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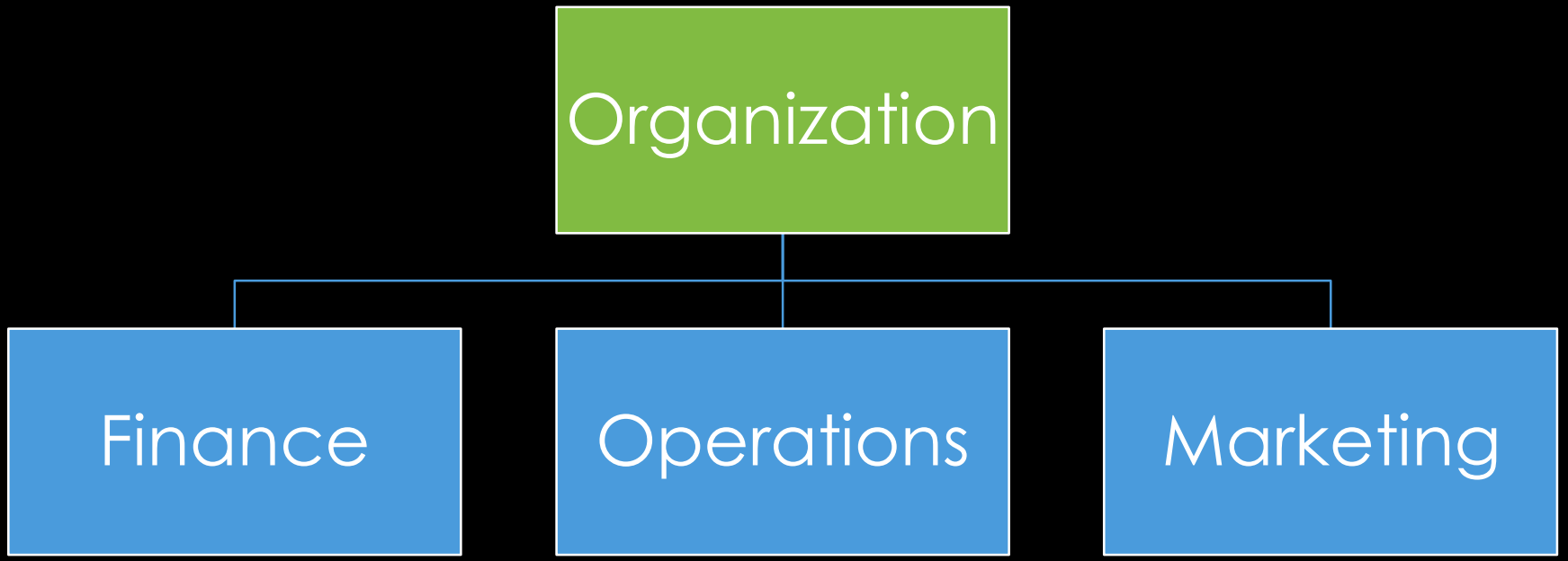
NAME OF THE PROGRAMME	: B.VOC(LOGISTICS AND SUPPLY CHAIN MANAGEMENT
PROGRAM CODE	: 3UABVOC(LSCM)
COURSE CODE	: LSCM17105
COURSE NAME	: OPERATIONS MANAGEMENT
SEMESTER	: I
FACULTY NAME	: MR.RAJKUMAR
DESIGNATION	: ASSISTANT PROFESSOR
TOPIC	: INTRODUCTION TO OPERATIONS MANAGEMENT

