



OPS 370

Introduction to Operations Management

Day 1: July 8, 2014
Bremen, Germany

The background of the slide features a light blue gradient with a faint, semi-transparent image of classical architectural columns on the left side. The columns are white with detailed capitals and are set against a darker blue background. The entire slide is framed by a thin brown border.

Welcome!, Today:

- Introductions/Overview
- Module 1: What is Operations Management?
- Break
- Module 2: Operations Strategies

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Introductions

- Name
- Where you are from?
- What is your major(s), minor(s)?
- When do you expect to graduate?
- What is unique about yourself?

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Tom Janicki

- UNCW – 15 years
- Originally from Pittsburgh

Syllabus / Expectations



Topics

Test 1 Topics

Projects

1. - Register In Entropy

Study Guides

Test #1 - July 21

<http://csbapp.uncw.edu/janickit/ops370>

Evaluation

1. **Homeworks and In Class Assignments:** will count as **30%** of your grade
2. **Exams** – Two exams will be **55%** of your grade
3. **Presentation** will count as **10%** of your grade, you will be responsible to bring in one current event related to operations/service issues in the news.
4. **Class contribution** will count as **5%** of your grade



How can I help you learn?



What should I expect from you?

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Learning Module 1

WHAT ARE THE THEMES OF OPERATIONS MANAGEMENT?



**SPARKLING
SPRING WATER**
RASPBERRY LIME
MIX WITH VODKA

79

Service Update

Updated Tuesday, December 24, 2013

UPS understands the importance of your holiday shipments. All of our drivers are out making deliveries throughout the day and into the evening. The volume of air packages in our system exceeded the capacity of our network as demand was much greater than the forecast, resulting in some shipments being delayed. We expect a vast majority of these packages will be delivered the day after Christmas. We sincerely apologize for any inconvenience. For the most-up-to-date information, click here to track your specific [shipment's progress](#) on UPS.com.



U.S. Inaction Lets Look-Alike Tubes Kill Patients

By GARDINER HARRIS

Published: August 20, 2010

Thirty-five weeks pregnant, Robin Rodgers was [vomiting](#) and losing weight, so her doctor hospitalized her and ordered that she be fed through a tube until the birth of her daughter.

 [Enlarge This Image](#)




Ed Zurga for The New York Times


Robin Rodgers and her unborn child died after a bag of tube feeding formula was mistakenly connected to an existing intravenous line.


 [Enlarge This Image](#)


But in a mistake that stemmed from years of lax federal oversight of medical devices, the hospital mixed up the tubes. Instead of snaking a tube through Ms. Rodgers's nose and into her stomach, the nurse instead coupled the liquid-food bag to a tube that entered a vein.


Putting such food directly into the bloodstream is like pouring concrete down a drain. Ms. Rodgers was soon in agony.

 RECOMMEND


 TWITTER

 LINKEDIN

 SIGN IN TO E-MAIL

 PRINT

 REPRINTS

 SHARE



Kellogg's Company

- Leading Producer of:

- Cereals
- Breakfast Products
- Snack Products

The Kellogg's logo is displayed in a red, cursive script font on a white rectangular background. The letters are thick and have a classic, flowing appearance.

- Global Presence

- Operations Decisions

- Product Mix at Each Plant?
- Which Suppliers?
- Inventory Levels at Plants, DCs, and Retailers?
- Forecasting Demand?

Business Environment



Operations Management

- Designing Products and Services



Operations Management

- Facility Location and Layout



Operations Management

- Project Management



Operations Management

- Scheduling Operations



NEW KIOSKS FOR GROUND HANDLERS—ARINC Incorporated will demonstrate its new LocalServ Kiosk System, designed for use by ground handling companies and airlines without access to host computers. LocalServ opens the door to convenient self-service check-in for the passengers of any airline.

