

Post Graduate Diploma in Management – 2020-21

Introduction to Operations and Supply Chain Management

Vinay Kumar Kalakbandi
Area Chairperson and Assistant Professor
Operations Management

Thursday, August 13, 2020



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What is this course all about?

The design, operation, and improvement of the systems that create and deliver the firm's primary products and services.

Science and art of ensuring that goods and services are created and delivered successfully to customers.

Transforming resources to value to customers

Matching supply with demand

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Key Role of an Operations Manager

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Role of Operations Manager



PLANNING



SOURCING



MAKING



DELIVERING



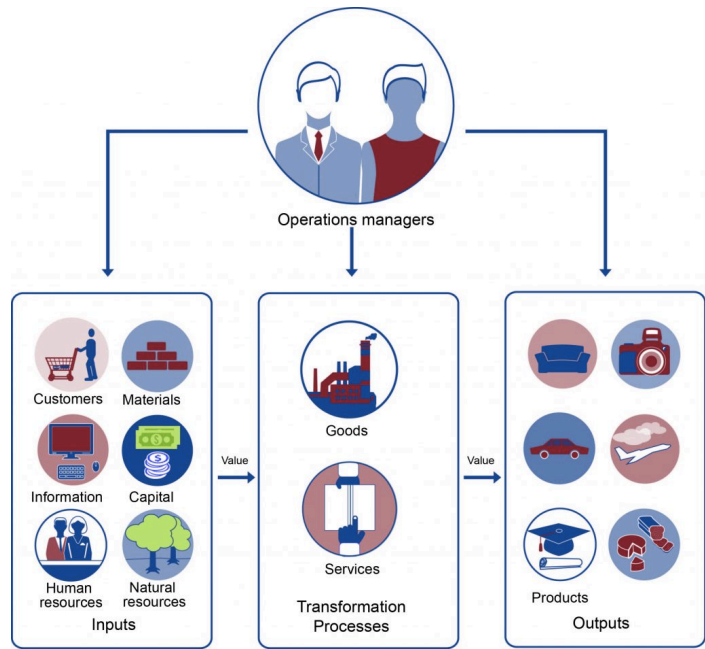
RETURNING

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Transformation

- Physical
- Location
- Exchange
- Storage
- Physiological
- Psychological
- Informational



Operations Management

Systems and processes that convert inputs in the form of material, labor and investment into value adding goods and services.

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exhibit 1.4

The Goods–Services Continuum


Pure Goods	Core Goods	Core Services	Pure Services
Food products	Appliances	Hotels	Teaching
Chemicals	Data storage systems	Airlines	Medical advice
Book publishing	Automobiles	Internet service providers	Financial consulting

Goods ←————→ Services


Source: Anders Gustafsson and Michael D. Johnson, *Competing in a Service Economy* (San Francisco: Jossey-Bass, 2003), p. 7. Copyright © 2003 Jossey-Bass. Reproduced with permission of John Wiley & Sons, Inc.

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Customers




Information



Materials

 Physical			
 Location			
 Exchange/Possession			
 Storage			
 Physiological			
 Psychological			
 Informational			

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...Harnessing Knowledge for Businesses

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TRANSFORMATIONAL CHANGE	TRANSFORMATION PROCESSES		
	Material processing	Information processing	Customer processing
Physical	The bakery is converting flour, yeast and water into bread through its core process.		
Informational		Customer orders will be converted into schedules.	Customers may need to be informed of the delivery schedule.
Possession	The bread is being sold to someone. This could be to a customer directly or to a wholesaler.	Production information such as schedules or quality reports may be shared with suppliers, customers or other departments.	

