sugar-containing foods:** Cheese, bacon, eggs, fatty cuts of meat. Dried fruits, canned fruits, sauces and soups, sugar-containing ice cream

There are many ways in which a person can stay healthy throughout their lifetime. One way to stay healthy is to eat a balanced diet. The five main food groups are listed below, with information of each provided.

Note —What is a Serving? An individual quantity of food or drink taken as part of a meal. An individual portion or helping of food or drink.



Milk, Yogurt and Cheese

To maintain a balanced diet, a person should eat the right amounts of foods from this group. The food from this group provides you with calcium, which makes your bones and teeth hard.



To maintain a balanced diet, a person should eat eat the right amounts of foods from this group. The food from this group gives your body energy.





Meat, Poultry and Fish

To maintain a balanced diet, a person should eat the right amounts of foods from this group. The food from this group provides your body with protein, which helps your body grow strong. Nuts and beans are also in this category as they also provide protein.



<u>Fruit</u>

To maintain a balanced diet, a person should eat the right amounts of foods from this group. The food from this group helps keep your body healthy as fruit contains many vitamins.



Vegetables

To maintain a balanced diet, a person should eat the right amounts of foods from this group. The food from this group provides your body with vitamins, just like the fruit group.

Table 3.8 — The Five Main Food Groups

For more information on healthy diet, visit:

http://www.choosemyplate.gov/food-groups/

ACTIVITY 3.17

Name two *menu items* for each of the five food groups listed above that would be suitable when designing a well-balanced menu:

- 1. Starchy foods
- 2. Fruit
- 3. Vegetables
- 4. Meat
- 5. Fish
- 6. Non-dairy protein
- 7. Milk
- 8. Dairy foods
- 9. Foods containing less fat
- 10. Foods containing less sugar

ACTIVITY 3.18

You have several friends coming to your house for a dinner this weekend. From the items that you have listed in activity 3.16, assemble a well-balanced menu for the evening, including one non-alcoholic drinks.

2. Types of Menu

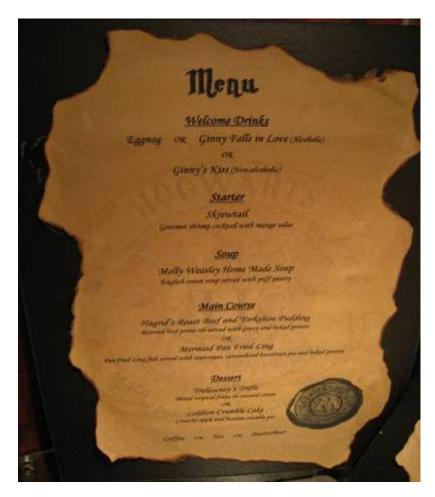
There are many different types of menus. Some common ones include the followings:

a) À la carte Menu

This is a menu with all the dishes individually priced. Items on the menu are prepared and cooked to order.

b) Table d'hote Menu

Table d'hote menu has a fixed number of courses and limited choices within each course at a fixed price.



A table d'hote menu

c) Carte du jour

This menu is a list of dishes that are available from the restaurant on a particular day. Customers can choose from this list which may be given to them as a menu card on the table, written on a blackboard or introduced verbally by the waiter/waitress. This type of menu provides set items at fixed price and would be changed on a daily basis.

d) Children's Menu

A children's menu can be à la carte or table d'hote and offered in conjunction with one for adults. Puzzles and pictures are often found on the menu. The dishes can be prepared very quickly with smaller portion size and lower pricing when compared to those for adults. This kind of menu is usually available in theme restaurants. Visit these two web sites to look at some children's menus.

www.joetheismanns.com

http://allears.net/menu/menus.htm

e) Banqueting Menu

Banqueting menus can also be *table d'hote menus* (set menu at a set price) when a large number of people are served at their table at the same time, course by course. Sit-down wedding banquets are a good example.

f) Cocktail Menu (finger food)

This menu consists of small items (no more than two bites). There is usually a selection of items – canapés, hors d'oeuves. Service staff will circulate with a tray of items which are offered to the standing customers.

- Usually no menu card
- Dishes can be hot or cold

Visit this website to learn more about cocktail foods.

http://entertaining.about.com/od/horsdoeuvres/Hors_DOeuvres_Canapes_and_ Finger_Foods.htm

g) Cycle Menu

A cycle menu is a series of table d'hote that are offered in rotation, covering a given length of time, e.g. one, two, or three week(s). They are simple and easy to make when comparing with those which require daily changes. These menus are usually available in industrial catering establishments, cafeterias, hospitals, prisons, colleges.

The length of the cycle depends on:

- Management policy;
- The time of year;
- Foods available; and
- Cost of items to prepare.

The advantages of using a cycle menu include the followings:

- It reduces menu planning time.
- It streamlines purchasing procedures.
- It helps standardize food production.
- It helps the food service become more efficient.

An example of cycle menu is introduced as below:



Figure 3.6 – An Example of Cycle Menu

3. Comparison of Different Types of Menus

As observed in the previous section, different types of menus have their own characteristics. As affected by various factors, menus fall into either one of the following two categories – "selective" and "non-selective".

- Non-selective menus refer to those with only one single choice available in each food category.
- Selective menus refer to those with a number of choices available in each food category which provide customers with a higher degree of freedom in selection when compared with non-selective ones.

Advantages of applying non-selective menus in operations

Additional staff are not required in the production;

- Simpler and easier to control purchasing;
- Less costly due to the limited items required; and
- Better and easier portion control.

Advantages of applying selective menus in operations

- Often less expensive as the menu can be balanced with less expensive items;
- A large quantity of food is not required as you have more varieties to choose from; and
- Items can be frequently updated based on changes in trends and seasonality, so as to stimulate the consumption of target customers.

Table 3.9 – Advantages Brought by Selective and Non-selective Menu

The comparison of different types of menus in the dimension of "selectivity" is provided in Table 3.10 below.

	Selective vs Non-selective
À la carte Menu	Highly selective
Table d'hote Menu	Less selective to non-selective
Carte du jour	Less selective to non-selective
Children's Menu	Mostly non-selective to non-selective
Banqueting Menu	Non-selective or advanced requests are required for any changes
Cocktail Menu (finger food)	Non-selective since menus are confirmed in advance. True menus are usually not required or provided in the service process.
Cycle Menu	Less selective to moderately selective

Table 3.10 – Comparison of Different Types of Menus on Their Degree of Selectivity

Give three good reasons why a restaurant in Hong Kong would choose to serve a *table d'hote* menu to its customers during the Lunar New Year.

ACTIVITY 3.20

Among the restaurants that you know or have been to recently, which of them offer a *table d'hote* menu? Make a list and see how many you can name.





Among the restaurants that you know or have been to recently, which of them offer an *à la carte* menu? Make a list and see how many you can name.

ACTIVITY 3.22

There are several reasons why some restaurants or hotels may choose to use **a cycle menu.** Can you give two good reasons?

ACTIVITY 3.23

Among the restaurants that you know or have visited recently, can you name any of them that use **a cycle menu**?

What are the differences between a selective and a non-selective menu?

ACTIVITY 3.25

What are the differences between a selective and a non-selective menu?

Match the description on the left with the appropriate menu on the right.

1. Of the day's menu A. À la carte

2. Repeats menu after a predetermined period B. Table d'hote

3. Offers separate food items at separate prices C. Carte du jour

4. Offers a fixed number of courses at fixed price D. Cycle menu

4. Objectives of Menu

- Menu items are selected not only to please the customers but to make a menu profitable for a commercial operation;
- To identify the food and drink to be offered and portions to be served;
- To identify the quantities and quality of food and beverage ingredients to be purchased;
- It contributes in a big way to the business's market image; and
- Menus are effective marketing tools if they are designed with the needs of the target markets in mind (See 8. - Menu Design).

Consider:

- 1. The factors which influence or constrain the choice of products to be offered on a menu, and how the resulting menu will affect other activities in a business.
- 2. Imagine that you are having a dinner party with some friends. What are the factors you would take into account when deciding what to serve them for dinner?

ACTIVITY 3.27

List five objectives that need to be considered when planning a menu for a new casual dining restaurant in either Happy Valley or Tsim Sha Tsui.

5. Menu Planning

The menu is a/an:

- Basic document in food and beverage operations;
- Printed document which informs patrons of the products offered; and
- Integral part of all other functions of any food or beverage outlet.

Everything starts with the menu. The menu dictates much about how your operation will be organised and managed, the extent to which it meets its goals, and even how the building itself – certainly the interior – should be designed and constructed. It is the foundation upon which the layout and other design functions are based. The menu influences every basic operating activity in a food service organization, it affects management decisions about:

- Menu items which reflect a balance between profitability and popularity and are some of the most important decisions that food service managers have to make
- The usage and the space of and equipment requirements for the food service facility
- The production methods
- Sources of food and staples suppliers

We can therefore consider the menu to have two broad uses:

- As a working document for the back of house (kitchen)
- As a published announcement to patrons out front



Book menus

6. Considerations in Menu Planning

The menu is the plan used to achieve the organisation's profit objectives and to satisfy customers' desires. The main objective of **Menu Planning** is for the business to make a profit while catering to its customers needs, using all available ingredients, equipment, physical surroundings and skills of its employees at a reasonable cost.



Therefore, during the process of menu planning, top management of a restaurant should consider numerous factors before coming up with a decision of what and how food and beverage items should be put into a menu and how they should be priced. A comprehensive list of considerations is provided below which can be categorized into 4 different dimensions:

Considerations	Descriptions	
1. Customer-related factors		
- Types of customers to be attracted	• The nature of target segments would affect the decisions of what items to be provided in a restaurant. For example, a restaurant would provide more healthy food if it mainly targets	
- Spending power	 The marked prices of food and beverage items should be decided by the spending power of the customers, and the market positioning of the restaurant. 	菜套餐 11騎至晚上10時半 京蒸爆牛肉 \$45 宮保雞丁 \$45 成魚煎肉餅 \$45 咕噜雞球 \$45 咕噜雞球 \$45

- Dining sequence

 Food items should be placed orderly according to the dinning sequences of customers. Sequences of items are always started from appetizers to main dishes and then desserts.

- Special requests

 Restaurants should also consider if they have to fulfill some special requests of customers. For example, it is very common for restaurants to receive special requests from hotel guests who have religious beliefs, such as non-pork meals provided for Koshers.

2. Food-related factors



- Cost and price of the food materials

 Besides considering the spending power of target segments, top management should also think carefully about the cost of food materials and other auxiliary costs to ensure a certain percentage of profit can be achieved.

- Supply of food materials

Managers should ensure the stable supply of food materials when planning the menu. Special attention should be put on food materials which may only be available in certain seasons. If necessary, these items should be put in the seasonal menu rather than the regular one.



- Nutritional values of food items

- A balanced diet is important in this fast-paced modern city of Hong Kong. Nutritional value should be one consideration. When planning a menu, customers' preferences for low-fat, high-fibre diets and vegetarian food items also need to be considered.
- Especially for fast food restaurants, which are now required to disclose their food ingredients or health value to the public.

- Variety and number of choices

- Managers should make sure if they have provided enough choices for their target segments. Items in different food categories should be reviewed from customers' points of view and see if any items should be added or deleted to maintain a good menu balance.
- Food hygiene and safety
- In order to avoid food poisoning, the restaurants should re-examine the proposed menu and see if any high-risk ingredients can be avoid in the planning stage.

3. Operation-related factors

- Kitchen size and facilities

 Kitchen procedures should be reviewed to ensure the food materials proposed can be handled and stored properly in the existing kitchen setting.



Restaurant's location

Location has close connection with the target segments of the restaurant. Causal dining restaurants which are located in commercial districts should consider having menu items which are easy to be prepared in order to handle the huge customer flows during the lunch hours. Due to this reason, fast food restaurants and cafés are very common in these districts. Regarding the fine dining restaurants which are also located in commercial districts, fewer changes are made on their menus because of their target segments and market positioning.

Operational hours

Some restaurants would provide different menus at different time intervals, such as breakfast, lunch, dinner and tea menus. These menus are generally different in their contents. For example, quick and easy to make food are always provided in breakfast menus for customers who are in a hurry at the moment.





Skills of kitchen staff

The menu items proposed must be communicated to the kitchen staff. Make sure if the team has sufficient skills and abilities in preparing the proposed dishes consistently with no difficulty.