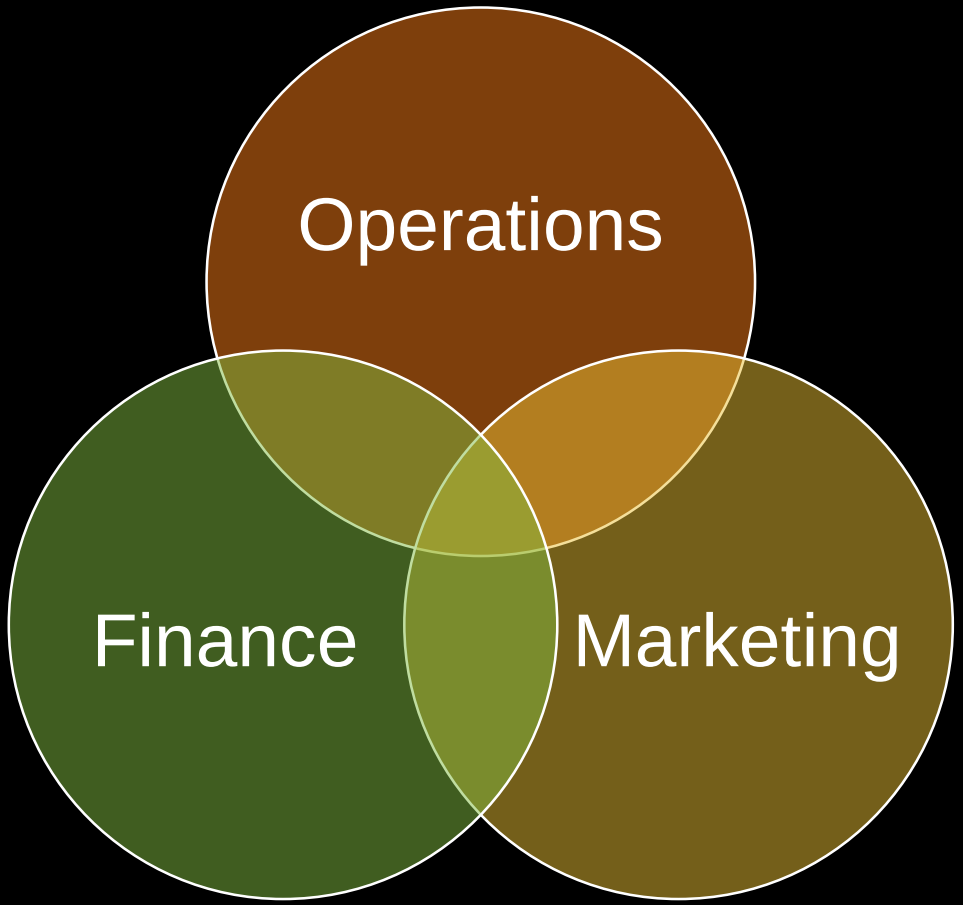
OPERATIONS MANAGEMENT

- What is operations?
  - The part of a business organization that is responsible for producing goods or services
- What is operations management?
  - The management of systems or processes that create goods and/or provide services
- Operations management affects:
  - Companies' ability to compete

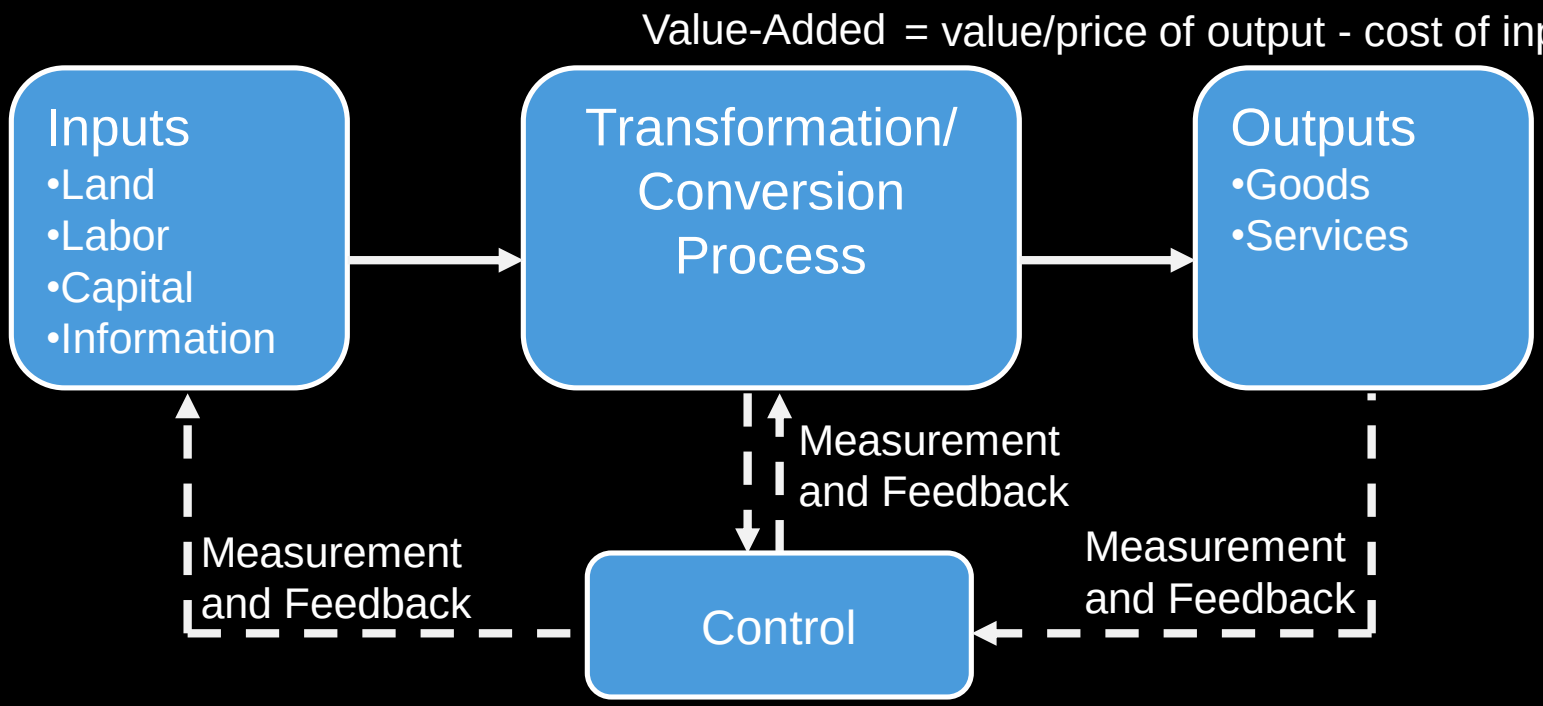
BASIC FUNCTIONS OF THE BUSINESS ORGANIZATION