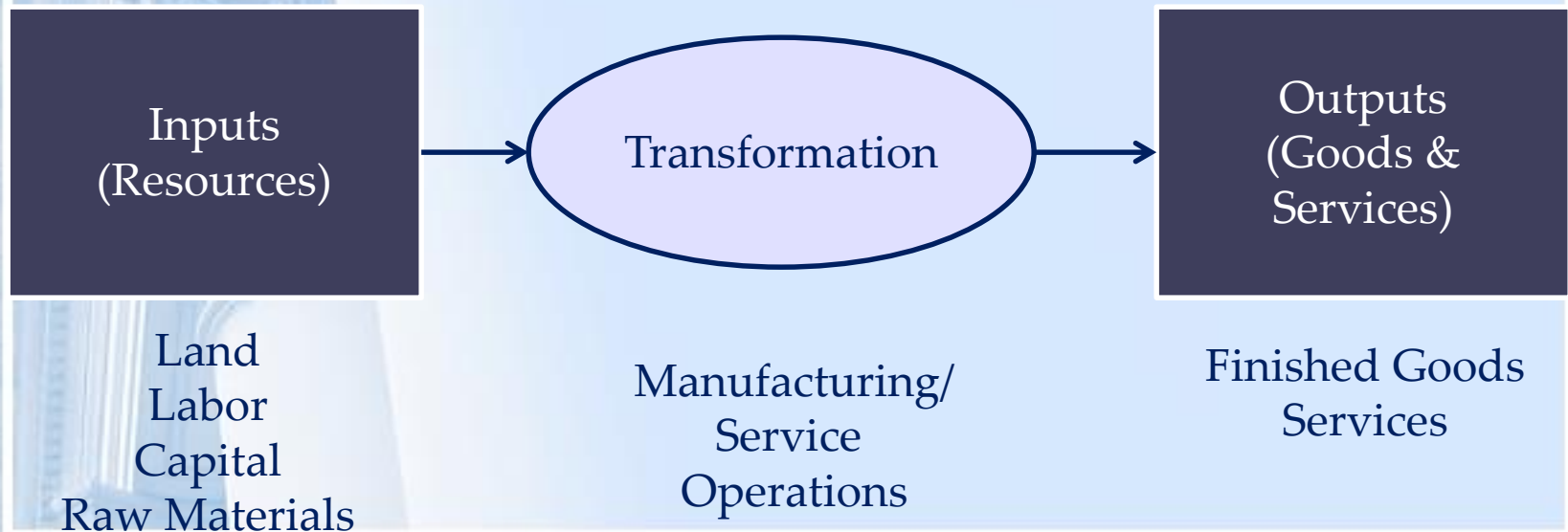
Operations Management

- Inventory Control



What is Operations Management?

The **planning, scheduling, and controlling** the activities that **transform** inputs into goods and services (APICS)



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For the Following Operations...

- What are the Inputs (Resources)?
- Identify the Transformation Taking Place...
- What are the Outputs?

Mercedes Benz



US Pipe Co



Bank



Grocery Distribution Center



Why Study Operations Management?

- Core of every enterprise
 - Manufacturing transformations
 - Aerospace
 - Automotive
 - Consumer Goods
 - Health Care
 - Technology

Why Study Operations Management?

- Core of every enterprise
 - Service transformations
 - Banking
 - Healthcare
 - Airlines
 - Entertainment
 - Hospitality

Why Study Operations Management?

- Core of every enterprise
- 50% or more of all jobs
 - Customer service
 - Quality assurance
 - Production
 - Purchasing/Materials management
 - Supply chain management
 - Many more

Operations Management Decisions

- Process
- Quality
- Capacity
- Inventory

Operations Management Decisions



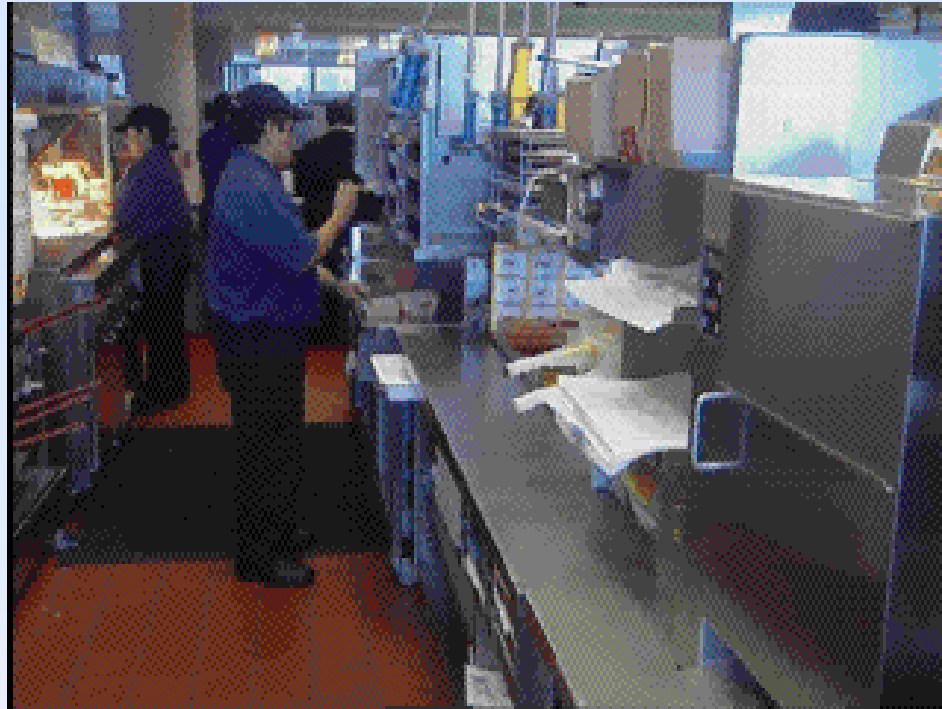
Where to locate franchises?