- 4. Marketing-related factors
- Competitors' practices
- Benchmarking is applicable provides which useful information to restaurants about what other close competitors are now providing to their customers. It is a good source of



- **Decoration of** restaurants
- Menu items provided should be matched with the decoration of restaurant for its unity. For example, McDonald's is a fast food restaurant which provides quick and convenient service. The menu items are limited when compared with other restaurants, such as hamburger and French fries. The decorations are also simple and clear such as chairs and tables with simple design and plain adornments.

reference when planning a restaurant menu.

- Design of menu as a marketing tool
- The design of menu should be attractive and easy to read which can be acted as an effective marketing tool to attract potential customers.
- Language used
- Management should be considerate in offering menus which are written in the same languages as used by the target segments. Restaurants which target for both locals and foreigners should provide menus with corresponding languages.

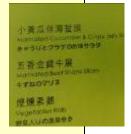


Table 3.11—Considerations in the Menu Planning Process

Through considering the above 4 factors, top management would be able to design a menu which **can**:

- Cater the needs and preferences of customers by providing the right food in the right quantities and prices as customers expected;
- Ensure the profitability of the business by keeping a good balance between cost and price;
- Fully utilize all resources, including restaurant and kitchen facilities, ordered food materials and manpower of both service and kitchen staff;
- Act as an effective marketing tool to differentiate the restaurant from other competitors; and
- Help to achieve the quality objectives of the business and the quality standards:
 - Flavour, texture, colour, shape and flair of the dishes offered.
 - Consistency, palatability and visual appeal.
 - Aromatic appeal and temperature of each item.

Activity 3.28—Designing a Menu for a Theme Restaurant

A. Work as a team of four and design a menu according to the following instructions:

- 1. Decide a theme for your restaurant which is marketable in Hong Kong;
- 2. Base on your theme and target segments selected, try to design a menu with the following considerations:
 - What colour/colours will be used;
 - Will any photos or graphics be added;
 - What language/languages will be used;
 - What kinds of menu items will be available (only the main categories with a few examples are required);
 - What types of menu format will be suitable (e.g. Á la carte or table d'hote; book-folded or window-folded, etc.)
- 3. Share and present your ideas in the class and discuss for any suggestions recommended by other teams.

B. Now, jot down how your proposed menu would affect the followings:

- Purchasing the ingredients
- Storing the ingredients
- Production of menu items
- Serving menu items

7. Menu Pricing

Menu pricing is one of the critical factors to the success of a restaurant's business. It determines how much money the restaurant would make and the perception of how much customers would be willing to pay for dining in the restaurant. There is no standardized method in pricing the menu but a few approaches are commonly used by practitioners for different purposes. Two different approaches of menu pricing are introduced below:

a) Cost-based Approach

Cost-based approach is the most popular approach used by restaurants in pricing their food. Basically, the selling prices are marked-up from the cost of goods sold. A food cost percentage is always calculated to represent the difference between the cost and the actual selling price of the menu item as shown below:



Food cost percentage =
$$\frac{\text{Food cost}}{\text{Selling price}} \times 100\%$$

In generally cases, the food cost percentages of restaurants are ranged from 20 to 30%. Some exceptional cases, such as steak and seafood items can have higher food costs which are quite common and reasonable in some fine dining restaurants. Beverages, when compared with food items, usually have lower food cost percentages, meaning a higher profit margin can always be achieved by restaurants through selling of beverages and alcohols to their customers.

In reality, the calculation of cost is much more complicated. Restaurant managers have to put into consideration of all expenses in order to figure out the actual profit of

running the restaurant. Besides the food cost, expenses like labor and other overhead cost must be counted. Labor cost involves the salaries paid to kitchen and service staff in full-time or part-time basis. Overheads consist of rent of stores and equipment, bills of electricity and gas, laundry cost of table cloths and general cost of maintenance, etc.

b) Subjective Approach

Pricing through this approach is not based on the consideration of food production cost but other factors. For example, a fine-dining restaurant which aimed at emphasizing its high quality food and beverage services would choose to set the highest prices for its menu items when compared with other competitors. Such an approach can project a luxury image of the restaurant in order to attract the high-ended customers.

Besides, some fast food restaurants would also use the subjective approach by pricing some menu items below the market prices (sometimes even lower than the cost) to attract customers. This 'lowest price' approach can especially help in increasing the market share and it usually works well under the assumption that customers who come for a 'low-priced' item would also purchase other items in their dining experiences.

ACTIVITY 3.29—Menu Pricing

The following table shows the proposed selling prices and food costs of some menu items that would be available in a causal dining restaurant opening soon in next month.

Item	Proposed selling price	Food cost	Food cost percentage
French fries with cheese	\$25.00	\$6.00	
Chicken wings (4 wings)	\$45.00	\$7.00	
House salad	\$18.00	\$6.50	
Cheeseburger (with fries)	\$50.00	\$20.00	
Thai-fried noodle	\$60.00	\$18.00	
Strawberry sundae	\$30.00	\$9.00	

- 1. Try to complete the following table by calculating the food cost percentage for each item.
- 2. Comment about the proposed selling prices of all items. Should any modifications be made based on the information shown in the table? Try to explain your answer.

Indicate which points need to be considered when planning the following menus?

Tick the appropriate boxes.

Menu Planning	Customer	Price	Items offered	Skill of staff	Equipment available
Buffet menu					
Themed menu					
A la carte menu					
Table d'hote menu					

8. Menu Design

A menu is anything you use to communicate with your potential customers by showing them what your restaurant has to offer. There are different types of menus including traditional hand-held menus, elaborately-printed menus, menu boards and even verbal menus. Not only does a menu play a major role in establishing market position and reaching customer expectations, it is probably the single biggest merchandising and marketing tool you have. Unfortunately many restaurateurs underestimate the role a menu plays in influencing customers' selections and miss out on major sales and profit-building opportunities.

Virtually everything that is undertaken in the restaurant and how the establishment is perceived in the identified market is linked to the food and menu. The menu in large part defines your restaurant's image and elevates or lowers your customers' expectations. Having a stained, dog-eared menu handed to you is not a great way to set the tone for a memorable dining experience.

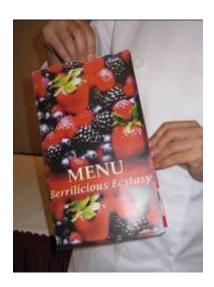
Therefore, first impression is always important; the entire menu should complement the operation of the business. Some menus are built around the history of the establishment or the local area, the cultural setting, cuisine or theme of the restaurant.

- The menu cover should reflect the identity or the décor of the restaurant and should also pick up the theme, which is effective in creating the correct image.
- The paper or card chosen needs to be of good quality, heavy, durable, stain and grease resistant.
- Menu design should be unique, simple, highly recognisable, and should develop a relationship with customers. Recognisable designs and symbols can be carefully chosen to appeal to the target segment identified.
- The style of print should be easily read and well spaced. Customers also recognise and interpret colour differently. Colours are often identified with elegance, wealth, sophistication and other symbols, e.g. navigation lights for shipping and aircraft red port side, green starboard side. Through the use of colour, fast food restaurants design menus to attract customers quickly.
- The task of the menu writer and designer is to direct the customers' attention to the menu items that the restaurant wishes to sell. A well-identified pattern of customers' eye movement can be followed: What

the customer sees first after opening a window-folded menu is the centre inside panel, therefore it is important to use the centre panel to promote items you most wish to sell. With a book-folded menu the customers' eyes move from the lower right-hand panel to the upper left-hand panel.

- Clip-on inserts in menus may be used to advertise daily specials and upcoming events.
- Menus that contain little information and no descriptions usually fail to inspire customers. A menu should be accurate and honest in its attempt to inform and describe and, above all, reach customers' expectations.





Book-folded menus



A Window-folded menu



A window--folded menu

From the information you have read above, list six factors that will make your menu design unique and therefore stand out from those of competitors.

ACTIVITY 3.32

Again assuming you're planning a dinner party, think of a theme you like and design a menu you feel would be suitable to serve your friends involving this theme.

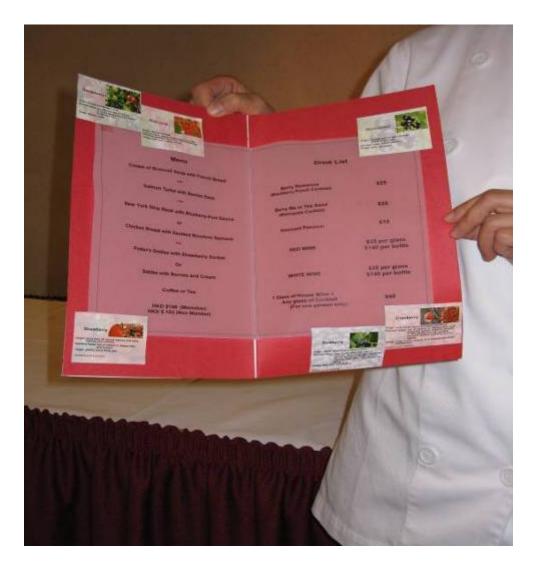
Take into account the following aspects of menu design:

- Book-folded or a single sheet
- Colour
- Type of card or paper used
- Language used and the font size and type
- Size of the menu
- Cover design



A book-folded menu

Can a menu be used as a marketing tool? List three changes you would like to make on the menu below to improve its marketing potential:



A book-folded menu

Visit several restaurants or hotels, either in person or through their web sites. Look at their menus and identify the areas that are good and not so good. What can be changed to improve its potential as a promotional tool for marketing the establishment? Comment on the followings:

- Typeface
- Page design
- Colour
- Language
- Size
- Cover
- Paper
- Shape and form
- Artwork

3.2.2 Basic Knowledge of Food and Beverage Services

1. Table Setting

a) Table Setting Procedures

By referring to the video – 'Multimedia Series – Hotel', the proper procedures of a table setup for one 'cover' involve the following steps:



1. Cover the table with a tablecloth if it is required by the restaurant. Some restaurants would use table mats to replace tablecloths in setting up a table.



2. Put the side or butter plate on the left side of the table mat. Put the butter knife on the butter plate at its right as shown in the picture with the cutting edge facing left.



3. Put the show plate at the centre of the table mat. Be reminded that some restaurants have no show plates on a table setup.



4. Put the main or dinner knife at the right side of the show plate as shown in the picture with the cutting edge facing left. And then put the main or dinner fork at the left side of the show plate.



5. Put the soup spoon at the right side of the dinner knife as shown in the picture.



6. Put the side or salad knife at the right side of the soup spoon with the cutting edge facing left as shown in the picture.



7. Put the side or salad fork at the left side of the dinner fork.



8. Put the dessert spoon at the upper side of the show plate with its head facing left. Then, put the dessert fork in between the dessert spoon and the side plate with its head facing right.



9. Put the water glass at the upper right-hand corner of the table mat.



10. Finally, put the napkin at the centre of the show plate.

b) <u>Different Kinds of Table Settings</u>

The table setting also portrays the image of the business and the ambience of the dining areas. The setting should have a centerpiece that performs a solely decorative function. Care should be taken not to make the centrepiece too large so that there will be sufficient room to place serving dishes.

High standard hotels and restaurants usually have white linen table cloths and napkins. Napkins can be folded into many different designs and shapes to add a decorative atmosphere to the restaurant.

Depending on the type of service, utensils are placed about one inch from the edge of the table, each one lining up at the base with the one next to it. The glasses are positioned about an inch from the knives, also in the order of use: white wine, red wine, dessert wine and water tumbler. A well-laid table can add atmosphere and ambience to any restaurant.



Formal dinner setting

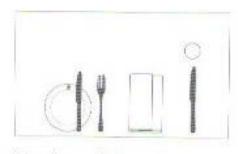


Lunch setting in a Hong Kong restaurant



Lunch setting

- (i) À la carte setting
- À la carte: Menu with all the dishes individually priced. Cooked to order. List of dishes.
- **Table setting:** Large joint knife and fork



A la carte cover/basic cover

À la carte setting

(ii) Table d'hote setting

• **Menu** is at a set price, usually with two or three courses. Fixed price.