BUSINESS FUNCTIONS ARE INTERCONNECTED



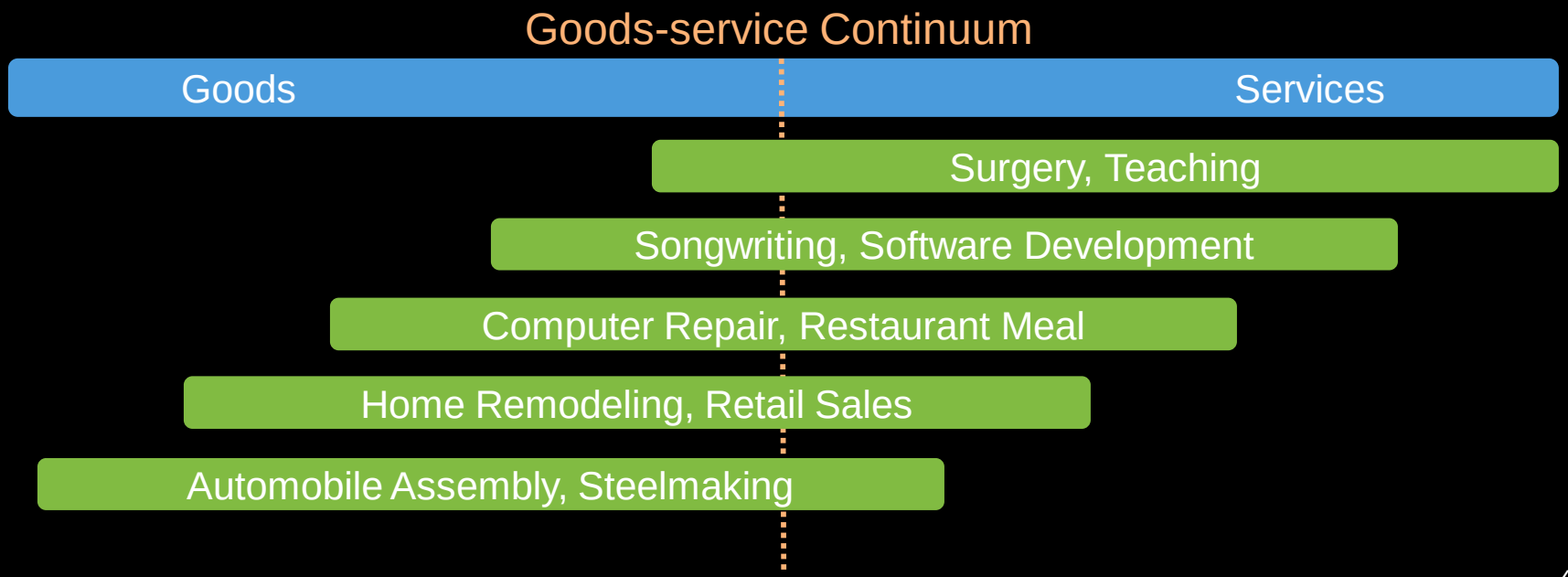
THE TRANSFORMATION PROCESS



- Feedback = measurements taken at various points in the transformation process
- Control = The comparison of feedback against previously established standards to determine if corrective action is needed.