Operations Management Decisions



Process?

Operations Management Decisions



Number of workers scheduled at each station?

Operations Management Decisions



Customer service?

Operations Management Decisions



Forecasting park demands

Reducing wait times

Managing projects



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Interfaces

- Finance
- Accounting
- Marketing
- Engineering
- Human Resources
- Information Systems

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Operation Management's Contributions to Society

- Higher Standard of Living
 - Ability to increase productivity
 - Lower cost of goods and services
- Better Quality Goods and Services
 - Competition increases quality


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Operation Management's Contributions to Society

- Concern for the Environment
 - Recycling and concern for air and water quality
- Improved Working Conditions
 - Better job design and employee participation

Drivers of Change in Operations

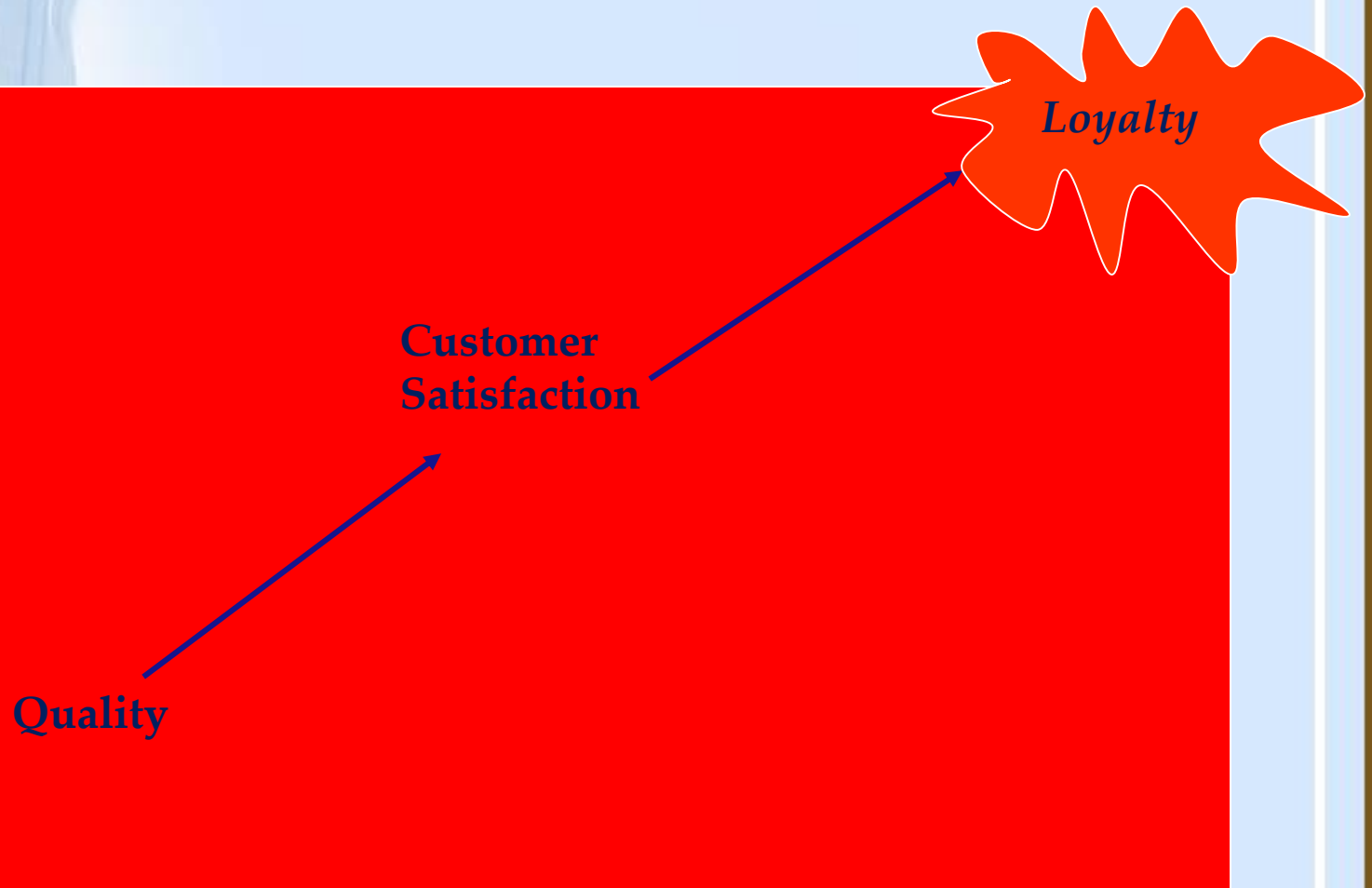
- **Increased Global Competition**
 - Transformation into a global economy
 - Pressure to excel on multiple competitive dimensions
 - **Increased emphasis on logistics**
- **Advances in Technology**
 - Information technology (IT)
 - Internet email and commerce (B2B)
 - Automation and robotics