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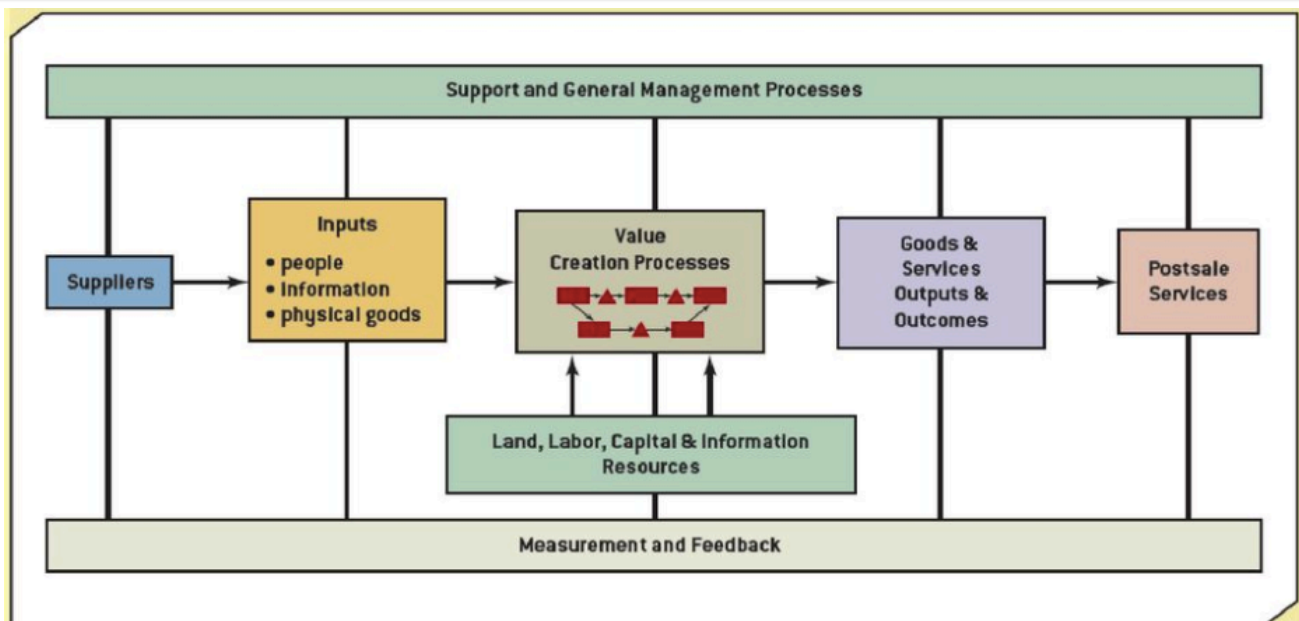
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TRANSFORMATIONAL CHANGE	TRANSFORMATION PROCESSES		
	Material processing	Information processing	Customer processing
Location	The bread will need to be moved from inside the factory to the customer, possibly via a logistics warehouse.	Information will be sent from one location to another during the planning and delivery processes.	
Storage	Raw materials and finished goods may have to be stored before use or transportation.	Information about orders and schedules will have to be stored.	
Physiological/ Psychological			It would only be if the bakery made specific efforts to engage customers that a psychological transformation took place, e.g. reassuring the customer of supplying the product on time.

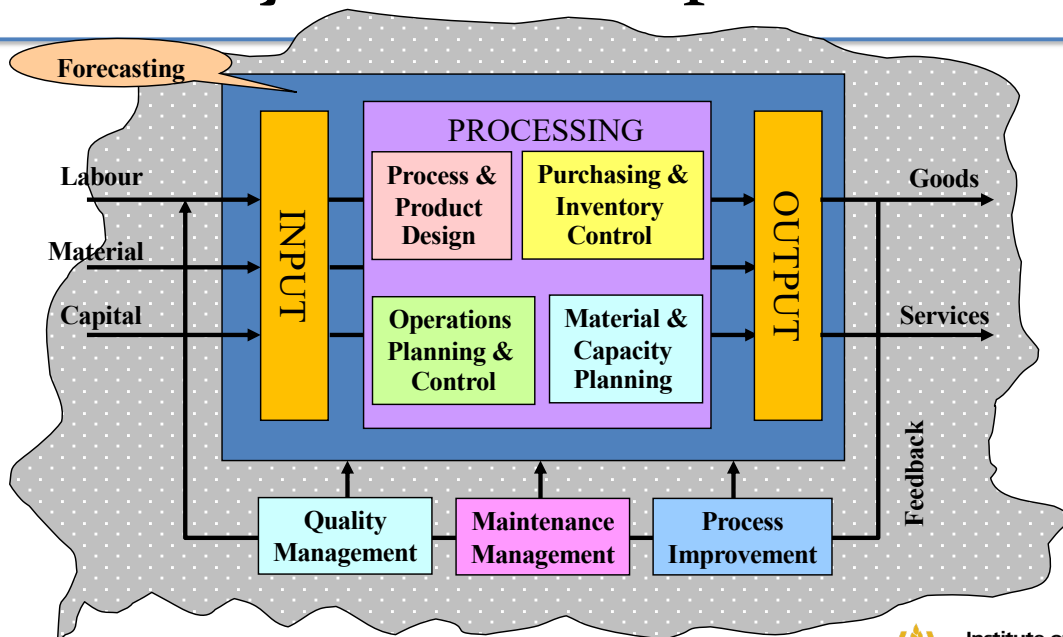
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Input-Output Perspective