GOOD OR SERVICE?

- Goods: physical items that include raw materials, parts, subassemblies, and final products.
- Services: activities that provide some combination of time, location, form or psychological value.



KEY DIFFERENCES

Characteristic	Goods	Service
Customer contact	Low	High
Uniformity of input	High	Low
Labor content of jobs	Low	High
Uniformity of output	High	Low
Production and delivery (Output)	Tangible	Intangible
Measurement of productivity	Easy	Difficult
Quality assurance (Opportunity to correct problems)	High	Low
Amount of inventory	Much	Little
Evaluation of work	Easier	Difficult
Ability to patent design	Usually	Not usual

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U		
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M		
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Prompt questions:

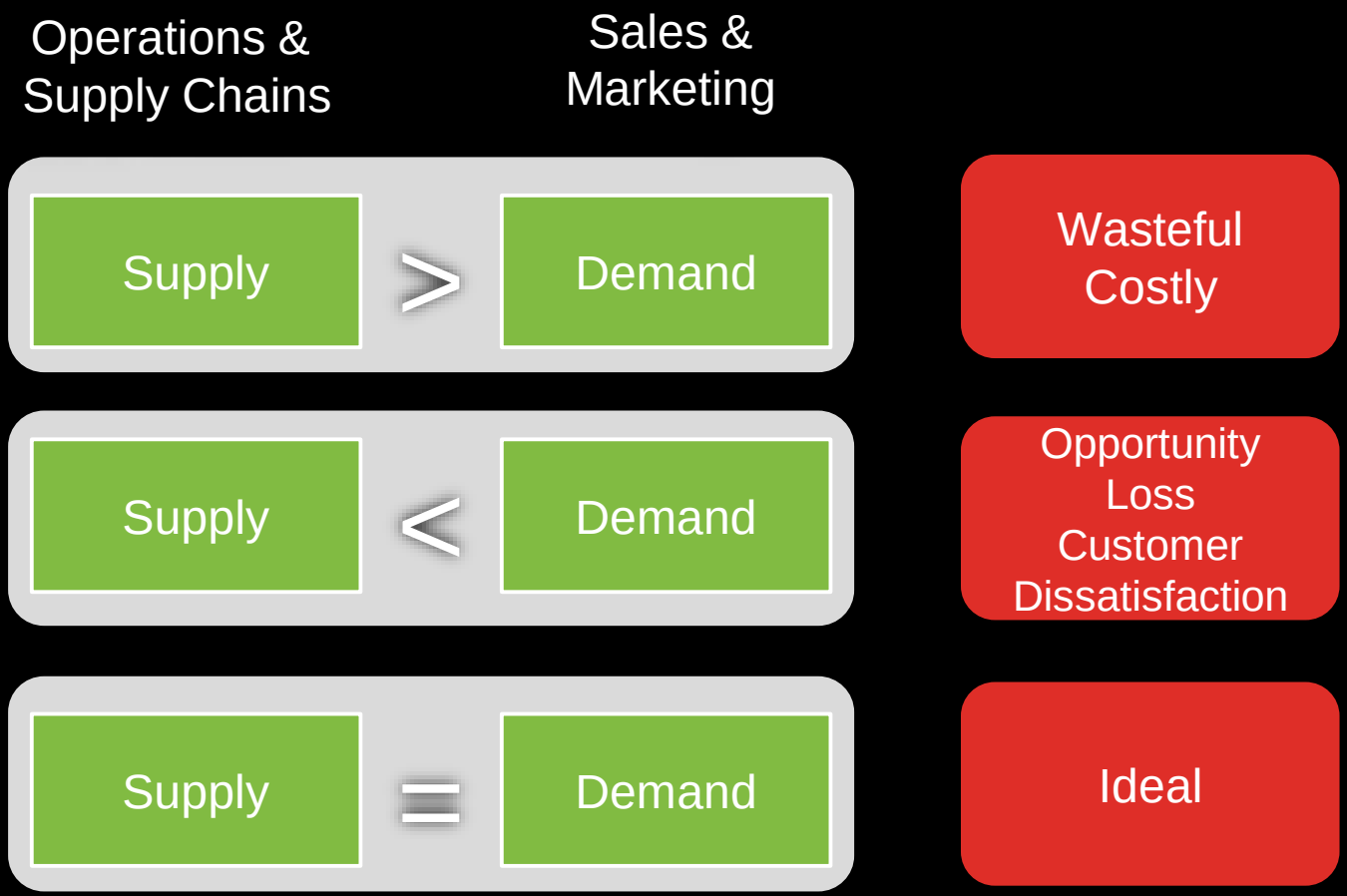
- Q1: We have seen the differences between production of goods and delivery of services. What are the implications of these differences to operations managers?