• Table setting:



Formal dinner setting



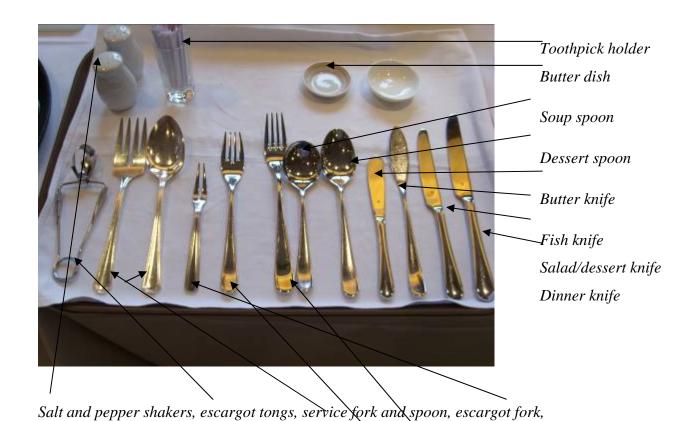
Formal dinner setting in a Hong Kong Restaurant



Table Set for Luncheon

c) <u>Silverware, Tableware and Glassware Used in Hotels and Independent</u> <u>Restaurants</u>

(i) Silverware and Tableware



salad/dessert fork, dinner fork





Hot water pot, tea pot, coffee pot

(ii) Glassware



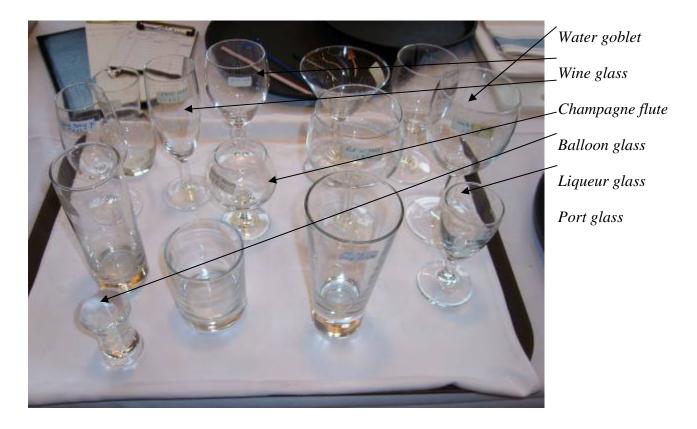
White wine glass, water goblet, pepper mill salt and pepper shakers, sugar bowl,

red wine glass,

flower vase, toothpick holder



Irish Coffee



(iii) Bar Equipment



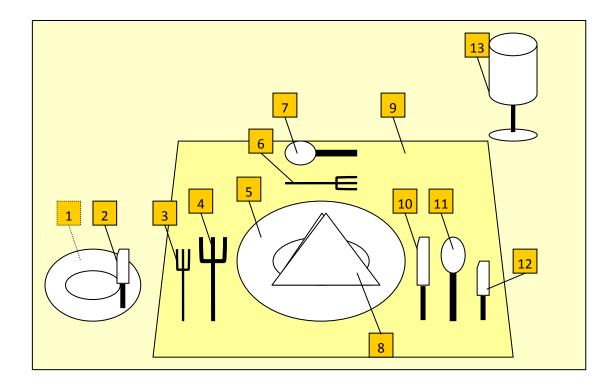
Wine stopper, wine pourer, wine bottle opener, zester, Hawthorne strainer, ice scoopbar knife & spoon



Wine bucket and stand

ACTIVITY 3.35—Table Setting

By referring to the following figure, try to name the items (1 - 13) in a formal table setup.



1.	o
2	9
3.	10
4	11

- 5.
 12.

 6.
 13.
- 7.

ACTIVITY 3.36

- 1. Describe the place setting for an à la carte dinner at an up-market restaurant.
- 2. Describe the place setting for a *table d'hote* lunch at a local restaurant.

3.2.3 Restaurant Design and Layout

The layouts of restaurants can be affected by many factors which include the restaurants' themes, styles of services, origins of cuisines, staff-to-guest ratios and layouts and sizes of the stores, etc. Figure 3.6 shows a sample floor plan of a mid-scaled restaurant.

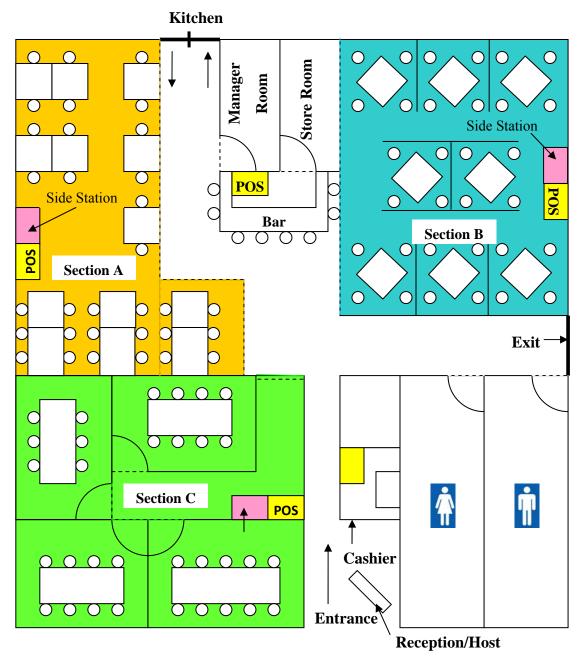


Figure 3.7—Layout of a Mid-Scaled Restaurant (Dining Section)

1. Functional Considerations

In the planning stage of opening a restaurant, the top management should carefully think about what and how many sections would be set up in the site and how space can be fully utilized so to enhance the profitability and operational efficiency of the business. The layouts of different food and beverage services could be very different. For example, bars and cafés generally have small or no food kitchens while the sittings of traditional restaurants should be more spacious when compared with fast food restaurants and cafeterias.

a) Dining Area

It is quite common that a mid or a large-scaled restaurant would be divided into sections which enable the ease of management and manpower distribution. By referring to Figure 3.7, it can be seen that the whole restaurant mainly consists of 3 different sections. Each section has an average of 32 sittings which requires 1 to 3 servers to serve



the tables depending on the staff-to-guest ratio as set by the restaurant manager.

The layout of the 3 dining sections are unique and purposely designed for catering different types of customers. Section A mainly comprises of tables for 4-6 persons coming in groups. In addition, these tables can be separated to form smaller tables for 2 persons which enhance the flexibility of the restaurant to cater different types of customers through making simple changes in the setup according to customer demand for the day.

Section B differs from Section A in its setting with a fixed layout of tables. This section mainly serves 4-person parties with partitions separating each table among the others which aims at providing higher privacy and comfort to customers.

Section C differs from the open nature of the dining areas in Section A and B, which comprises 4 individual rooms for groups looking for high privacy and comfort. They are especially ideal for holding events, such as parties and business meetings

without being disturbed by other customers in the restaurant. Some restaurants would reserve their rooms for VIPs who generally spend more in their dining experiences. In some occasions, minimum charges for using the rooms are imposed and reservations in advance are always recommended.

b) Bar Area

Bar area is located at the central part of all dining sections. It is responsible for providing beverage items for all tables in the restaurant. At the same time, there are also some sittings provided in the bar area which are most suitable for 2-person parties and those who come alone, looking for more interactions with the bartenders. Store room



located at the back of the bar area is mainly for keeping beverages and table snacks which can be separated from the central store for easier accessibility by the bartenders.

c) Other Subsidiary Units and Facilities



Point-of-sale (POS) systems are available in all sections, for inputting food and beverage orders and are always put together with side stations as temporary storage of trash and both clean and used tableware. In reality, servers of some restaurants are required to perform simple cashiering functions, such as handling credit

card payments with the utility provided by the POSs. The role of cashier relieves the workloads of servers in handling all types of payments, including cash and credit cards. Posting the F&B expenses of hotel guests into their room accounts is an additional duty performed by cashiers of restaurants inside a hotel.

Receptionist at the front door takes an important role in controlling the customer flow and table turnover rate of the restaurant. By separating the dining area into different sections, it enables the receptionist to assign tables to customers evenly for each section and workload can be fairly shared by all servers.

Finally, it is appropriate to put the manager room right in the middle of the dining areas and the kitchen which gives managers conveniences in communicating with customers and staff working at front-of-the-house and back-of-the-house units.

2. Ambience of a Restaurant

Atmosphere refers to the overall feel within the restaurant, and it conveys an image as related to the customers, the menus, and the types of service. The special atmosphere or mood created by a particular restaurant environment is its **ambience**. An intimate ambience can be created by low-key lighting reflecting deep shadows, creating feelings of romance, or bright lighting which could convey a cheerful ambience of joyfulness and happiness. Besides, the colour of the lighting can also affect the atmosphere and customers' feelings, so as the music being played in the restaurant which can have an emotional effect on people; sad or joyful songs, loud or soft music can set a subdued, formal or informal scene and atmosphere in a restaurant. Scent is another way to set an appealing ambience of a restaurant; freshly brewed coffee or the aroma of freshly baked bread, cakes or chocolate are always alluring to customers and in some cases conjure up happy memories from childhood.

Other **factors** can also affect the ambience of a restaurant:

a) <u>Décor</u>

The décor of a hotel or restaurant is the style of interior furnishings. For a business in hospitality to survive it needs to measure up to every detail that ensures a comfortable and pleasurable stay for the customers as well as the food and service. Along with other factors, decoration is an integral part of the hotel and restaurant business. Interiors of many hotels are in line with the particular hotel design concept, and each hotel or restaurant can be decorated individually – conventional, classical or contemporary as the case may be.



Entrance to a Hong Kong restaurant



Lounge area in a Hong Kong restaurant

b) <u>Uniforms</u>

A uniform is a set of standard clothing worn by an employee of a hospitality organisation while participating in that organisation's activities.

The use of uniforms by hospitality businesses is often an effort in branding and developing a standard image. It also has important effects on the employees required to wear the uniform. To maintain the high standard and ambience of a business, uniforms need to reflect image and brand identity through their colour, freshness and cleanliness.

In some establishments a laundry department will launder the working uniforms or clothing for the employees. If this is not the case then laundering can be outsourced.

c) Senses

- <u>Sight</u>—the perception of visual space depends on a combination of lighting, decoration and colour. It should provide both psychological and physical sense of freedom.
- <u>Touch</u>—the perception of comfort while a customer is sitting in the restaurant including physical contact with table, tableware, seat and floor coverings.
- <u>Hearing</u>—the perception of overall noise levels including customers' conversation, in-house music, kitchen sounds, machinery and equipment (air conditioners, coffee makers, microwave ovens), servers' conversation and outside noises (cars, shoppers, improvement works).
- <u>Smell</u>—the perception of cooking aromas, effectiveness of ventilation and air pollution in the neighbourhood
- <u>Temperature</u>—the perception of air temperature in particular outdoor dining (poolside dining, alfresco dining), cooking heat and relative humidity.

ACTIVITY 3.37

- 1. Describe the differences between the ambience of a restaurant and the décor.
- 2. Does each have an impact on customer expectations of service and quality?

Examples of Restaurants Which Emphasize the Element of Ambience –

Theme Restaurants

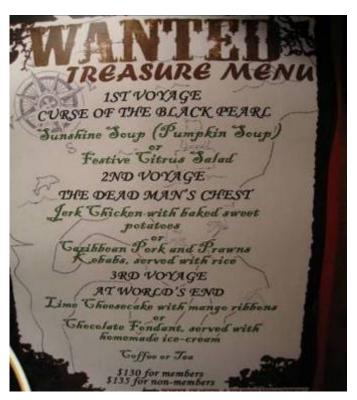
Theme restaurants are those in which the concept of the restaurant takes priority over everything else, influencing the architecture, food, music and overall 'feel' of the restaurant. It is usually emphasing fun and fantasy, glamorizing or romanticizing an activity such as sports, travel, an era in time or almost anything (Walker, 2005). The food usually takes a back seat to the presentation of the theme, and these restaurants attract customers solely on the basis of the theme itself. According to Martin Pegler (Pegler, 1997), theme restaurants are divided into six categories:

- 1. Hollywood and the movies;
- 2. Sports and sporting events;
- 3. Time the good old days;
- 4. Records, radio, and TV;
- 5. Travel trains, planes, and steamships; and
- 6. Ecology and the world around us.

Popular theme restaurants in Hong Kong (excluding ethnic cuisines) include:

- 1. Hard Rock Café Records:
- 2. Charlie Brown's –TV /The good old days;
- 3. TGI Friday's Theme of fun;
- 4. Jumbo and Tai Pak Floating Restaurants Travel; and
- 5. Modern Toilets Theme of fun;

Some restaurants and hotels theme their business for a particular event or occasion. Many hotels are decorated for special occasions such as festivals, Christmas, Lunar New Year or Mid-Autumn Festival, or for different promotions. Food and wine festivals organised by different F&B outlets and special events like book and product launches or corporate events and private functions are also reasons for hotels, or certain parts of it, to dress for the occasion.



