

Industrial Management

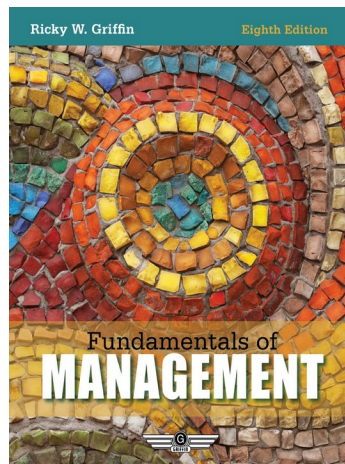
IPE 4102



Books



Stevenson, William J. "Operations management 12th edition". (2015): 385.



Griffin, Ricky W. Fundamentals of management. Cengage Learning, 2013.

Learning Objectives



**Operation Management
and Supply Chain**



**Function of
Operations**

**Production and Service
Operations**



Decision Making



**Functional Areas of
Organization**



Current Issues

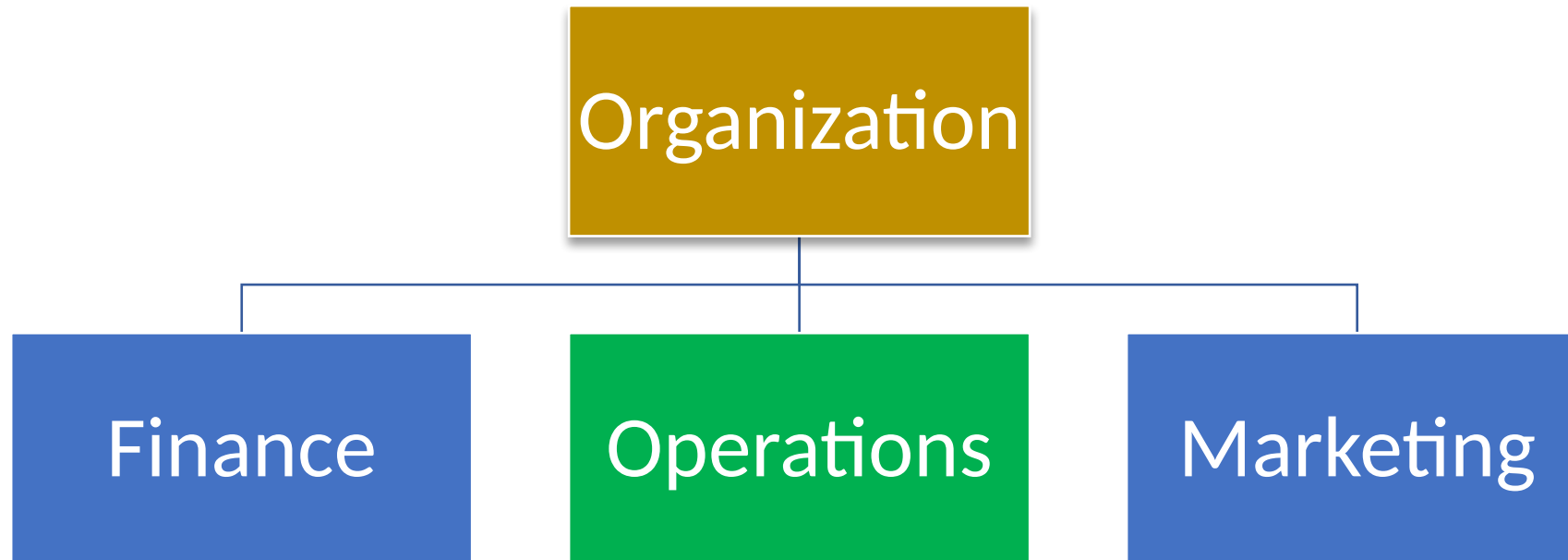
**Aspects of Process
Management**



**Supply Chain
Management**



Functions of Organizations



What Is Operations Management?