PROCESS MANAGEMENT

- **Three Categories of Business Processes:**
  - **Upper-management processes**
    - These govern the operation of the entire organization.
  - **Operational processes**
    - These are core processes that make up the value stream.
  - **Supporting processes**
    - These support the core processes.

- Managing a Process to Meet Demand
  - Ideally, the capacity of a process will be such that its output just matches demand.

SUPPLY & DEMAND



SUPPLY & DEMAND

Operations & Supply Chains

Sales & Marketing

Prompt questions:

- Q2: Why is it difficult to match supply and demand?
- Q3: What actions could a manager take to better match supply and demand?

Supply = Demand

Ideal

PROCESS VARIATION

Four Sources of Variation:

- **Variety of goods or services being offered**
  - The greater the variety of goods and services offered, the greater the variation in production or service requirements.
- **Structural variation in demand**
  - These are generally predictable (seasonal variation or seasonality, e.g., swimwear, warm clothes, Christmas, tourist seasons, school supplies).
  - They are important for capacity planning
- **Random variation**
  - Natural variation that is present in all processes (e.g., random demand etc.). Generally, it cannot be influenced by managers.
- **Assignable variation**
  - Variation that has identifiable sources. (e.g., defective inputs, incorrect work methods, equipment etc.)
  - This type of variation can be reduced, or eliminated, by analysis and corrective action.

ROLE OF THE OPERATIONS MANAGER

- Recap:
  - Operations: The part of a business organization that is responsible for producing goods or services
  - Operations management: The management of systems or processes that create goods and/or provide services

- A primary function of the operations manager is to guide the system by decision making.
  - System Design Decisions
  - System Operation Decisions

SYSTEM DESIGN DECISIONS

- System Design
  - Capacity
  - Facility location
  - Facility layout
  - Product and service planning

- These are typically strategic decisions that
  - usually require long-term commitment of resources
  - determine parameters of system operation

SYSTEM OPERATION DECISIONS

- System Operation
  - These are generally tactical and operational decisions
    - Management of personnel
    - Inventory management and control
    - Scheduling
    - Project management
    - Quality assurance

- Operations managers spend more time on system operation decision than any other decision area
  - They still have a vital stake in system design

DECISION MAKING

- Most operations decisions involve many alternatives that can have quite different impacts on costs or profits
- Typical operations decisions include:
  - ***What:*** What resources are needed, and in what amounts?
  - ***When:*** When will each resource be needed? When should the work be scheduled? When should materials and other supplies be ordered?
  - ***Where:*** Where will the work be done?
  - ***Who:*** Who will do the work?
  - ***How:*** How will the product or service be designed? How will the work be done? How will resources be allocated?

QUANTITATIVE METHODS

- A decision making approach that frequently seeks to obtain a mathematically optimal solution
  - Linear programming
  - Queuing techniques
  - Forecasting techniques
  - Inventory models
  - Project models
  - Statistical models
- Modeling is a key tool used by all decision makers
  - ***Model:*** an abstraction of reality; a simplification
  - Common features of models:
    - They are simplifications of real-life phenomena
    - They omit unimportant details of the systems they mimic so that attention can be focused on the most important aspects of the real-life system

BENEFITS / LIMITATIONS OF MODELS

- Benefits

1. Models are generally easier to use and less expensive than dealing with the real system
2. Require users to organize and sometimes quantify information
3. Increase understanding of the problem
4. Enable managers to analyze "What if?" questions

- Limitations

1. Quantitative information may be emphasized at the expense of qualitative information
2. Models may be incorrectly applied and the results misinterpreted
   - This is a real risk with the widespread availability of sophisticated, computerized models are placed in the hands of uninformed users.
3. The use of models does not guarantee good decisions.