Themed menu



Chinese New Year

How many different theme restaurants are there in Hong Kong? Type "Hong Kong Restaurants" into your search engine and locate restaurants that fall into this category.

ACTIVITY 3.39

Name **three factors** that will make a hospitality outlet into a good Theme Restaurant.

ACTIVITY 3.40—Layout of a Fast Food Restaurant

Work as a group of 4 and draw a layout of a fast food restaurant near your school. Try to observe if there are any differences in the design of the selected fast food restaurant with reference to the layout provided in Figure 3.7. Through your own observation and analysis, try to explain why there are such differences in the layout between Figure 3.7 and the one drafted by your group, if any.

Layout of the Selected Fast Food Restaurant		

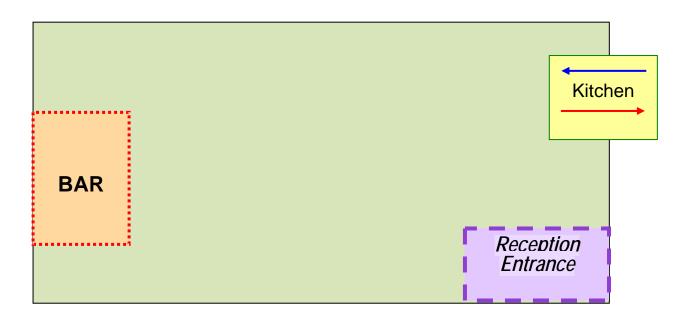
Reasons

You are employed as a *maitre d*' in a restaurant that can seat 56 customers. Your task is to draw a restaurant plan for the seating for the night. There are:

- 1. 4 tables for two customers
- 2. 3 tables for four customers
- 3. 3 round tables for six customers
- 4. 3 oblong tables for six customers

Divide the restaurant into three sections with a Station Supervisor for each.

- 1. 3 Station Waiters in each section
- 2. 2 Waiters/Waitresses in each section



3.2.4 Kitchen Layout for Different Food and Beverage Services

Before a kitchen is planned, the management must consider their goals and an objective in relation to the establishment's marketing strategies. The menu will determine the type of equipment required, number of staff employed, positioning of the business and the type of customer.

A well-planned design and layout of kitchen can make a major contribution to good food hygiene. Staff respond better under good working conditions by taking more pride in their work, themselves and their environment. Adequate working space must be provided for each process in the kitchen and the separation of raw and cooked, clean and dirty must be followed to reduce the risks of food contamination.

1. Features of a Well-planned Kitchen

- **Designed** so that it can be easily managed.
- **Management** must have easy access to the areas under their control and have good visibility in the areas which have to be supervised.
- **Products** raw materials to finished product must have an easy flow
- **Personnel** how people work and move in the kitchen must have a good work flow, therefore good time management.
- **Containers/Equipment/Utensils** equipment should, where possible, be separated into specific process areas to increase efficiency, hygiene and work flow.
- **Storage areas** should be kept clean and tidy, with temperatures monitored where necessary, and be close to the production areas for improved time management.





A well-planned kitchen contributes to a good working environment

2. Factors that Influence the Design and Layout of a Kitchen

Kitchens are designed for easier management. The market that the business is catering for and the style of food operation, which includes the menu structure, are all needed to be considered. Other important factors include:

- 1. Capability of the staff;
- 2. Working methods of staff employee;
- 3. Size of dining area if applicable;
- 4. Number of staff employed and their skill levels;
- 5. Type of operation, e.g. breakfast, luncheon and dinner;
- 6. Storage areas for chemicals and equipment, perishable and non-perishable foods.
- 7. Workers' safety—layout should safeguard the workers by eliminating hazards;
- 8. Movement—the layout should provide easy movement of materials and workers, and the cross traffic should be minimized;
- 9. Capacity of the operation

- Fast food;
- Fine dining for 150 customers;
- Banqueting for 500 customers;
- Family restaurant;
- 10. Equipment available and efficient use of equipment;
- 11. Extent and size of the menu; and
- 12. Methods of services serviced or self-serviced:

• Serviced facilities include:

- Table service;
- Counter service—Japanese sushi restaurants, salad specialty shops,
 ice-cream and pastry shops;
- Room service primarily in hotels;

• Self-serviced facilities include:

- Takeaway;
- Cafeteria (used primarily in universities and hospitals);
- Fast food; and
- Vending machines (snacks and soft drinks).



Kitchen design





Chinese kitchen

Western kitchen

There are many factors that can influence the design of a kitchen. Take your kitchen at home as an example. Can you think of some factors that have influenced its design? Look at its size and shape. How have these two things had an effect on your kitchen?

ACTIVITY 3.43

List four factors that you think could influence the design of a newly-built hotel's kitchen in Central, Hong Kong. The main kitchen will be located four floors above ground level. Think of the hotel's location and possible problems that they may have.

3. Sample of Kitchen Design and Layout

In mid-scaled or large-scaled restaurants, kitchens are normally divided into different sections which are always affected by various factors, including the types and varieties of food provided to customers, work flows of different positions, food hygiene and work safety, etc. An example of kitchen layout for a mid-scaled to large-scaled restaurant is illustrated in Figure 3.8 as below:

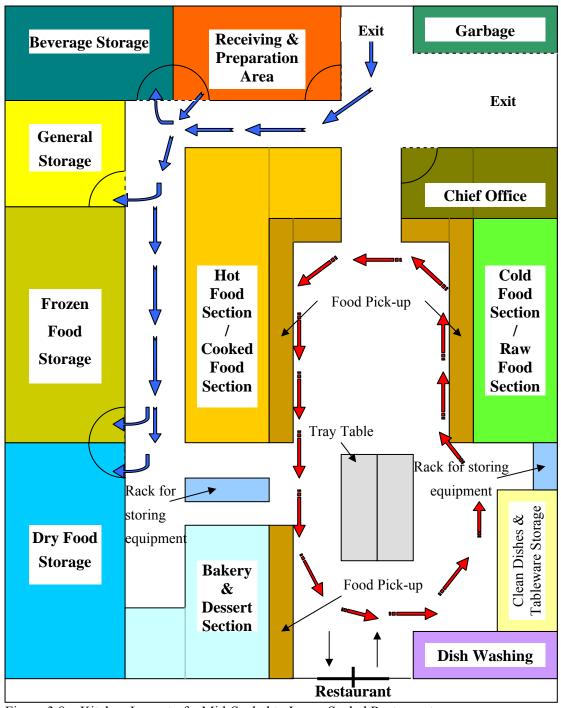


Figure 3.8 – Kitchen Layout of a Mid-Scaled to Large-Scaled Restaurant

Layouts of kitchen are not standardized and can vary according to many factors, such as spaces and cuisines to be provided, number of customers being served and restaurants' budget in kitchen investment. Besides, there are also some principles which are

being followed during the process of kitchen planning. Work safety is always at its' top priority and a kitchen setup which facilitates a smooth work flow from food processing to points of delivery and service is also considered as critical. An example of kitchen workflow is shown in Figure 3.8 and would be explained in the following paragraphs.



a) Food Production Area

In the illustration, food cooking or processing areas are laid out according to the menu and dining sequence, starting from the cold food section to the hot food section, and then the dessert section (shown by red arrows). Food items prepared by chefs are put on the food pick-up areas in each



section for servers' pick-up. Food items would be put on trays by servers at the tray table before being served to the customers. Cooking equipment can be easily refilled or replaced by chefs from the pot sink and rack areas near their work sections. Used dishes and tableware once collected would be delivered to the dish washing area for processing with cleaned ones being stored next to the washing area. Due to the huge volumes of dishes and tableware used in hotel operations, an additional unit, called "stewarding" is available under the F&B department to manage the related issues in some large scaled hotels.

b) Food Storage Area

By referring to Figure 3.8, the blue arrows also show the procedures of how ordered food materials are being processed once they are delivered from suppliers. Incoming



food materials will first go to the receiving and preparation area and some may need to go through certain processing before storage. Only large scaled restaurants would have separate rooms for storing different types of items as shown in Figure 3.8, which can be categorized into beverage storage, general

storage, dry food storage and frozen food storage. Chief office is only available in mid-scaled to large-scaled restaurants.

Some hotels have multi restaurants. The F&B departments in hotels would also provide banqueting services to customers which may involve the provision of food and beverage items. Therefore, it is necessary for some hotels to operate more than one kitchen for its different food and beverage facilities, including a production or a banqueting kitchen according to their facilities' needs.

Activity 3.44—Safety and Hygiene Measures in Kitchen Operations

Without referring to the section of food safety and personal hygiene, try to set up 10 work rules that should be generally followed in any kitchen operation (5 rules relating to food safety and 5 relating to personal hygiene). Work as a team with your classmates and sum up a list before presenting it to the class.

Food Safety Rules	Personal Hygiene Rules
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

4. Kitchen Equipment

Apart from the silverware, tableware and glassware mentioned earlier, restaurants also invest heavily on different kinds of kitchen equipment with some of the examples shown in Table 3.12 below:





Table 3.12 – Examples of Kitchen Equipment

ACTIVITY 3.45—Other Examples of Kitchen Equipment

Through surfing the Internet, try to find some other kinds of kitchen equipment/ utensils which are commonly used by kitchen staff in their daily works and for what purposes.

Kitchen Equipment / Utensils	Functions / Purposes
1.	
2.	
3.	
4.	

3.3. Food Safety and Personal Hygiene

3.3.1 Types of Food Contamination

1. What is Food Poisoning?

- Food poisoning is acute illness caused by the consumption of food or drinks contaminated with pathogens (including bacteria, viruses and parasites), bacterial or biochemical toxins or toxic chemicals.
- Incubation period: from a few hours to a few days.
- Symptoms: stomach pains, vomiting, diarrhoea etc, but most symptoms are mild. Some diseases may severely affect infants, pregnant women, elderly and the sick.
- It can be classified into bacterial and non-bacterial food poisoning.

2. Food Poisoning in Hong Kong

After a continuous decline since 2006, the number of cases in 2011 slightly increased as compared with that of 2010. (see Figure 3.9)

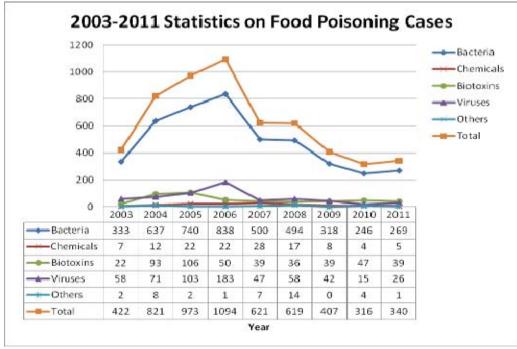


Figure 3.9 — Statistics on Food Poisoning Cases in Hong Kong (Year 2003-2011) Source — Department of Health, HKSAR

Notes — <u>Biological Contamination</u>: bacteria, chemicals and biotoxins;

<u>Chemical Contamination</u>: viruses;

<u>Physical Contamination</u>: others.

- In 2011, the total number of the food poisoning cases is 340, involving 1284 persons.
- Bacterial food poisoning cases account for about 80% of the total.

The actual figures should exceed what the statistics have shown as there are many unreported cases.

3. Food Contamination

- Food Poisoning refers to acute illness caused by the consumption of contaminated food.
- **Food Contamination**—refers to any harmful substances unintentionally added to food. These substances may come from natural sources or environmental pollution, or arise from food processing.