Operations management (OM) is the set of activities that creates value in the form of **goods** and **services** by transforming inputs into outputs

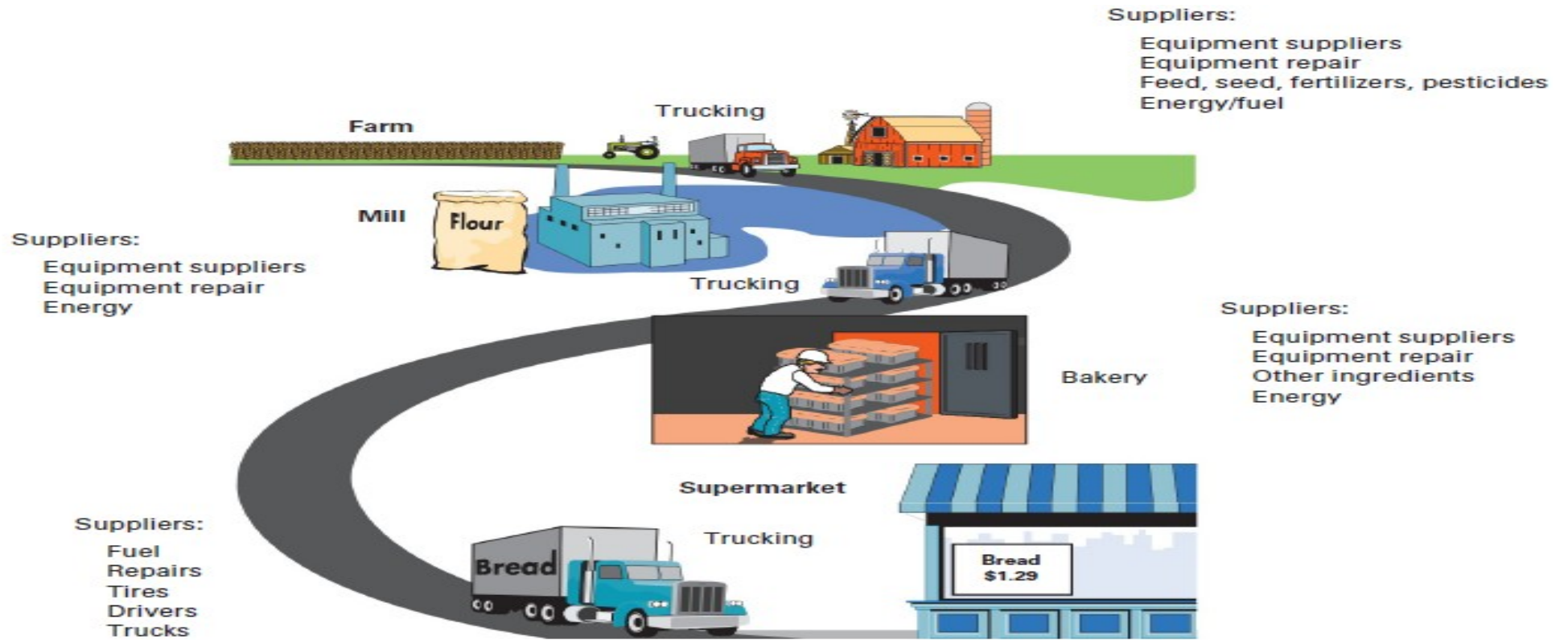