KEY ISSUES FOR TODAY'S BUSINESS OPERATIONS

- Economic conditions
- Management of technology
  - The Internet, e-commerce, e-business
- Competing in a global economy
  - Globalization, outsourcing
- Supply chain management (more in the following slides)
- Environmental concerns and sustainability
  - Global warming, carbon footprint
- Ethical conduct
  - Worker safety, product safety, the community, hiring/firing workers, …
  - CNN 4/23/14: A fatal wait: Veterans languish and die on a VA hospital's secret list
    - *"We're making our appointments within 10 days, within the 14-day frame, when in reality it had been six, nine, in some cases 21 months"*

SUPPLY CHAIN

- Supply Chain
  - A sequence of activities and organizations involved in producing and delivering a good or service

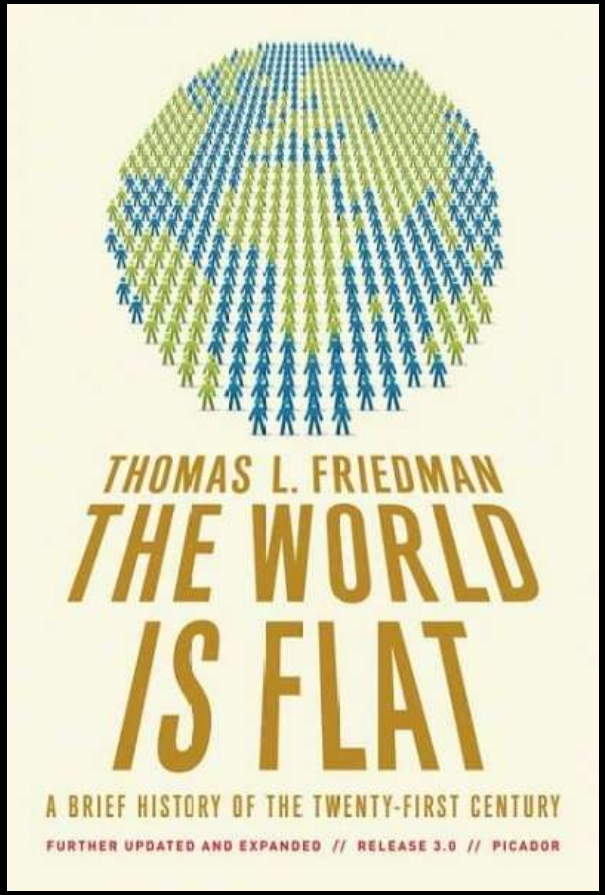
Suppliers' suppliers → Direct suppliers → Producer → Distributor → Final Customers

THE NEED FOR SUPPLY CHAIN MANAGEMENT

- In the past, organizations did little to manage the supply chain beyond their own operations and immediate suppliers which led to numerous problems:
  - Oscillating inventory levels
  - Inventory stockouts
  - Late deliveries
  - Quality problems

SUPPLY CHAIN ISSUES

1. The need to improve operations
2. The need to manage inventories
3. Increasing transportation costs
4. Increasing levels of outsourcing
5. Increasing importance of e-business
6. Competitive pressures
7. Increasing globalization
8. The complexity of supply chains