4. Types of Contamination

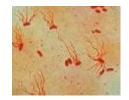
I. Biological Contamination (including bacteria, viruses and parasites)

• Sources:

Human beings, unprocessed food, pests, dust and soil



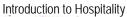
1. Bacteria



a) Examples of Bacterial Food Poisoning:

Bacteria	Source/Contaminated Food	Characteristics of Bacteria	
Salmonella	Raw meat and products, undercooked eggs and egg products	 Cannot form spores Dies at 70 °C 	
Staphylococcus aureus	Human skin, hair, nasal cavity, throat, wounds	Cannot form spores, but its toxins are heat resistible	
Vibrio parahaemolyticus	Seafood, shellfish	Dies after heating at a high temperature for 10 minutes	
Listeria	Soft cheese, vegetables, ready-to-eat meat and salads	Can grow at a temperature as low as 0°C, and dies at 70 °C	
Bacillus cereus	Leftover cooked rice, fried rice, meat products and vegetables		

Table 3.13 – Examples of bacterial food poisoning





Common Symptoms of Bacterial Food Poisoning: b)

Vibrio parahaemolyticus	Nausea, fever, abdominal pain, diarrhoea and vomiting
Salmonella	Fever, headache, abdominal pain, diarrhoea and vomiting
Staphylococcus aureus	Nausea, vomiting, diarrhoea and abdominal pain
Listeria	Meningoencephalitis, particularly in the newborn, elderly and immunocompromised people; infected pregnant women may have abortion or dead fetus
Clostridium botulinum	vomiting, constipation/diarrhoea, blurred vision, dysphasia, dry mouth, paralysis

Table 3.14—Common Symptoms of Bacterial Food Poisoning

Foodborne Illnesses: c)

Illnesses	Mode of Transmission
Hepatitis A	Consumption of food, beverage and shellfish contaminated by faeces or human-to-human transmission
Cholera	Consumption of contaminated water, raw or undercooked seafood
Bacillary dysentery	Transmitted directly by faecal material of a patient or carrier, or indirectly through contaminated food and water
Typhoid fever and	Consumption of food, beverage and shellfish (especially
paratyphoid fever	oysters) contaminated by faeces.

Table 3.15 – Foodborne Illnesses

d) Common Causes of Bacterial Food Poisoning and Foodborne Disease

(i) Food Preparation

- Use of unsafe food source;
- Inadequate cooking of food;
- Inadequate thawing of food before cooking;
- Preparation of food too early in advance; and
- Inadequate reheating of cooked food.

(ii) Food Storage

- Contamination of cooked food; and
- Improper storage prolonged storage at 4°C- 60°C.

(iii) Employees and Eating Habit

- Employees' lack of attention in personal hygiene or employees infected with intestinal diseases;
- Consumption of raw food; and
- Consumption of leftovers.

Note — High-risk Group: young children, elderly people, chronic patients, pregnant women

e) Preventions of Bacterial Food Poisoning and Foodborne Diseases:

- Protect food from contamination:
- Prevent bacteria from propagating; and
- Destroy bacteria in food.

2. Viruses

• Traits:

- Around 10 to 100 times smaller than bacteria;
- As virus can only replicate in a cell, they are not able to grow in food and water, nor to make food perish; and
- Viruses cannot replicate in contaminated food. The number of viruses in contaminated food will not increase and they cannot make food perish.
 The infective doses of most viruses are very low (10 to 100 pathogenic virus particles can cause diseases).

• Sources:

- Mainly shellfish and food items handled by infected food handlers.

• Prevention:

- Products brought from reputable and reliable suppliers;
- Thoroughly cook food at a high temperature; and
- Food handlers with symptoms like vomiting or diarrhoea should not handle or touch food until at least two days after recovery.

• Examples:

Norovirus

Norovirus is the most common virus agent found in the food poisoning cases in Hong Kong. It is the main pathogen of the outbreaks of non-bacterial gastroenteritis. Typically, it is transmitted by the consumption of contaminated food and water, person-to-person contact, contact with contaminated objects and by aerosolised vomitus. Locally, raw oyster was identified as the most commonly incriminated food for foodborne norovirus outbreaks. Its attack rates in outbreaks tend to be high and only about 10-100 particles are needed to cause disease. Its attack rates among at-risk groups may reach 90% in seafood-associated outbreaks.

Hepatitis A Virus

 Hepatitis A is usually transmitted by faecal-oral route either through contaminated drinks or food such as shellfish, or directly from person to person.

3. Parasites

Parasites are organisms that can live on or in a host as well as to derive benefit from or at the expense of its host. They can be found on various kinds of food, such as meats, seafood and fresh produce. Two main types of parasites found in food are protozoa and helminths (also known as worms).

(i) Protozoa

- Similar to bacteria, protozoa are single cell organisms;
- They are not able to multiply in food but in humans; and
- Infective dose is generally believed to be low.

• Examples:

- Toxoplasma gondii found in raw or undercooked meat; or
- Giardia lamblia found in contaminated water.

(ii) Helminths

- Helminths are multiple cell organisms; and
- Helminths cannot multiply in humans.

• Examples:

Flukes

- Clonorchis sinensis (Example: Raw sliced grass carp)

Fasciola hepatica (Example: Watercress)

Paragonimus westermani (Example: "Drunken" crab (crab marinated with wine))

Roundworms

Angiostrongylus cantonensis (Example: Golden apple snail)

- Trichinella spiralis (Example: Pork)

II Chemical Contamination

It includes food additives, pesticide residues, veterinary drugs, insecticides, chemical detergents, container materials and biochemical toxins.

Sources:

- Food additives intentionally added during food processing for certain technical purposes;
- Environmental pollutants that enter the food chain as contaminants;
- Chemicals generated during the processing or cooking of certain food;
 and
- Agricultural chemical residues of pesticides and veterinary drugs used in the production and storage of edible crops and animals.

1. Food Additives

• Examples of violation:

a) Sulphur Dioxide

Sulphur dioxide is a widely used food additive, including its use as a

preservative in a variety of food, e.g., preserved fruits, fruit juice and other food. It may induce allergic reactions such as shortness of breath. Some people may complaint of headache and nausea.

 It is commonly found in fresh and frozen meat to retain the colour of fresh meat. Consumers must not buy and consume meat in unusual bright red colour.

b) Artificial Colouring Matters (e.g. Red 2G and Sudan dyes)

- Red 2G is a widely used synthetic coloring matter with excellent stability. It can impact a range of red colours in food. It is genotoxic and commonly found in melon seeds and Chinese sausages.
- Sudan dyes are a group of industrial dyes. They are added to enhance and maintain the colour of the product, and may cause cancer in experimental animals. They are commonly found in spice mix and chilli products, eggs and egg products.

2. Pesticide and Veterinary Drug Residues

• Examples of violation:

a) Pesticide Residues

 The three types of pesticides include insecticides, fungicides and herbicides, e.g. Methamidophos and DDT. They have to be washed and soaked in water to be removed.

b) <u>Veterinary Drugs</u>

Antibiotics

- Malachite Green is an artificial dye originally, which has been used worldwide in aquaculture for a long period as an antifungal agent. It can persist in fish tissue for a long period of time and may cause cancer after ingestion. The chemical is commonly found in aquaculture products and freshwater fish.
- Nitrofurans is a family of antimicrobial agents which can be used as veterinary drugs. It has been found in canned pork products and

luncheon meat.

Artificial hormones

- Clenbuterol, also known as leanness-enhancing agent, can promote growth and muscle leanness in certain food animal species. The heat stable Clenbuterol may cause acute poisoning. It was commonly found in pork and pig offal, but has been rarely seen in recent years.
- A study has found that a higher level of estrogen is found in chicken than in other kinds of meat in Hong Kong. Moreover, the content of estrogen is five or six times higher in chicken skin than in chicken meat.

3. Chemical Detergents

Examples of violation:

Detergents and Disinfectants

There may be chemical residues due to the use of inappropriate concentration of detergents and disinfectants, or not yet properly cleaned utensils after washing and disinfecting. Apart from food poisoning, they may leave an unpleasant odour.

4. Container Materials

• Examples of violation:

a) Plastic Containers

 Plastic containers such as EPS and PP containers may release chemicals at high temperature or to acidic food, such as residual styrene monomers, heavy metals and other impurities, such as Bisphenol A.

b) <u>Disposable Tray Liner</u>

 Chemicals in printing ink may be released from the liners when in contact with food. It is advised that food should not be placed directly on these tray liners to minimize any health risks.

5. Biochemical Toxins

• Examples:

a) Phycotoxins

- Phycotoxins are produced by certain types of microalgae and accumulated in species such as some coral reef fish and shellfish along the food chain. They may cause gastrointestinal and neurological effects. At present, there are no antidotes against these phycotoxins. Phycotoxins are heat-stable, tasteless and odourless.
- **Ciguatoxin**—commonly found in groupers (e.g. leopard coral grouper, tiger grouper) and coral reef fish (e.g. humphead wrasse).
- Shellfish Toxins—commonly found in shellfish, e.g., oyster, scallop, cockle, mussel and clam.

• Prevention:

- Buy coral reef fish from reputable and licensed seafood shops and those caught from safe harvesting area;
- Avoid eating the roe, liver, guts, head and skin of coral reef fish; and
- Remove the viscera and gonads of shellfish before cooking, and avoid consuming the cooking liquid since some of the shellfish toxins are water soluble.

b) <u>Bacterial Toxins</u>

Histamine

Certain fish (tuna and scombroid) contains the amino acid histidine naturally. Amino acid Histidine present will be converted into histamine by certain bacteria when the fish is stored at an improper temperature after catch and before ingestion. Histamine is heat-stable and can cause scombroid fish poisoning with symptoms of flushing, palpitation, dizziness, vomiting and diarrhoea after ingestion.

• Prevention:

 Store fish at 4°C or below for chilled fish and -18°C or below for frozen fish to prevent spoilage.

6. Other Natural Toxins

a) Tetrodotoxin

 Tetrodotoxin is a potent and heat-stable marine neurotoxin. It is advised to avoid dressing and cooking puffer fish on your own.

b) Plant Toxins

The heat-stable glycoalkaloids in the sprouted potatoes and cyanide-generating compounds in bitter apricot seeds and bamboo shoots can be eliminated by soaking, cutting into small pieces and thorough cooking. Plant toxins can cause acute poisoning or chronic poisoning with symptoms from mild gastrointestinal symptoms to severe central nervous system symptoms.

• Prevention of Chemical Contamination:

- Purchase food from reliable suppliers. In case of doubt, should request reference to relevant shipping documents and health certificates accompanying the consignment;
- Check the colour and odour carefully; and
- Inquire about the uses and characteristics of containers from the supplier.

III Physical Contamination

Some non-chemical articles or objects are called physical contamination. Although some may not pose threat to customers' health, they may do harm to customers, such as sharp tools, bamboo sticks, glass fragment and dressing. They seriously affect the images of food and customers' impressions.

• Examples:

 Pest carcasses, packaging materials, accessories, fragments, hairs, and dressing for coving wounds.

• Sources:

 Contamination occurs in raw materials of food or during food production, storage, transportation and display.

• Prevention:

Examine raw materials of food, and clean and handle food carefully.
 Protect food in each step of production.

• Contamination routes:

- Direct Contamination: direct contact of food with contamination sources.
- Cross Contamination: contact of food with contamination sources through mobile or fixed media.
 - a.) Common mobile media include hands, equipment and clothing.
 - b.) Common fixed media include the surfaces touched by food and hands.

ACTIVITY 3.46—The Types of Food Contamination

1.	Which of the following is <u>no</u> ntamination?	<u>t</u> a main source for bacterial
A)	Pests	B) Human beings
C)	Cooked food	D) Dust and soil
2.	Which kind of bacteria may contam	inate seafood and shellfish?
A)	Salmonella	B) Vibrio parahaemolyticus
C)	Clostridium botulinum	D) Staphylococcus aureus
3.	Which of the following <u>are</u> contamin	nation?
A)	Micro-organisms	B) Chemicals
C)	Objects such as hair and staples	D) All of the above
4.	Which of the following <i>is not</i> a type	of biological contamination?
A)	Bacteria	B) Biotoxins
C)	Viruses	D) Parasites
5.	Which of the following can be	removed or eliminated by high
ter	nperatures?	
A)	Bacteria	B) Detergent
C)	Ciguatoxin	D) Shellfish toxins

6.	Which of the following bacteria <u>can</u> grow at temperature near 0 °C?					
A)	Listeria	B)	Staphylococcus aureus			
C)	Bacillus cereus	D)	Vibrio parahaemolyticus			
7. ur	Which of the following is a common usually bright red?	n co	ntaminant of meat which appears			
A)	Malachite green	B)	Salmonella			
C)	Sudan dyes	D)	Sulfur dioxide			
8.	Which of the following <u>is not</u> a type	of p	hysical contamination?			
A)	Paint scraps	B)	Hair			
C)	Detergent	D)	Staples			
9.	Which colour of dressing should be	cho	osen for covering wounds?			
A)	White.	B)	Transparent.			
C)	Blue.	D)	Flesh colour.			

3.3.2 Food Safety

- Food Safety—means the content of food presents no health hazards for humans
- Food Hygiene—means to keep equipment and facilities, and food premises clean, and food handlers maintain good personal hygiene, so as to meet the standard of hygiene. It also means to comply with the operation principles of keeping food from being contaminated, reducing the chance for bacteria to reproduce and thoroughly eliminating the bacteria in food, during food processing.

