# Chapter 2: The Systems Approach

# Food service industry

**All establishments where food is regularly served outside the home**

- Examples…
- Very fast changing and expanded industry

What factors that affect the growth of food service industry ??

# 1. The changing status of women

Increased number of working women , especially in food service

# 2. The large number of single person households

Tend to spend a larger portion of their food budget on meals away from home

# 3. Slow population growth

- Fewer young people , increased number of older persons → need for more healthcare facilities…

- Not necessarily applicable !

## 4. Increase in the Asian and Hispanic population

- Married with children → decrease the number of meals eaten away

## 5. The shift from manufacturing to technology and service industries

- Contract food service business is increasing
- More leisure time in weekends

# 6. Increased interest in the health and wellbeing of people

- All types of food service are trying to offer more healthy choices

# 7. Shortage of qualified foodservice personnel

# FOOD SERVICE INDUSTRY

- Characteristics :
  - High number of workers
  - Low productivity
  - High level of labor  turnover
  - High labor cost
  - Lower salary for workers and high for managers

# Training the labor force

- Millions of people are employed every year in the food service industry .

- Much of the new labor was recruited from “off the streets”
  - **Job duties are learned by experience** !!!

# Education standards

- **The Club Managers Association** → developed educational program that must be taken by any member to be titled as CM (certified manager)

# Labor education

1. Community college
   - Vocational courses , economics and management training
2. Four year programs are offered in :
   - College of business
   - College of home economics
   - College of food technology

- Followed by **internship**

# Roles of Manager

- The manager role in the operation:
  - Establishing goals
  - Planning
  - Job description
  - Directing
  - Staffing

# Classification of food service establishments

1. Commercial
2. Non commercial
3. Military

# 1. Commercial

- Restaurants
- Supermarkets
- Convenience stores
- Delis
- Snack bars
- Other retail food establishments

# 2. Noncommercial (institutional, on-site)

- Educational
- Governmental
- Correctional organizations that operate their own foodservice

# Scope of services

- The number and types of business units offered through individual food service operations

- Mix of **retail** and **non-revenue**-generating units

- Figure 2.3

| Large Urban Hospital | | |
|---|---|---|
| Patient Services | Retail | Nutrition Services |
| Tray Service<br>Room Service<br>Nourishments | Employee/Visitor Cafes<br>Vending<br>Catering<br>Satellite Units<br>–Kiosks | Inpatient MNT/Ed<br>Outpatient MNT/Ed<br>Community Education<br>Research Diets |

| Community-based Hospital | | | |
|---|---|---|---|
| Patient Services | Employee Foodserv. | Community Foodserv. | Nutrition Services |
| Tray Service<br>Room Service<br>Nourishments | Cafeteria<br>Vending<br>Catering | Mobile Meals<br>Child Care Ctr<br>Adult Care Ctr | Inpatient MNT/Ed<br>Outpatient MNT/Ed<br>Community Education |

| School | | |
|---|---|---|
| USDA Child Nutrition Program | Retail | Other |
| Breakfast<br>Lunch<br>After School Snacks<br>Summer Feeding | A la Carte<br>Vending<br>Food Court | Employee Meals<br>Catering |

| College/University | |
|---|---|
| Resident Halls | Retail |
| Dining Halls<br>Room Service | Kiosks<br>Faculty Executive Dining<br>Delis<br>Convenience Stores |

**Figure 2.1** Examples of scope of services of four foodservice organizations.

# Foodservice operations

- All organization must have a written mission statement → to guide the organizational decision making

- **Mission statement** : a summary of an organization's purpose, customers, products, and services

- To achieve this mission effectively, the organization must develop **specific objectives**

# Management Definition

The effective, efficient integration and coordination of resources to achieve the desired objectives of the organization

# Functions performed by foodservice manager

- Selection, orientation, and provision of ongoing training and supervision of staff
- Monitoring of staff workload and performance and designation of assignments appropriately
- 
- Development and control of operational and capital budgets
- Preparation of financial reports.
- Ensuring quality, safety, and sanitation of all food prepared

# Organizations are systems

- **A system is a set of interdependent parts that work together to achieve a common goal.**
  - **A foodservice organization is a system.**
- **The interdependent parts are called subsystems**