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A Systems Perspective



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Operations Management Tasks

Design tasks	Planning and control	Improvement
Product/service design Layout and flow, especially detailed layout	Workforce planning Shift patterns Work allocation Scheduling of orders Capacity plans Stock control Quality planning and control Error correction	New product introduction Continuous improvement 'Lean thinking' Team-based quality improvement

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Productivity Measurement

- Productivity is a measure of how well resources are used
- Productivity = $\frac{\text{Outputs}}{\text{Inputs}}$
- Productivity is a relative measure
 - Must be compared to something else to be meaningful
 - Operations can be compared to each other
 - Firms can be compared to other firms
- Singlefactor/Partial productivity measures compare output to a single input
- Multifactor productivity measures compare output to a group of inputs
- Total productivity measures compare output to all inputs

Measures of Productivity

Single Factor-Productivity		
$\frac{\text{Output}}{\text{Labor}}$	$\frac{\text{Output}}{\text{Materials}}$	$\frac{\text{Output}}{\text{Capital}}$
Multifactor Productivity		
$\frac{\text{Output}}{\text{Labor} + \text{Materials} + \text{Overhead}}$		$\frac{\text{Output}}{\text{Labor} + \text{Energy} + \text{Capital}}$
Total Factor Productivity		
$\frac{\text{Goods and services produced}}{\text{All inputs used to produce them}}$		

Productivity Calculation

Partial Measures of Productivity

BUSINESS	PRODUCTIVITY MEASURE
Restaurant	Customers (meals) per labor hour
Retail store	Sales per square foot
Chicken farm	Lb. of meat per lb. of feed
Utility plant	Kilowatt hours per ton of coal
Paper mill	Tons of paper per cord of wood

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Which airline is better?

	Cost per available seat mile	Passengers per employee	Employees per aircraft
Southwest	7.0	2,443	81
AMR	8.9	840	152
Northwest	9.1	919	127
Delta	9.4	1,114	134
UAL	9.6	795	157
USAIR	10.8	1,118	111

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Further on systems perspective

- Transformational process is integral to all verticals of the organization
- What is the transformational process in
 - Finance
 - Marketing
 - HR
- Organizational sub-process could be viewed as systems in themselves and OM logic applied
- Systems are a point of analysis in OM

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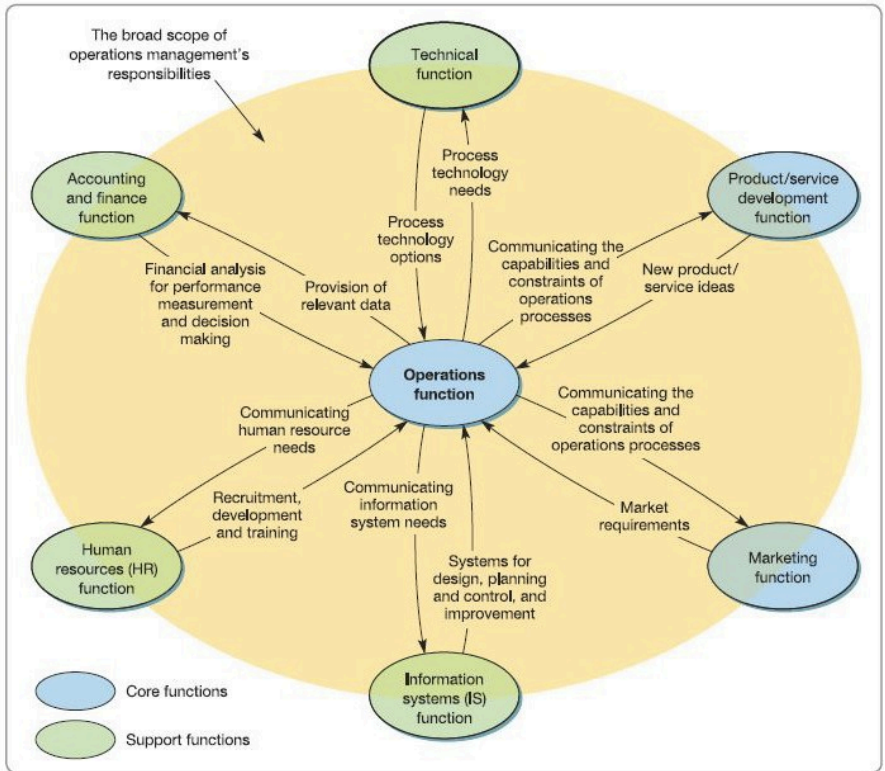
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Assignment 1

- Pick a business of your choice. Write a short description of the business and its activities.
- Develop the transformation matrix for the business.
- Propose any three productivity measures for the business.

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