1. Introduction to the Food Industry in Hong Kong

Transformation of the Local Catering Industry and the Importance of Hygiene:

- As the society moves forward, the quality of people's lives keeps improving, and their requirements on food safety and hygiene are also increasing;
- In respect of diet, there is higher chance for people to dine out at restaurants or buy processed food. Problems may occur during the production process at restaurants or food factories, and if the problems are not detected and reach the consumers, they will pose a threat to consumers' health:
- Food safety and hygiene have become a topic of public concern and discussion, which the media are scrambling to report and make it become the focus of public concern. In face of the appeals from consumers and the society, the catering industry has to strengthen regulations over food quality and safety; and
- The observance of good hygiene codes and habits by the leading group in the industry can ensure the food is produced in accordance with hygiene and safety requirements, increase consumers' confidence, and largely enhance the professional image of the catering industry of Hong Kong, making Hong Kong a more attractive place which has always been hailed as food paradise.

2. Advantages of Better Food Hygiene and Cost of Poor Food Hygiene

	Advantages of Better Food Hygiene	Cost of Poor Food Hygiene		
Regulations	 Comply with statutory requirements Comply with licensing requirements and conditions Reduce the chance of food poisoning incidents 	 Breach the law and be prosecuted Bbe fined or pay lawsuit fees Victims may bring civil actions 		
Business	 Earn reputation and boost business Improve productivity 	Lose goodwillReduce productivityMay cause closure of business		
Employees	 Elevate morale Reduce staff turnover Good working environment 	 Lose work days Increase staff turnover Unemployment(closure of business) 		
Food	Extend shelf life of foodEnsure the quality of food	Food wastage		

Table 3.16 – Advantages of Better Food Hygiene and Cost of Poor Food Hygiene

In catering industry, it is critically important to keep the food sold hygienic and safe. In addition to improving food quality, emphasis should also be put on healthy diet of customers and the public. Any problem in food that leads to food poisoning will harm people's health and people will lose their confidence in the industry. The quality of food and the hygiene of food premises are of equal importance in boosting business and building up good reputation.

3.3.3. Safeness in Food Handling Process

The control of food supply sources and temperature control of food receiving and processing involves steps of transport, preparation and cooking, etc.

1. Conditions for the Growth of Bacteria

a) Food

Bacteria have to grow in food. Food rich in moisture and protein such as milk and meat are very suitable for the growth of bacteria. Such food include poultry, meat, shellfish, seafood and dairy products. They are also called "high risk food".

b) Moisture

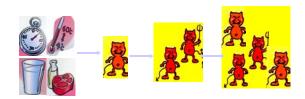
Bacteria are dormant in dry food, which is not favorable for their growth. However it takes only a little moisture for bacteria to become active again.

c) <u>Temperature</u>

Bacteria quickly grow and multiply under proper temperature (temperature danger zone: 4 °C to 60 °C).

d) <u>Time</u>

In general, bacteria double every 10 to 20 minutes. For example, if food contains 1,000 bacteria in the beginning, their number can reach 1,000,000 within 1 hour and 40 minutes. Such amount of bacteria per gram of food can cause illness.



Around 70% to 80% of the food poisoning cases in Hong Kong are bacterial food poisoning. Improper temperature control in food handling is the common reason for bacterial food poisoning.

2. Temperature Control

Food Hygiene



High temperature (not suitable for Food poisoning bacteria to survive)

Temperature

Danger Zone (Food poisoning bacteria grow rapidly)

Low Temperature (Food poisoning bacteria grow slowly)

Food should be stored at 4°C or below or at 63°C or above to retard the growth of food poisoning bacteria.

Most suitable temperature for bacteria growth

- It is called optimum temperature: between 20 °C to 45°C
- Optimum temperature for Staphylococcus aureus, Vibrio parahaemolyticus, and Listeria, etc. is 37°C, the human body temperature

• Temperature danger zone

- 4 °C to 60 °C
- Food should not be placed at temperature danger zone for over 2 hours
- Listeria can grow and multiply at temperature close to freezing point (0 °C)

• Influence of high temperature on bacteria

- Above 60°C: most of the bacteria would stop growing
- Over 60 °C : bacteria start to die off, and the higher the temperature, the less time it takes to kill bacteria
- Bacteria can produce spores, which can survive at high temperature
- Cook food thoroughly by maintaining the core temperature at 75 °C for at least 15 seconds

a) Chilling

- Cannot kill the bacteria in food but can slow down its multiplication;
- **4** °C or below—Only suitable for short-time storage(such as chilling) of cook-chilled or cold dishes;
- **Below -2** °C Frozen confections (excluding soft ice cream);
- **Below 10**°-Milk or milk beverage.

b) Freezing

- -20 °C or below—Bacteria cannot be killed but will stop multiplying;
- -18 °C or below—Only suitable for long-term storage (such as freezing), frozen food (excluding ice cream);
- -23 °C Ice cream.

c) Food Temperature Checking

• Temperature checking ensures the safety and quality of many food products especially potentially hazardous food.

- Common Types of Food Thermometers

- (i) Bi-metallic Stemmed Thermometer
 - Suitable for measuring the core temperature of thick food (any food more than 76 mm thick), because the entire sensing area of the thermometer must be



inside the food. Depending on the types, these thermometers give readings within 20 seconds to 2 minutes.

(ii) Thermocouple Thermometers and Thermistor Thermometers

- With a sensor in the tip, this type of thermometer can measure temperatures in thin and thick food conveniently. They give readings quickly (within 10 seconds). These thermometers may also be called "digital food thermometers" because measured temperatures are normally indicated on a digital display.



(iii) Infrared Thermometer

- Useful for checking the storage temperature in freezers and refrigerators, temperature of food held in hot holding equipment and temperature of incoming food products.



- Hand-held, portable infrared thermometers measure the surface temperature, in less than 1 second, of food and packages of food without contact by measuring the amount of radiant energy emitted from the surface.
- Unsuitable for measuring the centre temperatures of food during cooking or cooling as only the surface temperature can be measured.
- Cannot accurately measure the temperature of metal surfaces and reflective foils.

Note — Glass thermometers are filled with mercury or spirits. They are not recommended to be used for measuring the temperature of food.

- Checking Thermometer Accuracy

- Manufacturer or distributor should be asked to calibrate the food thermometers at least once every year; and
- Self-checking on the accuracy of food thermometers should be done at least quarterly.



(i) Ice Point Method

- Mix finely crushed ice with clean tap water in a container and stir well;
- After 5 minutes, immerse the tip (a minimum of 50mm) of the food thermometer into the ice water without touching the sides or the bottom of the container;
- Wait for approximately 2 minutes and record the temperature; and
- The temperature should read 0 °C. If it reads more than ± 1 °C, it should be adjusted.

(ii) Boiling Point Method

- Boil clean tap water and immerse the tip (a minimum of 50 mm) of the food thermometer into the boiling water;
- Wait for a few minutes to allow the temperature to stabilize;
- Write down the temperature of the food thermometer; and
- The temperature should read 100°C at sea level (if your premises locate at a higher attitude, adjust the boiling point accordingly). If the food thermometer differs more than ±1°C, it should be adjusted, repaired, or replaced, if necessary.

d) Measuring and Recording Temperature

- Store the food thermometer in a clean and hygienic manner;
- Check that the battery low sign, if any, is not showing. Replace with a new battery if required
- Before using a food thermometer, read the manufacturer's instructions first. The instructions should tell how far the food thermometer must be inserted into the food to give an accurate reading;
- Wash with warm water and detergent, sanitize and air dry the food thermometer before use;
- Sanitize the food thermometer by putting the probe in hot water (at least 77°C or above) for 6 seconds, using alcohol swabs or other appropriate

sanitizers as recommended by the manufacturer;

- For soups and sauces, stir prior to checking their temperature;
- Take core temperature of food by inserting the probe into the centre (or thickest part) of the food;
- Do not let the tip of the thermometer touch the bottom or sides of food containers;
- Wait for 10 seconds (or the time recommended by the manufacturer) before taking the reading and recording it;
- If the food thermometer is used to measure hot and cold food, wait for the reading to return to room temperature between measurements; and
- In taking the surface temperature measurement of packed or frozen food, place the food thermometer probe between two packages of packed/frozen food items and avoid damaging the packaging of packed food.

Sources:

How to Select and Use a Food Thermometer. Retrieved from

http://www.fehd.gov.hk/tc chi/publications/code/allc ap2.htm

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http://www.fehd.gov.hk/english/publications/code/code all.pdf

3. What are the 5 Keys to Food Safety?

The World Health Prganization has advocated five simple and affective keys for people to follow to prevent foodborne diseases. They are:

- 1. Choose (Choose safe raw materials)
- 2. Clean (Keep hands and untensils clean)
- 3. Separate (Separate raw and cooked food)
- 4. Cook (Cook thoroughly)
- 5. Safe Temperature (*Keep food at or below 4°C or above 60°C*)

4. Flow Diagram for Food Handling Processes

"Flow Diagram for Food Handling Processes" prepared by the Centre for Food Safety enables industry practitioners to apply the "5 Keys to Food Safety" in each stages of their food handling procedures. It can prevent food safety problems efficiently and ensure food safety.

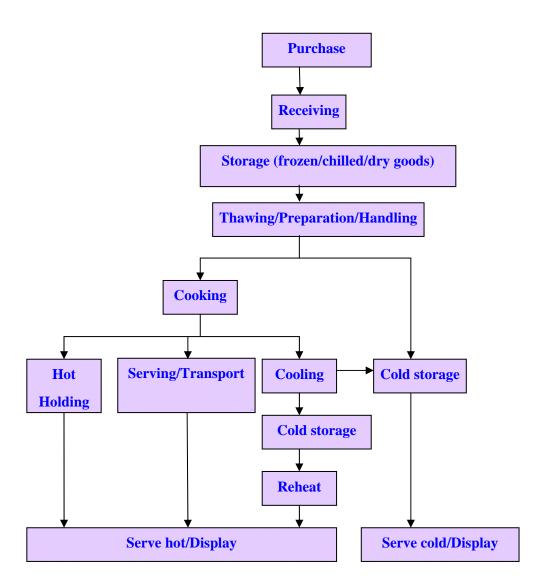


Figure 310—Flow Diagram for Food Handling Processes

5. How to Apply "5 Keys to Food Safety" into the "Flow Diagram for Food Handling Processes"

According to the "5 Keys to Food Safety", Centre for Food Safety have developed the "Flow Diagram for Food Handling Processes". It helps the manufacturer or distributor to apply the concept of "5 Keys to Food Safety" in daily operation through "Flow Diagram for Food Handling Processes". In this case, the food safety can be ensured.

	Choose Choose safe raw materials	Clean Keep hands and untensils clean	Separate Separate raw and cooked food	Cook Cook thoroughly	Safe Temperature Keep food at or below 4°C or above 60°C
Purchase	√				
Receiving	√	✓			
Storage (forzen/chilled /dry goods)		√	√		✓
Thawing/ Preparation/ Handling		√	√		√
Cooking				✓	√
Hot storage		√			√
Cooling		✓	✓	√	√
Cold storage		✓	✓		√

Cold storage after cooking	√	✓	√	✓
Reheat	>		✓	✓
Serving/ Transport	\	\		✓
Display (Serve hot / serve cold)	~	√		√

Table 3.17—Application of the "5 Keys to Food Safety" in "Flow Diagram for Food Handling Processes"

6. Conduct for Safe Food Handling

a) Purchase

- Obtain food and food ingredients from approved and reliable sources, for example:
 - Local foods manufactured by licensed food premises; or
 - Imported foods sold in Hong Kong market.
- Confirm that the suppliers have obtained relevant and valid licenses from the Food and Environmental Hygiene Department (FEHD); and
- Order proper amount of raw materials to reduce the problems emerged from large storage.
- The following **Prohibited Foods** should not be sold or used in the preparation of food in food premises, therefore, those are not purchased:
 - Chinese dishes Yu Sang;
 - Fresh or frozen meat of animals which have not been slaughtered ina Government slaughterhouse or in a slaughterhouse approved bythe Food and Environmental Hygiene Department, except where\such meat was lawfully imported into Hong Kong; and
 - Shellfish collected in the harbour or the harbour in Aberdeen.
- Meat should be purchased from reputable suppliers, importers, licensed fresh provision shops and booths in wet markets. Suppliers or importers may be asked to show receipts or valid hygiene certificates.
- When buying live fish and shellfish, check if the containers and water used to keep the seafood are clean. Buy seafood that is fresh and free from abnormal odour only.

b) Receiving

(i) Inspection

• Check the quality and safety of incoming food and supplies, including the expiry date, condition of the packaging and the food, temperature of frozen products, etc. Following are some examples:

- **Expiry date:** "use by", "best before"
- Packaging: intact and has no damage. No dents, bulges or rust on canned food.
- Condition of food: no foreign objects or sign of spoilage (such as colour and odour).
- **Temperature of frozen products:** for potentially hazardous food, they should be kept at a temperature of 4 °C or below or 60 °C or above; for potentially hazardous food intended to be received frozen, they should be in frozen state when they are accepted.