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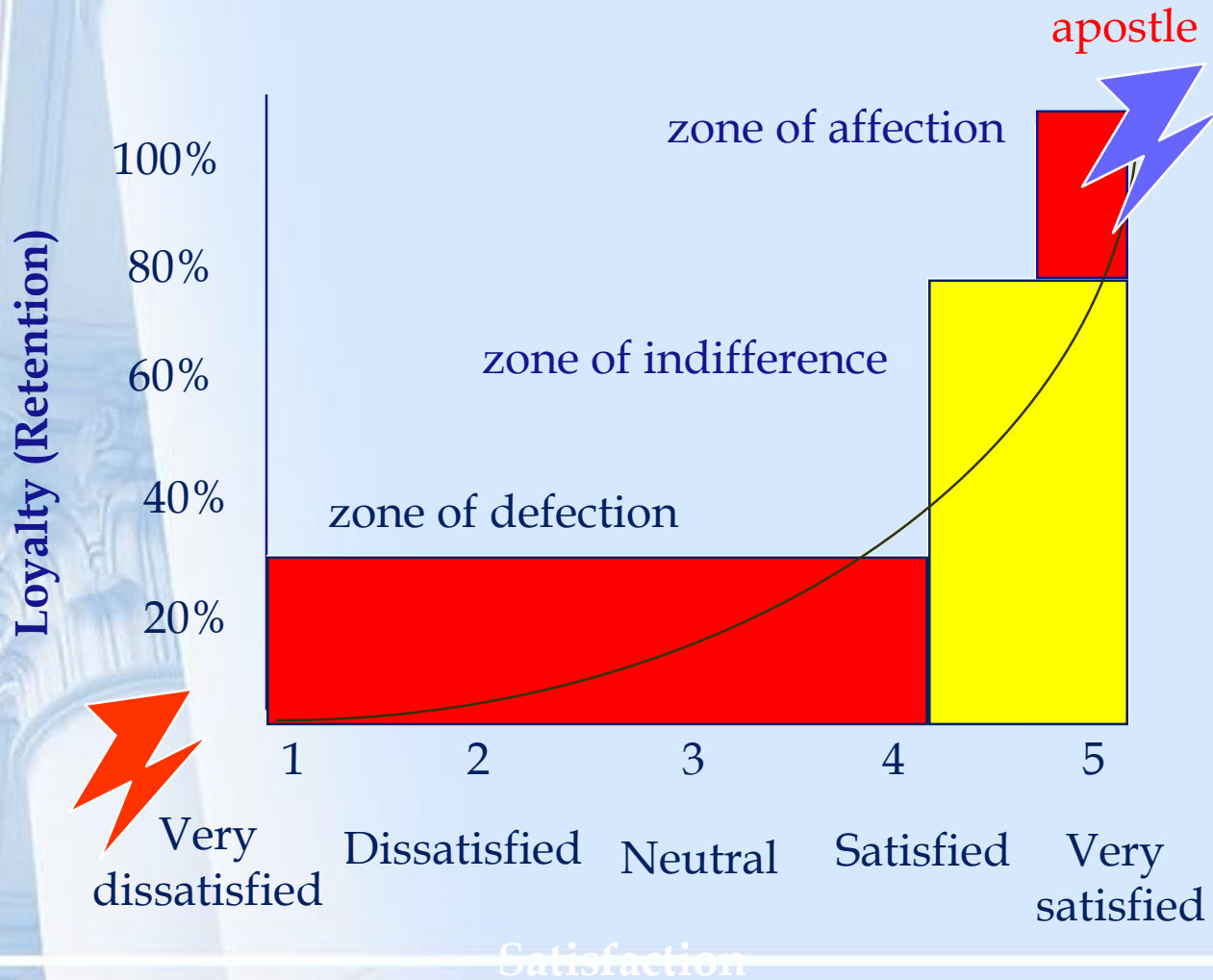
Operations is About Making Business Run Better