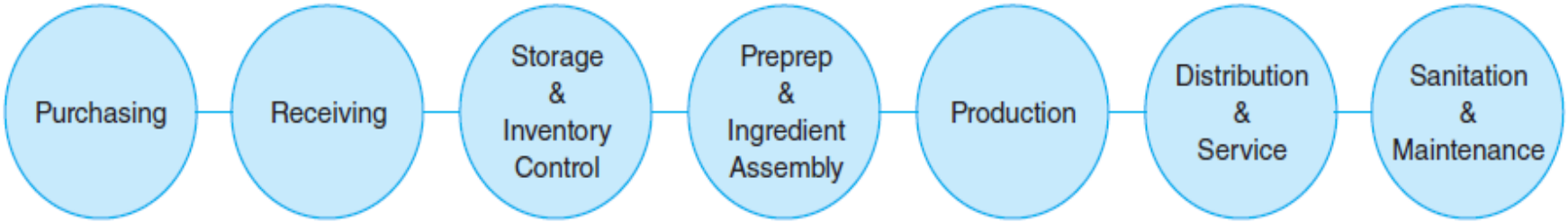



**Figure 2.4** The functional subsystems of a traditional foodservice operation.

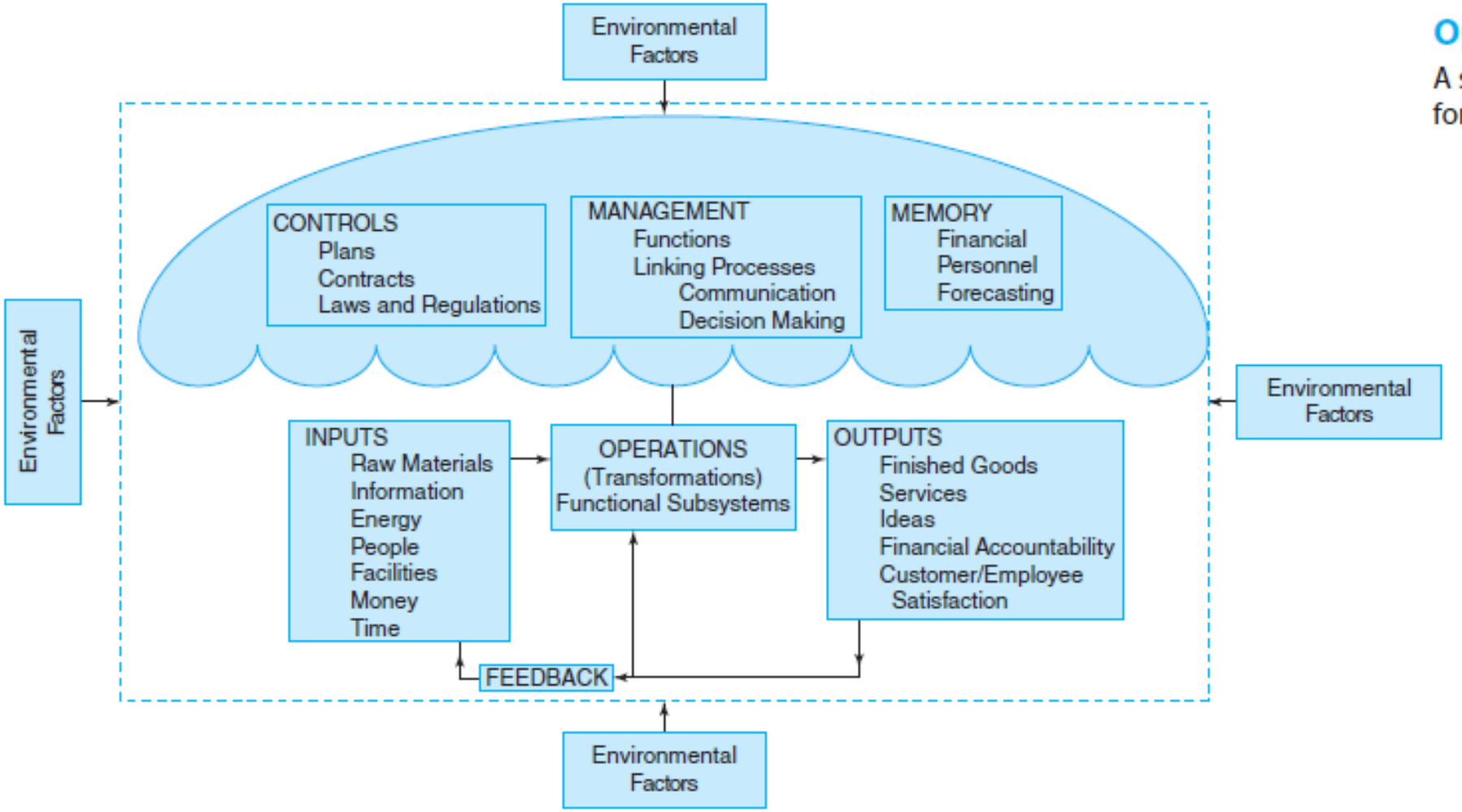
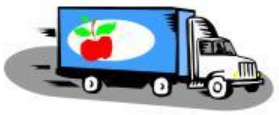