Note -Never use expired raw materials in food preparation.

- Unqualified food received should be separated from other food to prevent cross-contamination;
- Unwrap the package carefully, and prevent
 metal nails, paper, rubber bands and other materials used in the packaging
 from falling into the food accidentally or remaining in the food as they
 have not been removed; and
- After checking, store the food in an appropriate environment with proper temperature as soon as possible.

(ii) Product Identification

- A food business should ensure that all food on the food premises are clearly and properly identified and, upon request by an inspecting officer, can provide information relating to the names and business addresses of the vendors, suppliers, manufacturers, packers, or importers.
- Records showing the dates, descriptions, quantities and sources/destination of supply should be kept for specific foods for at least 60 days and be readily available for inspection on demand. Such

foods include siu mei and lo mei, live /dressed/chilled poultry, live water birds, fresh or frozen meat, processed meat and meat products (e.g. meat balls, hams and sausages, etc.), and pre-prepared mixtures for making frozen confections in dispensing machines for retail sale (**for at least 90 days**).

c) Storage

- All food should be stored in a clean, covered, or protected environment with proper temperature and humidity;
 - g to the sequence of g food for too long;
- Food should be used according to the sequence of storage, in order to avoid storing food for too long;
- Food should be placed on food shelves 300mm or more above the ground and never on the ground;
- Never use newspaper, dirty papers or coloured plastic bags to wrap food;
- Don't put raw and cooked food together;
- Never stock up excessive food;
- Cooked food not to serve immediately should be stored at 4°C or below, or 60°C or above;
- Frozen if they are intended to be stored frozen (preferably stored at -18oC or below); and
- Freezers for storing sashimi should not be used to store other food.

Inventory Rotation

- To avoid spoilage, stick to the first-in-first-out principle for food storage;
- Check the expiry date on the package;
- Check the food with shorter durability in the refrigerators every day;



- Properly label various food, e.g. marking the receiving date and expiry date;
 and
- Use movable storage racks for moving in and out more easily.

- Use By

Perishable food, e.g. bread and milk

Best Before

Long-preserved food, e.g. canned food



d) Thawing

Proper ways of thawing:

- Frozen potentially hazardous food should be thawed at a temperature that will prevent the rapid growth of bacteria, e.g. food borne diseases and food spoilage, and for a minimum time before these bacteria multiply to a dangerous level.
- Put the food in a refrigerator or thawing cabinet maintained at 8°C or below;
- Put the food in cold running potable water;
- Use a microwave oven , but should be cooked immediately after the food thawed;
- Sashimi should be thawed in a freezer of 4 °C or below;
- Never thaw food at room temperature;
- During thawing, drips from thawing food should be prevented from contaminating other food; and
- Unless thawed food is processed immediately, it should be held at 8 °C or below (preferably at 4 °C or below) until being used.

Note —Never repeat the thawing and freezing procedures

e) Preparation (e.g. washing, chopping and marinating)

(i) Hands:

- Access to food preparation areas should be restricted, as much as practically
 possible, to food handlers. For visitors including management and
 maintenance staff, all practicable measures should be taken to ensure that
 they will not contaminate food when visiting food preparation areas;
- Always keep your hands clean;
- Avoid contacting the exposed areas of ready-to-eat food with their bare hands; and use, as much as practicably possible, clean and sanitized utensils such as tongs, spatulas or other food dispensing apparatus in handling such food;
- Wear disposable gloves when handling ready-to-eat food; and
- Cover sore or cut on hands by waterproof bandages or gloves.

(ii) Equipment and Utensils:

- Use a colour-code system to distinguish the equipment and utensils (such as containers, chopping boards and knives) used for handling cooked food and raw food;
- Use cleaned and disinfected equipment and utensils;
- Cleaned and sanitized utensils should be used if organoleptic test is necessary. They should be immediately cleaned and sanitized after tasting or before tasting another food or the same food again; and
- Label the use of utensils as appropriate.

f) Handling

- Remove the viscera of shellfish. Soak and wash vegetables and fruits thoroughly;
- Raw fruits and vegetables should be thoroughly washed in potable water to remove soil and other contaminants before being cut, mixed with other ingredients, cooked and served, or offered for human consumption in ready-to-eat form.

- Designate a separate area for handling siu mei and lo mei and locate the area away from fish tank and fish or poultry preparation area;
- Prepare sashimi only at specified area in food preparation room;
- Prepare raw food at specified area in food preparation room with specific chop board and knife;
- Avoid handling food too early in advance;
- When preparing cold mixed food, e.g. salad or cold dishes, always cool the cooked component before adding other ingredients; and
- Chemicals should be kept separate from food processing areas.

g) Cooking

- Food must be fully cooked, especially meat and seafood
- Cook long enough for food to reach a temperature sufficient to kill bacteria, and to ensure the food is thoroughly cooked.
- When cooking raw animal food (e.g. poultry, pork, minced meat), the centre of the food should reach a temperature of **at least 75oC for 15 seconds**, or an effective time/temperature combination (e.g. 65oC for 10 minutes, 70oC for 2 minutes).

- Microwave Cooking

- Rotate or stir food throughout or midway during cooking for uneven distribution of heat;
- Food should be heated to a temperature 75°C for 15 seconds in all parts; and
- Allow food to stand covered for a minimum of 2 minutes after cooking to obtain temperature equilibrium.

h) Hot Holding

• Potentially hazardous food that has been prepared, cooked, and is to be served hot, should be held at a temperature of at least 60°C.

i) Cooling After Cooking

- Food that has been cooked, and is intended to be kept under refrigerated storage before serving, should be cooled:
 - Firstly from 60°C to 20°C within 2 hours or less;
 - Then from 20°C to 4°C within 4 hours or less.

Ways that can help to cool food rapidly:

- Reduce the volume of the food by dividing it into smaller portions;
- Place food in shallow containers with higher heat conductivity;
- Cut large joints of meat and poultry into smaller chunks;
- Ensure there is space around food containers so that the cold air in the refrigerator or cool room can circulate freely; and
- Place food in a container with cold water or ice.

j) Cold Storage

- Store the food eaten raw in designated refrigerators or separate compartments of the refrigerator to avoid cross-contamination. Keep chilled food at a temperature at 4°C or below and frozen food at -18°C or below.
- Never store food for too long in order to keep their freshness. On the other hand, food eaten raw and its raw materials should be processed immediately after defrosting so as to reduce the risk of contamination.
- Keep separate stock record for the food eaten raw and its raw materials to monitor their freshness and rotation.

k) Reheating

- Food that has been cooked and cooled, when reheated, should be reheated to 75°C or above as quickly as possible. Normally, the reheating time should not exceed 2 hours; and
- Food that has been reheated should not be cooled and reheated for a second time.

l) Serving

Food handlers serving food to consumers should observe the following hygiene practices:



- Wash hands properly and frequently;
- Keep hot food at 60 °C or above and cold food at 4
 °C or below;
- Minimize bare-hand contact with ready-to-eat food;
- If gloves are used to handle ready-to-eat food, they should be of single-use;
- Ice to be used in food and drink should not be handled with bare hands or used for any other purpose. But they should be dispensed only by clean utensils such as scoops, tongs, or other ice dispensing utensils;
- Ice dispensing utensils should be stored on a clean surface or in the ice with dispensing utensil's handle extended out of the ice;
- Keep fingers away from rims of cups, glasses, plates and dishes, etc. Make wider use of trays for conveying food;
- Hold cutlery (i.e. knives, forks and spoons) by the handles;
- Avoid stacking glasses, cups or dishes on one another when serving food as far as possible;
- Do not blow plates or utensils to remove dust or crumbs;
- Re-wash and sanitize cups, glasses or other utensils that show signs of soiling (e.g. lipstick marks) or other possible contamination (e.g. having dropped on the floor);

- Discard cracked or chipped dishes, utensils, glasses, etc.;
- Do not wipe utensils with aprons, soiled cloths, unclean towels, or hands;
- If possible, a staff should be deployed to supervise self-service food display to discourage customers from mishandling or tampering with exposed food, and to remove contaminated food promptly from the service area.
- Never re-use single-use items, such as straws, paper towels, disposable cups and plates; and
- Once served to a consumer, portions of leftover food should not be served again.

m) Display

- Securely wrap packaged food;
- Cover unpackaged ready-to-eat food with lids or protect it with food guards;
- Display the food at 4°C or below, or at 60°C or above;



- Ensure the food intended to be displayed **frozen** remains frozen (**preferably at -18**°C or below);
- Siu mei and lo mei for sale must be displayed in their specific showcases;
- Do not display cooked food and ready-to-eat food to be served in raw state together;
- Food display should be short unless **chilling** (4 °C or below) or **thermal** (60 °C or above) storing facilities are available;
- Displayed sashimi should be properly packaged to avoid contamination;
- Sashimi presented on conveyor belts should be properly covered and should never stay on the conveyor belts for too long; and
- All food should be kept fresh or should be disposed if deterioration is found.

- Buffet

- Chilled food should be kept in refrigerators or on the ice (at 4 °C or below);
- Hot food should be kept at 60 °C or above;
- Ensure the display of the food is effectively monitored by employees trained in safe operation procedures;
- Keep raw food and cooked food separately provide separate and suitable utensils (e.g. tongs and scoops), or other effective means of dispensing, for each type of food;
- Utensils should be regularly replaced by new ones and kept clean;
- Provide display cases, food guards (e.g. salad bar sneeze guards) to prevent food contamination. Display food in small portions. Refresh food displays with completely fresh batches of food. Avoid mixing old food with fresh batches as far as possible; and
- Ensure the ice used to cool food in buffet displays is made from potable water.

n) Transport

- Food transportation units (including vehicles, trolleys, boxes, trays, crates, etc.) should be designed, constructed, maintained and used in a manner that protects the food from contamination
- Food transportation equipment should be constructed with non-toxic materials, which should also be easy to clean and maintain, such as stainless steel and food-grade plastic containers;
- During transportation, food should be carried in enclosed vehicles, packed in covered containers or completely wrapped or packaged, to protect it against contamination by dust, dirt or fumes from vehicles or traffic;
- Food and non-food products transported at the same time in the same vehicle should be adequately separated (e.g. wrapped or packed) to ensure that there is no risk of spillage or contact that may contaminate the food; and
- If different types of food are transported within a vehicle, precaution should be taken to avoid cross-contamination. For example, if both raw meat and ready-to-eat food are transported at the same time, they should

be wrapped or kept in separate covered containers and places so that no cross-contamination can occur.

- Keep the food at or below 4°C, or at or above 60°C;
- Ensure that the food which is intended to be transported frozen remain frozen during transportation; and
- Preferably, potentially hazardous food should be transported in vehicles fitted with refrigeration equipment.

o) <u>Disposal</u>

 Food that has been found or suspected to be unsafe or unsuitable for consumption should be rejected or identified (e.g. marked, labelled, kept in a separated container or isolated area), kept separately and disposed of as quickly as possible. It should never be available for human consumption.

ACTIVITY 3.47 — Food Safety							
1.	Which of the following items is <u>necessary</u> for bacteria to survive?						
A)	Oxygen.	B)	Water.				
C)	Toxins.	D)	Sunlight.				
2. Which kind of thermometer is <u>not suitable</u> for measuring temperature of food?							
A)	Glass thermometer.	B)	Infrared thermometer.				
C)	Digital food thermometer.	D)	Bi-metallic stemmed thermometer.				
3.	3. To cook food thoroughly, the core temperature of food should reach:						
A)	60 °C for at least 10 seconds.	B)	75 °C for at least 10 seconds.				
C)	60 °C for at least 15 seconds.	D)	75 °C for at least 15 seconds.				
4.	4. The temperature danger zone is from:						
A)	0 °C to 60 °C.	B)	0 °C to 75 °C.				
C)	4 °C to 60 °C.	D)	4 °C to 75 °C.				
5.	5. Food <u>should not</u> be placed at temperature danger zone for over:						
A)	30 minutes.	B)	1 hour.				
C)	90 minutes.	D)	2 hours.				