- More Efficiently
- With Higher Customer Satisfaction

The Goal of Operations *and business!*



Satisfaction and Loyalty



Service vs. Manufacturing Operations

- Services

- Intangible product
- Product cannot be inventoried
- High customer contact
- Short response time
- Labor intensive

- Manufacturing

- Tangible product
- Product can be inventoried
- Low customer contact
- Longer response time
- Capital intensive

Similarities-Service/Manufacturing

- Use technology
- Have quality, productivity, & response issues
- Must forecast demand
- Have capacity, layout, and location issues
- Customers and suppliers
- Scheduling and staffing issues

Why Manufacturing Still Matters...

- Millions of World Wide Manufacturing Jobs
- Manufacturing Jobs Typically Have Higher Salaries and Better Benefits
- Manufacturing Industries Drive Technology Innovation





KEY TERM - PRODUCTIVITY

Productivity

- How Well Is the OM Transformation Performed?

$$\text{Productivity} = \frac{\text{Outputs}}{\text{Inputs}}$$

- Flexible → Can Quantify One or More Measures

Productivity Measures

- **Partial-Factor Productivity →**
Output Compared to a Single Input
 - Example: Labor Productivity = Outputs/Labor
- **Multi-Factor Productivity →**
Output Compared to a Subset of Inputs
 - Example: $\text{Outputs}/(\text{Labor \$} + \text{Energy\$})$
- **Total-Factor Productivity →**
Output Compared to All Inputs
 - Example: $\text{Outputs}/(\text{Labor \$} + \text{Materials \$} + \text{etc.})$

Productivity

- Productivity is a Relative Measurement!
- Need to Perform Comparisons
- **Can Measure Change in Productivity:**

$$\text{Change in Productivity} = \frac{P_2 - P_1}{P_1}$$

– Multiply by 100 to Express in %

Productivity Example (Labor)

	2009			2010		
	Cars Sold	Employees \$	Mat'ls \$	Cars Sold	Employees \$	Mat'ls \$
Chairman Motors	65,000	17.8	34.5	68,000	21.2	39.7
Cookie Cars	53,000	12.3	27.7	49,000	9.8	24.3
Riley Auto	94,000	18.8	41.2	111,000	19.5	44.4

* Assume Costs in Millions of \$

- What are the Inputs and Outputs?
- Labor Productivity Values (2009)?
 - Chairman: $65,000/17.8 = 3652$
 - Cookie: $53,000/12.3 = 4309$
 - Riley: $94,000/18.8 = 5000$

Productivity Example (Labor)

	2009			2010		
	Cars Sold	Employees \$	Mat'ls \$	Cars Sold	Employees \$	Mat'ls \$
Chairman Motors	65,000	17.8	34.5	68,000	21.2	39.7
Cookie Cars	53,000	12.3	27.7	49,000	9.8	24.3
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- Total Productivity Values (2010)?

- Chairman:
- Cookie:
- Riley:

Productivity Example (Labor)

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- % Change in Total Productivity from '09-'10?
 - Chairman:
 - Cookie:
 - Riley:

Module 1 - Summary

- What is operations management?
- What are areas involved with key decisions
- What are key drivers of change impacting OM?
- How is productivity measured?