# Course Outline, 15.760A

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Three Foundational Components of Operations Management

Product Development
(Sega, #2)

Process Design & Management
(Burger King, #3)

Supply Chain
(Nokia, #1, Dell, #4)
1. What are the operations objectives for Burger King?
3. Where are the inventories? Why?
4. Peak hourly capacity vs. peak hourly demand for burger patties.
5. How does the management of operations relate to the company's method of competing in the marketplace?
6. What are the fastest clockspeed components of the Burger King value chain?
7. How well integrated are BK’s product, process, and market?
BK: Process Flow Diagram for Sandwiches

RAW BURGERS → BROILER → STEAMER → FINISHED SANDWICHES

RAW BUNS → BROILER → STEAMER → FINISHED SANDWICHES

CHEESE → CONDIMENTS → TOMATOES → SANDWICH ASSEMBLY → ORDER DELIVERY
**BK: Peak Load Demand vs. Capacity**

34227 **Sandwiches** ÷ 4.3 **weeks** x 18% *(Fridays)* x 17.9% = **month**

256 **sandwiches**, of which peak **hour**

48 are hamburgers
51 are cheeseburgers
24 are double cheeseburgers

=> peak demand = 147 burger patties/hour

Each broiler chain cooks 8 patties => 480 patties minute hour
(Assume other chain used for Whoppers)

Case fact: max assembly rate = 200 burgers/hour
100 specialty sandwiches/hr

**Broiler utilization** = 147/200 = 74%
Bottleneck is assembly
Restaurant Operations Management

1. What are the key DESIGN parameters for Burger King?
   A. Product
   B. Process Technology
   C. Facility
   D. Work System/HR System

2. What are the key PLANNING tasks for Burger King?
   A. Supply
   B. Demand
   C. Capacity/Workload

3. What are the key CONTROL processes for Burger King?
   A. Production Control
   B. Quality Control
   C. Process Control

4. What are the key IMPROVEMENT processes for BK?
   A. Quality Improvement
   B. Productivity Improvement
   C. Technological Improvement
   D. Systems Improvement
Some Characteristics of Services (vs. Manufacturing)

– **Intangibility** - explicit and implicit intangibles
  - “We manufacture perfume; we sell hope.”

– **Perishability** - an hour of non-production is an hour lost
  - Airplane w/o spare part costs > $10K/hr

– **Heterogeneity** - inherent variability of service
  - Each doctor’s bedside care is unique

– **Simultaneity** - services are simultaneously produced and consumed
  - A poor attitude by the server cannot be recalled
INDUSTRY CLOCKSPEED IS A COMPOSITE:
OF PRODUCT, PROCESS, AND ORGANIZATIONAL CLOCKSPEEDS

**Mobile Phone** INDUSTRY CLOCKSPEED

- THE **Mobile Phone** product technology
- THE **Mobile Phone** production process
- THE **Mobile Phone** manufacturing company

process technology

organization
**Mobile Phone System** CLOCKSPEED is a mix of Transmission Standards, Software and Handsets

**ISSUE:** THE FIRMS THAT ARE FORCED TO RUN AT THE FASTEST CLOCKSPEED ARE THE MOST LIKELY TO STAY AHEAD OF THE GAME.
A 3-D CE decision model illustrating the imperative of concurrency

- Focus
- Architecture
- Technology