**Figure 2.3** The systems model.

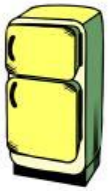
# Types of Foodservice Operations

- Conventional (cook/serve)

- Commissary



- Ready prepared (cook/chill)



- Assembly/serve (thaw/serve)

# Types of food service systems

- Based on differences in:
  - Location of preparation
  - Amount of holding time
  - Method of holding cooked foods
  - The purchase form of the food
  - Required labor and equipment

# 1. Conventional system

- Menu items are prepared in the kitchen in the same facility where meals are served and held a short time, until serving

- Over the years, the conventional system has modified …

# 1. Conventional system

- Due to:
  - Labor shortages
  - High labor costs
  - Availability of new forms of food

- To reduce costs, they began to purchase some foods with "built in" labor

# The modified conventional system

- Ready to cook meats
- Portioned meat
- Bread and bakery are purchased or prepared from mixes
- Frozen foods
- Canned foods

Foods with varying degrees of processing

# Most effective when…

- When labor supply is adequate
- Low cost labor
- Available sources for food supplies especially raw foods
- When adequate space is allocated for equipment and activities

# Typical for …

- Small foodservice operations such as:
  - Independent restaurants
  - Schools
  - Colleges
  - Hospitals and health care facilities
  - Homes for specialized groups
  - In-plant employee feeding

# Advantages

- Quality control
- More adaptable to the regional, ethnic, and individual preferences of its customers
- Greater flexibility in making menu changes to take advantage of good market buys and seasonal fluctuations
- Less freezer storage is required → save energy
- Distribution costs are minimal

# Disadvantages

- Stressful workdays → caused by meal period demands
- The menu differs each day, the workloads vary→ difficult to achieve high productivity
- Skilled workers may be assigned tasks could be completed by non-skilled one just to fill the time between meal periods

# 2. Ready prepared (cook/chill or cook/freeze)

- Foods are prepared onsite, then chilled or frozen and stored for use later

- The distinct feature: **the separation between time of preparation and service**

- The place of preparation are not the place of service !
- The food are not for immediate use

# 2. Ready prepared system

1. Cook/ chill method

2. Cook freeze method

# 1. Cook/ chill method

- The food is prepared and cooked by conventional methods
- Then it’s chilled to 37 F ( 2.7 C) in 90 minutes and refrigerated to use later