Supply Chain

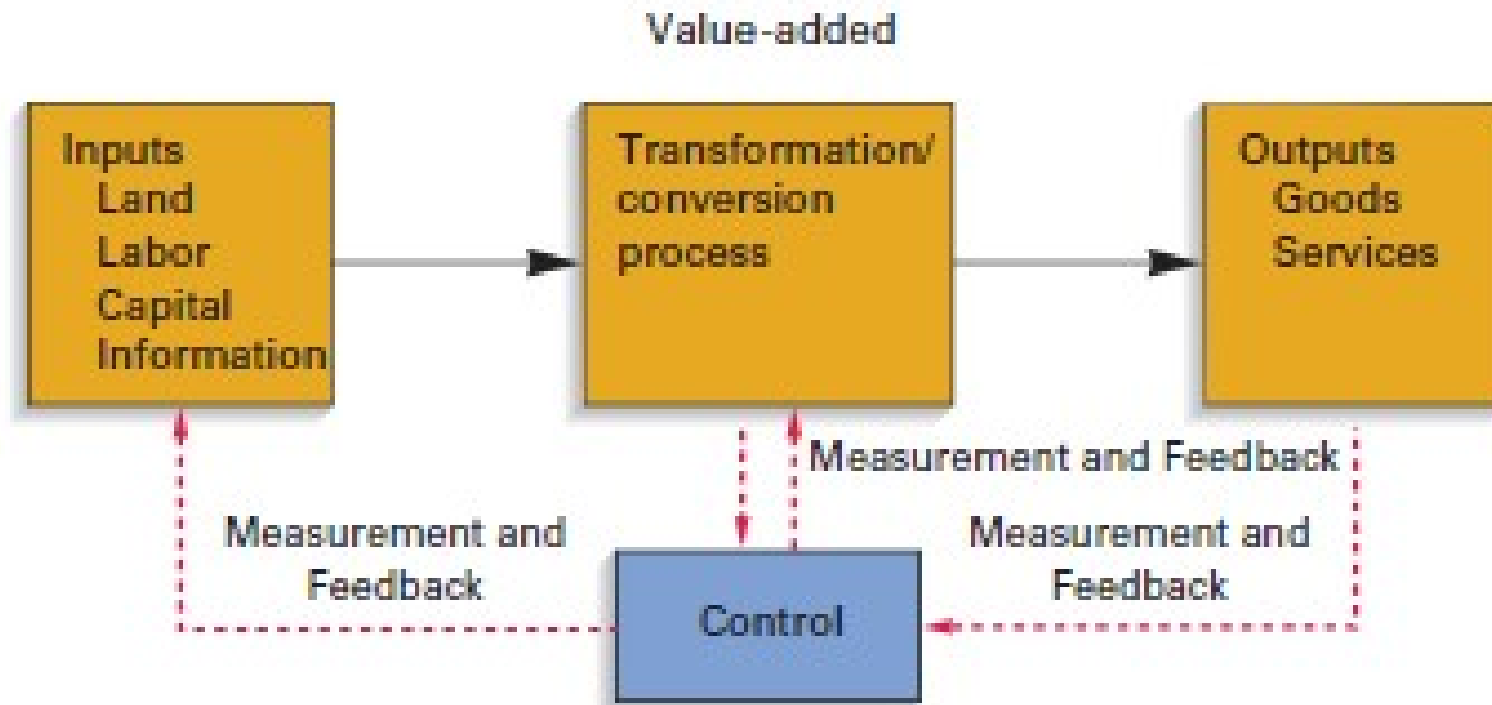
Supply Chain – a sequence of activities and organizations involved in producing and delivering a good or service.