SUPPLY CHAIN ISSUES

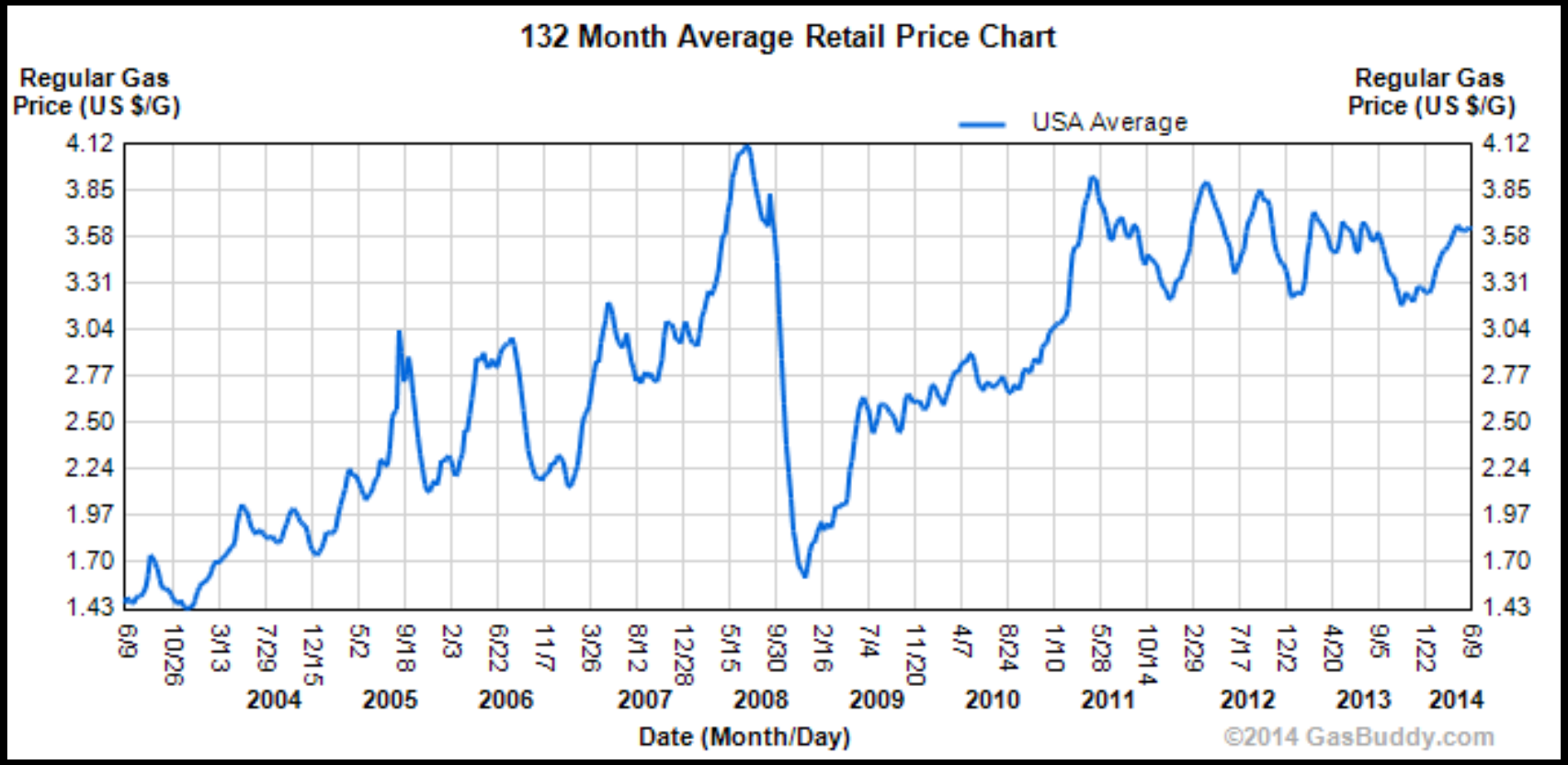
1. The need to improve operations
    - Sustainability
    - Productivity
    - Efficiency
    - Quality

SUPPLY CHAIN ISSUES

2. The need to manage inventories
   - Just in time (JIT)
   - Vendor Managed Inventory (VMI)
   - Logistics

SUPPLY CHAIN ISSUES

3. Increasing transportation costs



SUPPLY CHAIN ISSUES

4. Increasing levels of outsourcing
   - Law of Comparative Advantage
   - Benefits of Outsourcing
     - Allow a company to focus on strategic, core competencies
     - Cost savings or cost avoidance
     - Flexibility for using services as needed
     - Changes fixed costs into variable costs
   - Types of Business Activities Outsourced
     - Information Technology (IT)
     - Human Resources (HR)
     - Learning Function (Corporate Training)
     - Customer Service (Call centers)
     - Finance and Accounting

SUPPLY CHAIN ISSUES

5. Increasing importance of e-business
   - E-business: The use of internet to network and empower business processes, electronic commerce, organizational communication and collaboration with in a company and with its customers, suppliers, and other stakeholders. (Combe, 2006)

		To		
		Consumer	**Business**	**Government**
From	**Consumer**	C2C	C2B	C2G
	Business	B2C	B2B	B2G
	Government	G2C	G2B	G2G