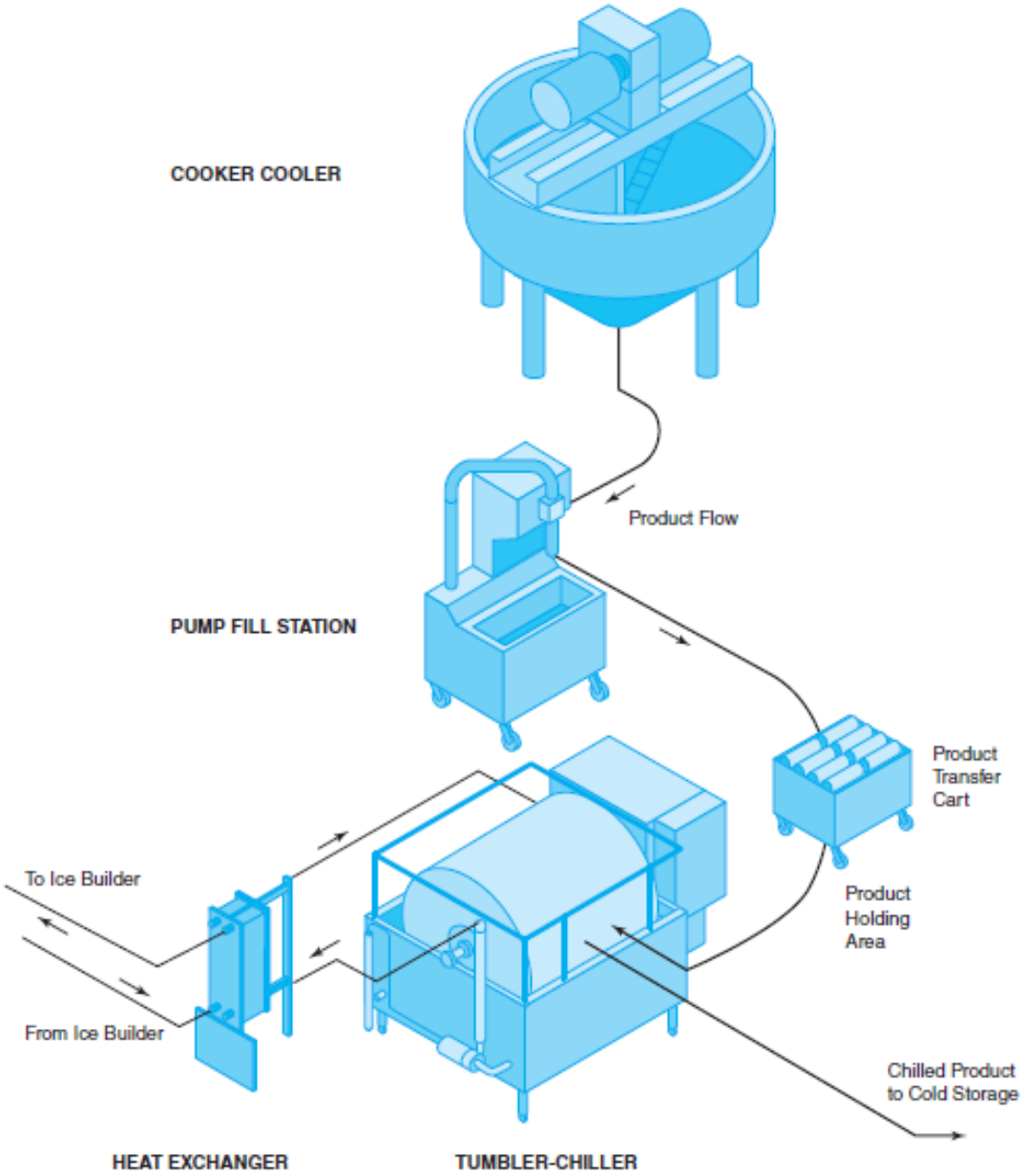



**Figure 2.5** One method of cook/chill food preparation using a pump fill station, tumbler-chiller, and cook-chill tank.
Courtesy of Chester-Jensen Co., Chester, PA.

# 2. Cook / freeze method

- Food is prepared and cooked by conventional or other methods, then frozen for use later

- Stored in bulk

# Advantages

- Reduce peaks and valleys of workloads
- Production scheduling to build up the menu item inventory (8 hours a day, without early and late shifts)
- Decreased turnover of workers and easy recruitment of new employees

# Advantages

- Reductions in production labor costs
- Improved quality and quantity control
- Improved nutrient retention by decreasing time food is held within the serving temperature range
- Balance use of equipment throughout the day

# Disadvantages

- Need for large cold storage and freezer units
- → which add to energy costs
- Expensive equipment
- Control for food safety is essential
- Modifications should be done to recipes to avoid structural and textural damage of the frozen foods

# Effective in …

- Large volume institutions
  - Health care units
  - Employees feeding facilities
  - Airlines
  - Correctional institutions

# 3. Commissary system (central production kitchen)

- Large, central production kitchen
- centralized food purchasing
- delivery of prepared foods to service for final preparation

# 3. Commissary system (central production kitchen)

- Prepared foods may be stored frozen, chilled, or hot held

- May be distributed as bulk hot, bulk cold, frozen for reheating and portioning , or pre-portioned and pre plated.

# Typical for…

- Airline caterers
- Large city school systems
- Chain restaurant organizations

# Advantages

- Save costs
  - large volume purchasing
  - reduced duplication of the labor and equipment that would be required if each serving unit prepared its own food
- Utilize the space for other services
- Effective quality control with only one unit to supervise

# Disadvantages

- Safety concerns of the distributed foods
  - Many critical points
  - Should employ food microbiologist
- Requires special equipment for transportation of foods to maintain them in the correct temperature and appearance
- Delivery truck breakdowns (bad weather, accidents…)
- High cost of purchase, maintenance, and repair of the sophisticated equipment

# 4. Assembly / serve

- **No on-site food production**
- Termed as **kitchenless kitchen**
  - Fully prepared foods are purchased
  - Require only storage, final assembling, heating and serving

- With the development of a variety of high quality frozen food products
- Reducing the labor costs
- use only “single use” disposable table ware → no need for dishwashing unit

# Typical for…

- Hospitals
- Some health care institutions and restaurants

# Advantages

- Fewer personnel are required
- They don’t have to be highly skilled or experienced
- Procurement costs are lower
  - Better portion control
  - Less waste
  - Reduction in purchasing time
- Minimal requirements for equipment and space

# Disadvantages

- Limited availability in some markets of a good menu items
- Higher cost of prepared foods
- The quality of available prepared products and customer acceptability
- Additional freezing units are required
- Recycling or disposal of the large quantities of packaging materials and single use table ware

# How to select ??

- Factors to consider when choosing a system ?
  - Cost comparisons
  - Availability of foods in all forms
  - Quality, and the nutritional value of the prepare foods
  - Customer needs
  - Acceptability
  - Equipment and space requirement
  - Energy use