A supply chain for bread



Conversion System of Supply Chain

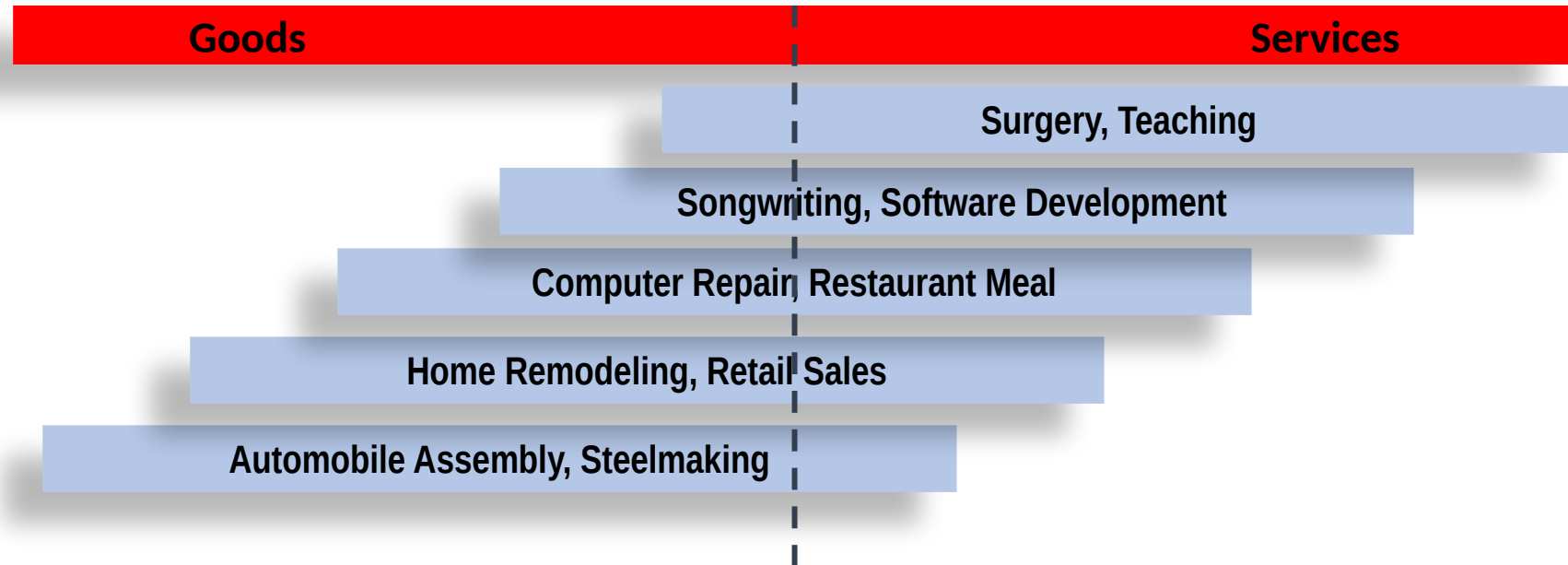


Inputs	Transformation	Outputs
Land	Processes	High goods percentage
Human	Cutting, drilling	Houses
Physical labor	Transporting	Automobiles
Intellectual labor	Teaching	Clothing
Capital	Farming	Computers
Raw materials	Mixing	Machines
Water	Packing	Televisions
Metals	Copying, faxing	Food products
Wood	Analyzing	Textbooks
Equipment	Developing	CD players
Machines	Searching	High service percentage
Computers	Researching	Health care
Trucks	Repairing	Entertainment
Tools	Innovating	Car repair
Facilities	Debugging	Legal
Hospitals	Selling	Banking
Factories		Communication
Retail stores		
Energy		
Other		
Information		
Time		
Legal constraints		
Government regulations		



Goods-service Continuum

Products are typically neither purely service- or purely goods-based.



Differences Between Goods and Services

Characteristic	Goods	Services
Output	Tangible	Intangible
Customer contact	Low	High
Labor content	Low	High
Uniformity of Input	High	Low
Measurement of Productivity	Easy	Difficult
Opportunity to correct problems before delivery	High	Low
Inventory	Much	Little
Wages	Narrow range	Wide range
Patentable	Usually	Not usually



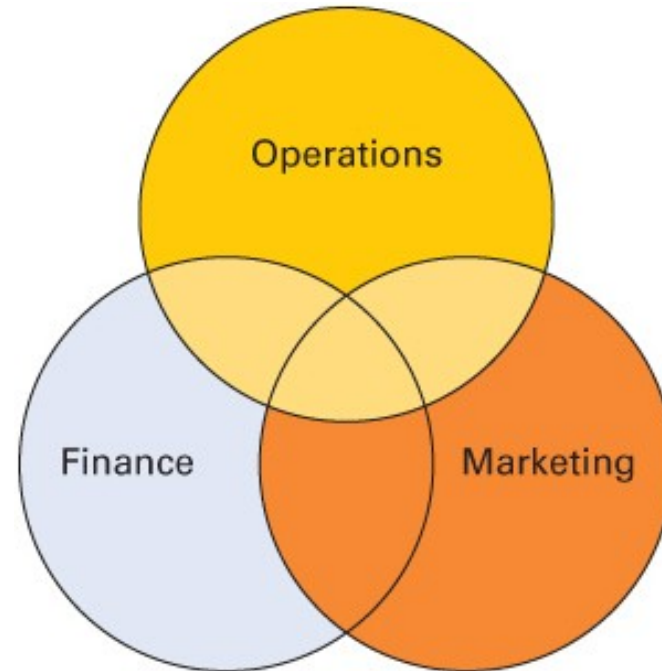
Why Study Operations Management?

- Every aspect of business affects or is affected by operations
- Many service jobs are closely related to operations
 - Financial services
 - Marketing services
 - Accounting services
 - Information services
- Through learning about operations and supply chains you will have a better understanding of:
 - The world you live in
 - The global dependencies of companies and nations
 - Reasons that companies succeed or fail
 - The importance of working with others



Function Overlap

- Finance & Operations
 - Budgeting
 - Economic analysis of investment proposals
 - Provision of funds
- Marketing & Operations
 - Demand data
 - Product and service design
 - Competitor analysis
 - Lead time data



Supporting Functions



Process Management

Process - one or more actions that transform inputs into outputs

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.



