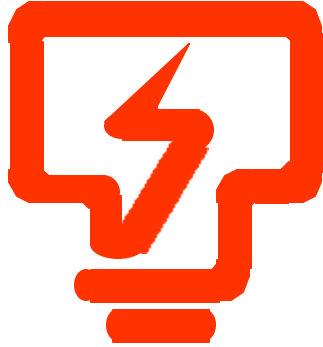


***Ohio University
Corporate MBA Program***



TENAGA NASIONAL

CMBA 611: Management of Operations

Microsoft PowerPoint® Presentations

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to Accompany

Operations Management, 2/e

by James B. Dilworth

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CMBA 611: Management of Operations

Supplements A-D

- A: Historical Perspective
- B: Repetitive Production Plant Tour
- C: Job Shop Tour
- D: Service Operation Tour

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Supplement A Historical Perspective Progress in Operations Management

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Historical Perspective

The industrial revolution (late 18th century)

- Steam engine (James Watt, 1769)
- *The Wealth of Nations* (Adam Smith, 1776)
 - Use of mechanization
 - Division of labor
- Interchangeable parts (Eli Whitney, 1790)

Historical Perspective

The management movement

- Scientific management era
- Begun by Henry R. Towne (1886)
- Further developed by Frederick W. Taylor (1906)
 1. Replace rules-of-thumb with scientific methods
 2. Use the best worker for each job and provide training
 3. Develop cooperation between labor and management
 4. Divide work (equally) between managers and workers

Historical Perspective

The human relations era

- Recognition of workers social needs
- Elton Mayo's work at the Western Electric Co. (1927-32)

The management science era (W.W. II - present)

- Application of mathematical models to government and industry problems (i.e., operations research)

The information age (W.W. II - present)

- Advances in communication technology and computers

The trend toward management by empowerment

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Historical Perspective

The growth of technology

- Human effort evolved to ...
- The use of human controlled machines followed by ...
- Automation: computer controlled machines (robots, etc.) in manufacturing, material handling, design, etc.

Japanese influence on Operations management

- Just-in-time production

The rise of the service sector

- U.S. economy = post industrial economy (?)
= service economy (?)

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Supplement B

Tour of a Repetitive Production Plant

Nissan Motor Manufacturing Corporation, U.S.A.

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Repetitive production plant

Nissan Motor Manufacturing Corp., U.S.A.

Scheduling

3 month-ahead sales forecast

Plant is computer controlled (plant uses \approx 350 robots)

Suppliers and material management

Close relationships with suppliers

(makes its production schedule available to them)

Major components from Japanese factories

Other component suppliers are domestic

JIT approach used for some components

(2 hour lead time)

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Repetitive production plant.

Nissan Motor Manufacturing Corp., U.S.A.

Fabrication stages

Frame production, sheet-metal stamping, cab and bed
buildup, painting, assembly, and testing

Quality

Quality work is encouraged (e.g., quality circles,
training) \ few inspectors are needed

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Supplement C Tour of a Job Shop

Teledyne Brown Engineering
Fabrication Plant I

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Job shop tour Teledyne Brown Engineering (TBE)

Company Products

The company bids for (NASA & other
Govt. agency) design-and-build work and
prototype production of other designs ∴
its operational characteristics are ...

Low-volume custom work, versatile
employees and versatile equipment

Job shop tour Teledyne Brown Engineering (TBE)

Trends in operations

In response to the decline in defense spending, the
company has ...

Refrained from capital spending and ...

Diversified its production to include commercial
goods (with good potential export markets), e.g.;
medical electronics and Watt-hour meters

Increased the use of teams, cross-training of
employees and it has eliminated one layer of
management

Job shop tour Teledyne Brown Engineering (TBE)

Individualized job planning

Blueprints are studied by planners who develop a route sheet which is used to determine what work is to be done and where the parts goes next

Materials handling

There is no need for automatic material movement for the low-volume custom items

General-purpose equipment

Each section of the plant is fitted and staffed to perform a particular type of operation

Supplement D Tour of A Service Operation

A View of Wal-Mart's
Distribution System

Service operation tour Wal-Mart's distribution system

Table D.1

Comparison of Major Retailers in the United States

COMPANY	U.S. SALES (\$ BILLIONS)	OVERHEAD (% OF SALES)
Wal-Mart	32.6	16
Sears	32	29
K Mart	30	23

Source: "Mr. Sam Stuns Goliath," *Time*, February 25, 1991, p.62.

Service operation tour Wal-Mart's distribution system

18 Distribution centers serve 1,500 stores

The largest DC is has 27.6 acres under roof and ...

7 miles of conveyor that moves up to 370 ft./min.

Can handle, sort, and load for shipment up to 15,000 cases of goods per hour

≈ \$1.5 billion of merchandise flows through a DC each year

Service operation tour Wal-Mart's distribution system

Distribution efficacy

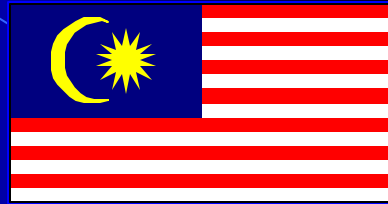
The central purchasing at HQ maintains close long-term relationships with over 9,000 suppliers so it's able to buy large quantities at low prices to arrive at its DCs in a timely way. Wal-Mart's use of satellite Electronic data interchange (EDI) is key to the success of its operation (i.e.; DC's use of technology, e.g.; forklifts are equipped with RF terminals, etc.)

Class assignment

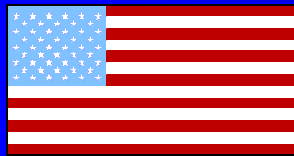
Prepare tours of a repetitive production plant, a job shop and a service operation -- each operating in Malaysia. The class should divide itself into three groups, each of which is responsible for one of the tours. The written portion of each tour should be of the caliber of those given in the text. In addition, each tour-group should prepare a twenty minute (PowerPoint) presentation of their tour (to be given during the last week of classes).

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