6.	Which of the following is an <u>appropriate</u> thawing method?					
A)	Thawing in a refrigerator of 10 °C.	B)	Microwave oven thawing.			
C)	Thawing in a bucket of still water.	D)	Thawing at room temperature.			
7.	Which kind of food is usually labeled with "best before" date?					
A)	Fresh orange juice.	B)	Bread.			
C)	Canned soft drinks.	D)	Cake.			
8.	Which of the following is a <u>correct</u> practice of food handling?					
A)	Use different colour codes to distinguish utensils for handling raw or cooked food.	B)	Put hot holding food directly into refrigerator.			
C)	Repeat thawing and freezing procedures for food.	D)	Handle siu mei and wash fish in the same place.			
9.	. In which situation that cross-contamination may occur?					
A)	Handle raw food and cooked food with different chopping boards.	B)	Store raw meat under cooked meat.			
C)	Food handlers do not follow the proper hand washing procedures.	D)	Put cooked food into clean and disinfected containers.			

3.3.4. Personal Hygiene of Catering Practitioners

Human body is the source of many types of contamination and also a common medium of cross contamination. Personal Hygiene affects food safety, as well as customers' impressions of food premises.

1. Appearance

- Hair should be kept short;
- Nails should be kept short and unpolished;
- No jewellery should be worn to avoid them from falling on the food and cause contamination; and
- Heavy makeup and strong perfume or aftershave should be avoided.

2. Personal Habits

In food preparation areas, one should **avoid** the following behaviours which may result in contamination of food:

- Storing personal belongings, such as handbags, shoes and socks, umbrellas and dirty clothing, in any food preparation area;
- Smoking cigarettes or tobacco;
- Spitting;
- Chewing, eating, sneezing or coughing over unprotected food or food contact surfaces;
- Sitting, lying or standing on any surfaces of equipment touched by food;
- Touching ready-to-eat food with bare hands or tasting food with fingers; and
- Combing or touching hair or other parts of the body such as nose, eyes or ears.

Notes — Staff engaged in food handling should not be assigned to

handle cash simultaneously.

When sneezing or coughing inside food preparation area is unavoidable, food handlers should turn away from food and cover their noses and mouths with tissue paper or handkerchieves. Hands should then be thoroughly cleaned at once.

3. Health Conditions

a) Personal Health

- One with symptoms of acute intestinal infectious diseases like diarrhoea and vomiting or of sore throat should not handle food;
- Report the illness or symptoms of the illness to the employer or supervisor, and seek medical treatment;
- Should immediately be suspended from engaging in any work which may involve direct or indirect contact with food, including the contact with food utensils or equipment; and
- Staff ordered by health officers to cease working or taking part in food business should have written clearance from health officers before returning to handle food.

b) Injuries

- Open cuts or wounds on the exposed parts of the body should be completely
 protected by impermeable or waterproof gloves or adhesive plasters;
- Bandages or plasters should preferably not be in flesh-colour, so that they
 can be easily detected on falling off.;
- Bandages or plasters should be changed regularly;
- In case of peeling, bleeding or purulent sores on exposed body parts which cannot be properly covered, one should be suspended from working until the wounds are healed; and
- In case of bleeding or purulent sores in eyes, ears, mouth and gums, one should stop working.

4. Health Management

Health management should include the health checks for new recruits and health record for serving staff.

a) Health Checks for New Recruits

Supervisor should review the applicants' past health records, such as whether they have ever been patients of foodborne infectious diseases or are carriers of certain diseases and consider whether the applicants are suitable for handling food, in order to prevent transmission of harmful bacteria to food in the daily work.

Employers should require job applicants to fill out health questionnaires and health declaration forms. If necessary, blood and stool samples for further test may be required upon applicants' consent.

b) Health Surveillance for Serving Staff

Serving practitioners who are suffering from diseases (including any of the following), especially those which are highly contagious and food poisoning related, should report their health conditions to their supervisors and stop handling food.

- Infectious hepatitis
- Diarrhoea
- Vomiting or Stomach upset
- Fever or Flu
- Throat inflammation
- Skin rash or other skin injuries, such as boils or wounds
- Ear, Eye and Nasal discharge

Supervisors should also prohibit staff who is suffering from intestinal infectious diseases from handling food until the staff is certified by doctors that he/she has fully recovered or the symptoms have stopped for 48 hours. In addition, staff's medical records should be kept properly for future reference when needed.

Basically, if health checks for new recruits have been arranged and staff's medical records are kept, regular health checks may be arranged for the staff only when they are appropriate or when there are special needs.

5. Hand Hygiene

To prevent bacteria from contaminating the food after the food handlers have touched the surrounding objects during their work, food handlers should wash hands in the following situations:

- Before commencing work
- Before handling food
- After using the toilet
- After handling raw food
- After handling soiled equipment or utensils
- After coughing, sneezing, smoking, eating or blowing nose
- After handling animals or waste
- After touching ears, noses, hair, mouths or other parts of bodies
- After engaging in any activities that may contaminate hand (e.g. handling money and carrying out cleaning duties.)

a) Hand Washing Procedures

Hand washing should be frequent, thorough and performed in hand washing basins. The following procedures should be adopted when washing hands:

- 1. Wet the hands with running water, preferably warm water
- 2. Apply liquid soap
- 3. Rub hands for 20 seconds wash all surfaces thoroughly, including forearms, wrists, palms, back of hands, fingers and under fingernails. *If* necessary, use a clean and sanitary nail brush to clean under the nails
- 4. Rinse hands thoroughly
- 5. Dry hands with a clean paper towel, continuous cloth towel in dispenser or air dryer
- 6. Turn off the tap with a paper towel



b) How to Ensure the Staff Have Washed Their Hands?

- Check the hygiene of their hands regularly or perform random check from time to time;
- Install hand-washing facilities on the way to workplace to facilitate hand washing before entering and after leaving the workplace; and
- Wash basins shall be kept clean, ensured of adequate water supply, preferably with hot water, and equipped with liquid soap and suitable hand drying facilities.

6. Protective Overalls

- Light-coloured, clean and appropriate;
- Buttons should preferably be avoided on the clothing as they may come off and fall on the food;
- Hair should be covered with a clean hat or hair net. Long hair should be tied back as well;
- Should wear disposable gloves when handling ready-to-eat food. They should be discarded if damaged, soiled, or when interruptions occur in the operation.



- Wear mouth mask when handling food as far as possible. They should be discarded when damaged, soiled, or after prolonged use; and
- Wear closed-cap toes shoes.

Key Points: Personal Hygiene and Personal Health with Catering Practitioners

Personal Hygiene

- Pathogens are commonly found on the skin and in the noses of healthy people.
 Scratching the head and nose can result in bacteria being transferred by hands onto food, which may cause illnesses to customers. Smoking in food rooms may cause food contamination by cigarette ends, ashes or hands.
- Prevention of foodborne illnesses should begin with good personal hygiene practices by food handlers in both personal cleanliness and habits to prevent contamination of food by pathogens.

Personal Health

- Several types of communicable diseases can be transmitted by consumption of food. Food handlers should eliminate the opportunity for pathogenic micro-organisms from being transferred to food and spread to consumers.
- Food handlers can carry communicable diseases, especially if they themselves have been infected. Some food poisoning bacteria are commonly found on open wounds or cuts of their bodies. Illnesses may be spread to consumers if food handlers suffering from illnesses or with open wounds are allowed to take part in food activities.

Table 3.18 – Key Points – Personal Hygiene and Personal Health with Catering Practitioners

Source: Source: Food Hygiene Code. Retrieved from

http://www.fehd.gov.hk/english/publications/code/code all.pdf

ACTIVITY 3.48—Personal Hygiene of Catering Practitioners

1. When washing hands, at least for how long should we rub our hands with liquid soap?								
A)	5 seconds.	B)	10 seconds.					
C)	15 seconds.	D)	20 seconds.					
2. Which of the following behaviour of food handlers is <u>not appropriate</u> ?								
A)	Take off earrings before working.	B)	Eat in the common room.					
C)	Go to work when having a cold.	D)	Wash hands after touching money.					
3. In which of the following situations should a food handler stop handling food and food utensils and equipment that are contacted by food?								
A)	Coughing.	B)	The wound on hand has been covered by a plaster and wearing waterproof gloves.					
C)	Stomach ache.	D)	Stop handling food in all of the above situations.					

3.3.5 Fire Safety

The use of fire, electric stoves, fryers, etc. in restaurants is fire-prone. Insufficient and improper maintenance and cleaning work, and accumulation of grease, especially accumulation of grease in exhaust hood, increase the risk of fire greatly.

1. Fire Fighting Principles

- Three elements are required for an object to burn, namely combustibles (fuel), oxygen (air) and heat (temperature);
- Once any one of the three elements is removed, the fire can be put out successfully; and
- The use of different fire extinguishers can remove one or more elements to extinguish fire.

2. Fire Fighting Facilities and Equipment

As restaurants face higher fire hazard, they have more stringent requirements on fire fighting facilities and equipment. The following are fire fighting facilities and equipment commonly found in restaurants.

- Fire extinguisher
- Fire blanket
- Sand bucket
- Fire hose reel
- Fire sprinkler system
- Emergency lighting
- Visual alarm system

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Class of Fires

Class A: Fires involving solid materials, usually of an organic nature in which

combustion normally takes place with the formation of glowing embers.

Class B: Fires involving liquids or liquefiable solids.

Class C: Fires involving gases.

Class D: Fires involving metals.

Class E: Fires involving electrically energised equipment.

Identify the pictograms on fire extinguishers that represent their types.

Fire Extinguisher

Portable fire extinguishers are to allow people to extinguish the fire under a safe

condition and distance before the fire spreads and becomes uncontrollable so as to

avoid more serious property and human life losses. Therefore, the reliability of

extinguishers in terms of the types of fire they are designed for, minimum effective

discharge time and discharge bulk range, etc., is important.

Carbon Dioxide Gas Type Extinguisher a)

It displaces oxygen to extinguish the fire.

Use: On electrical fires, flammable liquids, electronic equipment or documents.

Note: Carbon dioxide can lead to suffocation. Withdraw to open air after use.

b) **Water Type Extinguisher**

It cools the burning materials.

Use: On fires involving wood, plastic, textiles or paper.

Never: On electrical fires, or fires involving flammable liquids or metals.

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c) **Dry Powder Type Extinguisher**

It utilizes chemicals to absorb heat or prevent heat from transferring from the fuel

surface to the air.

Use: On most fires, including flammable liquids or electrical fires.

Notes: Discharged dry powder may reduce visibility and cause disorientation,

and is corrosive to metals.

d) Clean Agent Fire Extinguisher

Residue-free, e.g. no residual chlorofluorocarbons (CFCs)

Use: On electrical fires, flammable liquids, electronic equipment or documents.

Notes: Withdraw to open air after use.

Foam Type Extinguisher

The foam can float on top of the burning liquid, isolating the fuel surface from

the air.

Use: On fires involving flammable liquids.

Never: On electrical fires.

Fire Blanket

Use: On fires involving flammable liquids, such as small fires in the kitchen or

laboratory.

Sand Bucket

Use: On small fires or fires involving metals.

Note: It can also be used for cleaning flammable liquids spilt on the ground.

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ACTIVITY 3.49—Fire Safety 1. Which of the following is *not* a required element for combustion? B) Fuel. A) Oxygen. C) Fire. D) High temperature/energy. 2. How does the water type fire extinguisher work? A) It washes away the fuel. B) It cuts off the contact between the fuel and oxygen. C) It cools the object. D) It extinguishes fire by chemical reactions. 3. How does the carbon dioxide gas type extinguisher work? A) It washes away the fuel. B) It cuts off the contact between the fuel and oxygen. C) It cools the object. D) It extinguishes fire by chemical reactions. 4. Which of the following fires is/are unsuitable to be put out by water type extinguisher? A) Burning liquids. B) Burning electrical equipment. C) Burning metals. D) All of the above. 5. Which extinguisher(s) can put off fire involving electrical equipment? A) Foam type extinguisher. B) Dry powder type extinguisher. C) Water type extinguisher. D) All of the above.