Role of the Operations Manager

The **Operations Function** consists of all activities *directly* related to producing goods or providing services.

A primary function of the operations manager is to guide the system by decision making.

- System Design Decisions
- System Operation Decisions



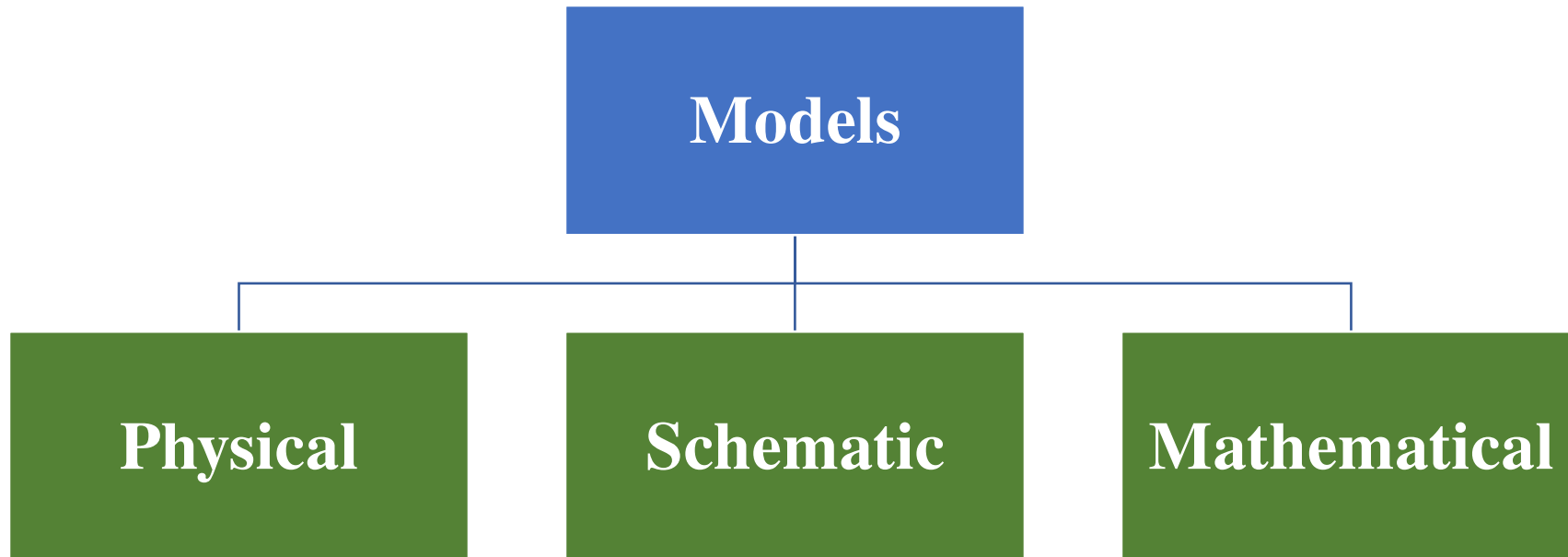
OM Decision Making

- 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?
 - ***How:*** How will the product or service be designed? How will the work be done? How will resources be allocated?
 - ***Who:*** Who will do the work?