SUPPLY CHAIN ISSUES

6. Competitive pressures
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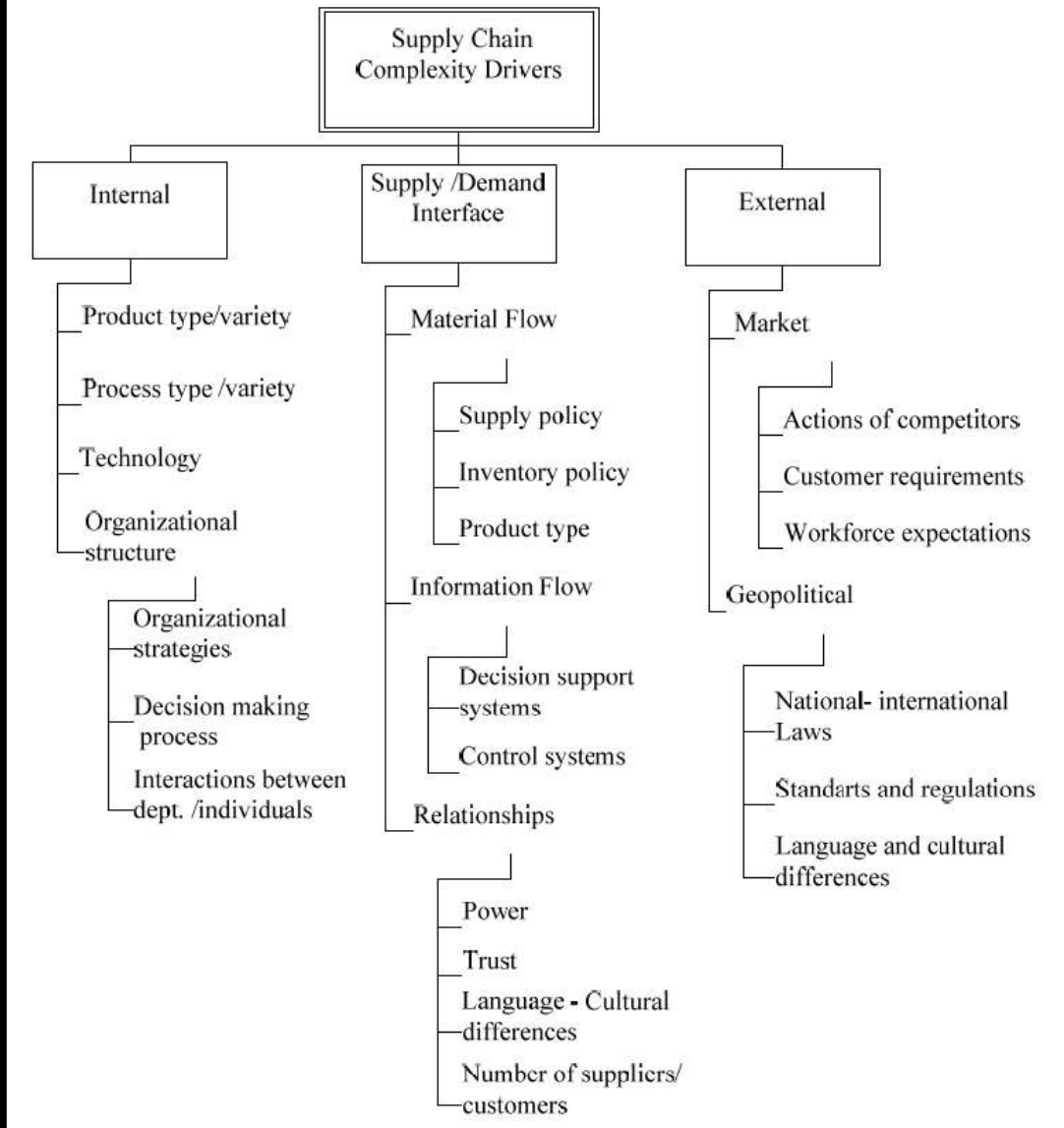
8. The complexity of supply chains



Serdarasan, Seyda. "A review of supply chain complexity drivers." Proceedings of the 41st International Conference on Computers & Industrial Engineering, pp792-797

OM AND SUPPLY CHAIN CAREER OPPORTUNITIES

- Operations manager
- Supply chain manager
- Production analyst
- Schedule coordinator
- Production manager
- Industrial engineer
- Purchasing manager
- Inventory manager
- Quality manager

KEY POINTS

- The operations function is that part of every business organization that produces products and/or delivers services.
- Operations consists of processes that convert inputs into outputs. Failure to manage those processes effectively will have a negative impact on the organization.
- A key goal of business organizations is to achieve an economic matching of supply and demand. The operations function is responsible for providing the supply or service capacity for expected demand.
- All processes exhibit variation that must be managed.

KEY POINTS

- Although there are some basic differences between services and products that must be taken into account from a managerial standpoint, there are also many similarities between the two.
- Environmental issues will increasingly impact operations decision making.
- Ethical behavior is an integral part of good management practice.
- All business organizations have, and are part of, a supply chain that must be managed.