GLOBAL OPERATIONS AND SUPPLY CHAIN MANAGEMENT

21511 Autumn 2018

LECTURES 2 – 12

TABLE OF CONTENTS

2 OPERATIONS & SUPPLY CHAIN MANAGEMENT

- Basics of operations and supply chain
- Strategy used in operations and supply chain
    - Sustainable strategies
    - Risk mitigation strategies
- Productivity measurement
- Product Design Process
- Capacity Planning

BASICS OF OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Operations and supply chain management is the design, operation, and improvement of the systems that create and deliver the firm's primary products and services.

Operations: Manufacturing and service processes used to transform resources into products.

Supply chain: processes that move information and material to and from the firm.

It involves:

- Product design
- Purchasing
- Manufacturing
- Service operations
- Logistics
- Distribution

Process Activities:

Planning: Processes needed to operate an existing supply chain

Sourcing: Selection of suppliers that will deliver the goods and services needed to create the firm's product.

Making: Producing the major product or service.

Delivering: Logistics processes such as selecting carriers, coordinating the movement of goods and information, and collecting payments.

Returning: receiving worn-out, excess and/or defective products back from customers.

Efficiency: Doing things right and at the lowest possible cost

Effectiveness: Doing the right things and creating the most value for the customer

Value: The attractiveness of a product relative to a cost (*quality / price*).

STRATEGY

Sustainable Strategy: The Triple Bottom Line

Social

Fair and beneficial business practices toward labour, community, and the region. E.g. no child labour, fair salary

Economic

Competitive return on investment. Should promote the growth and long-term value in the form of profit.

Environmental

Impact on environment. Company should protect the environment as much as possible.

SUMMARY | LEAN SUPPLY CHAINS

Lean is based on the logic that nothing will be produced until it is needed.

LEAN PRODUCTION: Integrated activities designed to achieve high-volume production using minimal inventories (raw materials, WIP, finished goods). Involves value chain, customer value and waste.

LEAN-FOCUSED SUPPLY CHAIN COMPONENTS: Lean suppliers, lean procurement, lean warehousing, lean logistics

PRINCIPLES OF LEAN SUPPLY CHAIN DESIGN: Lean layouts, lean production schedules, lean supply chains

LEAN CONCEPTS:

- **Plant layout** - Designed to ensure balanced workflow with a minimum of WIP inventory (WIP INVENTORY: materials that have been partially converted through the production process).
- **Group technology** – Similar parts are grouped into families

QUALITY AT THE SOURCE: Doing things correctly the first time, if it goes wrong, stop the process immediately.

JIT PRODUCTION: Producing what is needed, when needed and nothing more.

LEAN SUPPLY CHAINS: Specialised plants, collaboration with suppliers, building a lean supply chain (all firms along the value stream must work together to eliminate waste – *muda*: *a Japanese word meaning "futility; uselessness; wastefulness"*)

VALUE STREAM MAPPING: A type of flowcharting tool used to analyse where value is or is not being added as materials flow through a process.

- PART 1: Depict current state of process
- PART 2: Map same process with suggested improvements using **SYMBOLS** (refer to images).

LOGISTICS, DISTRIBUTION, TRANSPORTATION:

Logistics: obtaining, producing, distributing materials and products in the right place at the right quantities. Includes:

- **International logistics, third-party logistics**
- **Logistics decisions** – how will materials be transported e.g. truck, ship, plane, pipeline)

COURSE REVIEW: ALL TOPICS SUMMARY

WEEK 2: OPERATIONS AND SUPPLY CHAIN MANAGEMENT

STRATEGY, PROCESSES, ANALYTICS

OPERATIONS: Manufacturing and service processes used to transform resources into products.

SUPPLY CHAIN: Processes that move information and material to and from the firm

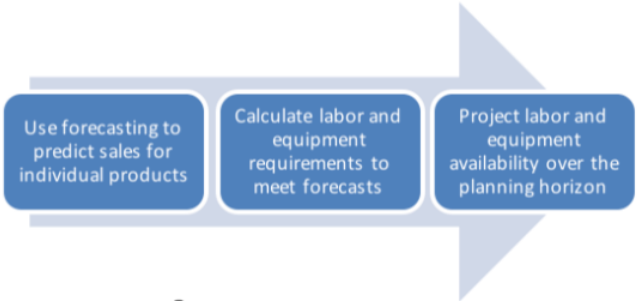
SUSTAINABLE STRATEGY: *Triple Bottom Line* – Evaluating the firm activities against social, economic and environmental criteria.

PRODUCTIVITY MEASUREMENT: Productivity = (Outputs) / (inputs)

- Partial productivity measures compare output to a single input
- Multifactor productivity measures compare output to a group of inputs
- Total productivity measures compare outputs to all inputs

STRATEGIC CAPACITY MANAGEMENT

Capacity is the ability to hold, receive, store or accommodate.



- It is an approach for determining the overall level of capacity-intensive resources that best supports the company's long-range competitive strategy: Facilities, equipment, labour force size
- Determining capacity requirements is a critical component

WEEK 3: PROJECT MANAGEMENT

STRUCTRE OF A PROJECT

Pure project

A self-contained team works full-time on the project

Functional project

Responsibility for the project lies within one functional area of the firm. Employees from that area work on the project, usually only part-time.