Models

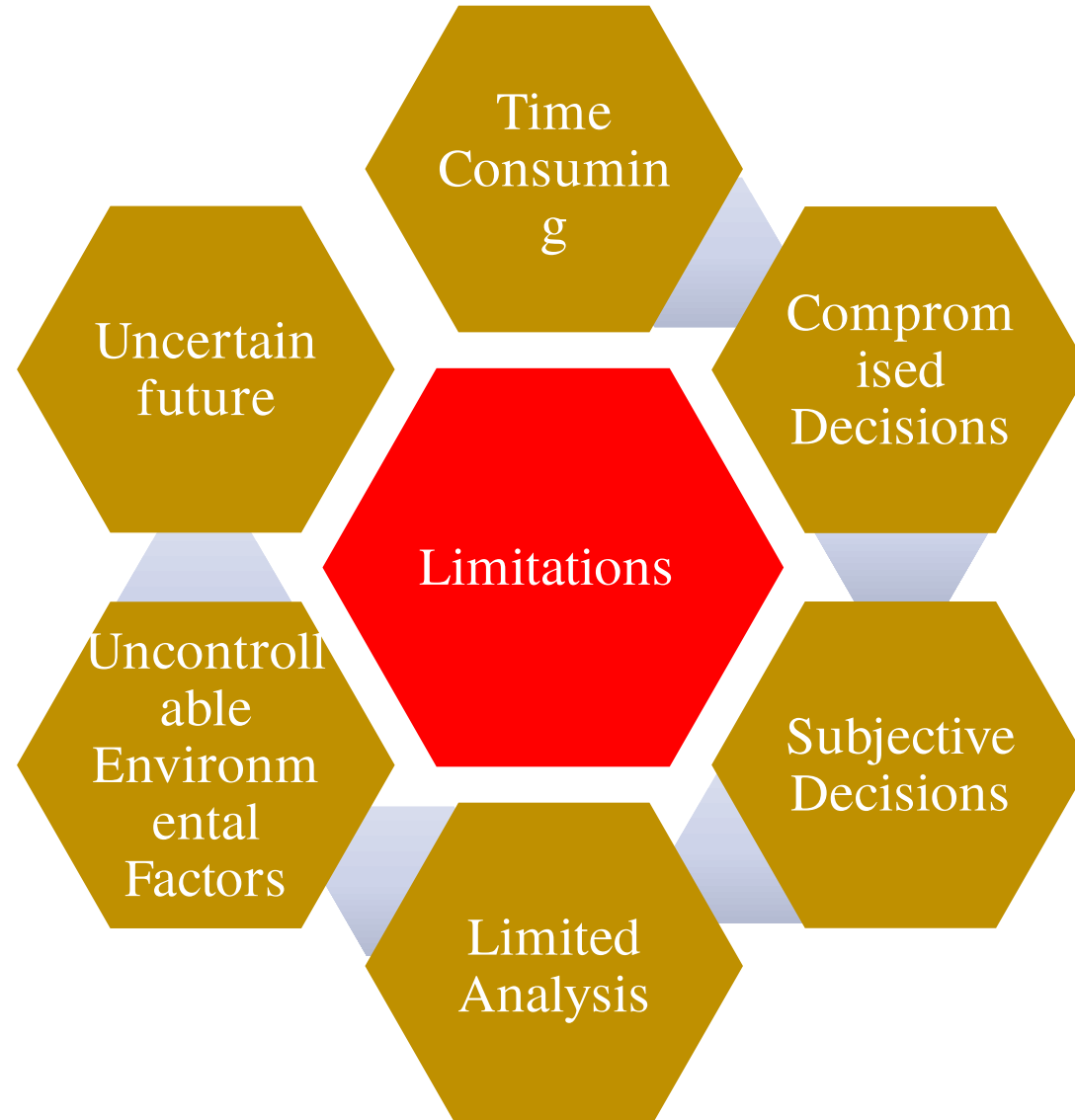
A model is an abstraction of reality, a simplified representation of something.



Benefits of Models



Limitations of Models



Metrics and Trade-Offs

- **Performance Metrics**

- All managers use metrics to manage and control operations
 - Profits
 - Costs
 - Quality
 - Productivity
 - Flexibility
 - Inventories
 - Schedules
 - Forecast accuracy

- **Analysis of Trade-Offs**

- A trade-off is giving up one thing in return for something else
 - Carrying more inventory (an expense) in order to achieve a greater level of customer service



What Operations Managers Do

Basic Management Functions

- ✓ Planning
- ✓ Organizing
- ✓ Staffing
- ✓ Leading
- ✓ Controlling



Key Issues for Operations Managers Today

- Economic conditions
- Innovating
- Quality problems
- Risk management
- Competing in a global economy



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

The need to improve operations

Increasing globalization

Increasing levels of outsourcing

Increasing importance of e-business

Increasing transportation costs

The complexity of supply chains

Competitive pressures

The need to manage inventories



