JP Jekaterina Privis

Operations Management

This course examines the concepts of how companies manage the various components of their business to achieve and maintain profitability.

- Operations Management and Value Chains
- Operations Strategy
- Supply Chain Design
- Process Selection and Design, Facility and Work Design
- Forecasting and Demand Planning, Cpacity Management
- Managing Inventories, Supply Chain Management/ Logistics/ Resource Management
- Operations Scheduling and Sequencing, Quality Management
- Quality Control, Lean Operations Systems
- Quiz

Operations Management and Value Chains

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Introduction and process lecture

Operations Management (OM) is the science and art of ensuring that goods and services are created and delivered successfully to customers.

Principles of OM are used in goods manufacturing and production activities

Goods and services are two major transactions between buyers and sellers

Evaluating the value of products and customer benefit packages are a part of OM activities

OM should focus on developing sustainable business operations

CONTINUE

Operations Strategy

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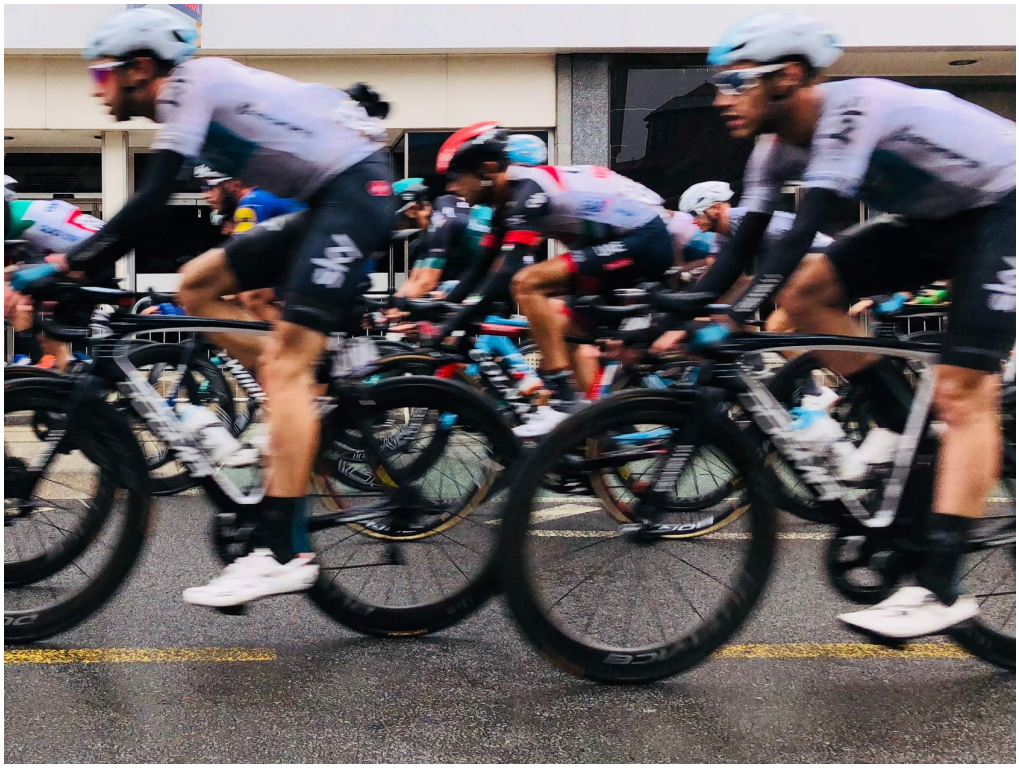
Operations Strategy and Competitiveness Lecture

Competitive Priorities



Step 1

Cost


2011.06.30
2011.09.30
2011.12.31
2012.03.31
2012.06.30
8 000 000
7 000 000
1/128in

Step 2

Time

Step 3

Quality

Step 4

Flexibility

Summary

Competitive advantage is required to show a firm's ability to achieve superiority over its competitors

CONTINUE

Supply Chain Design

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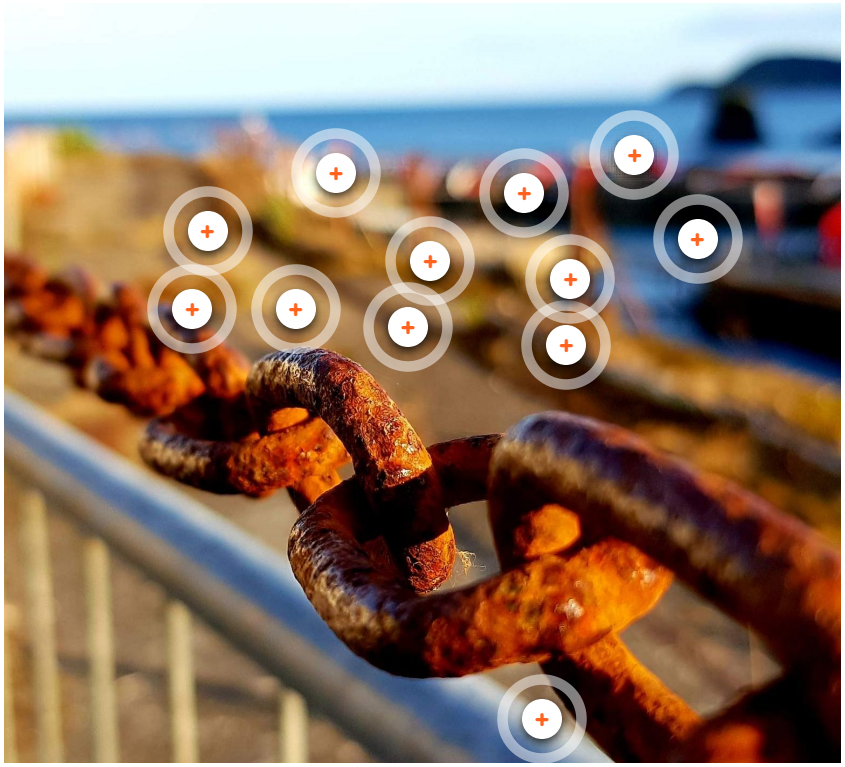
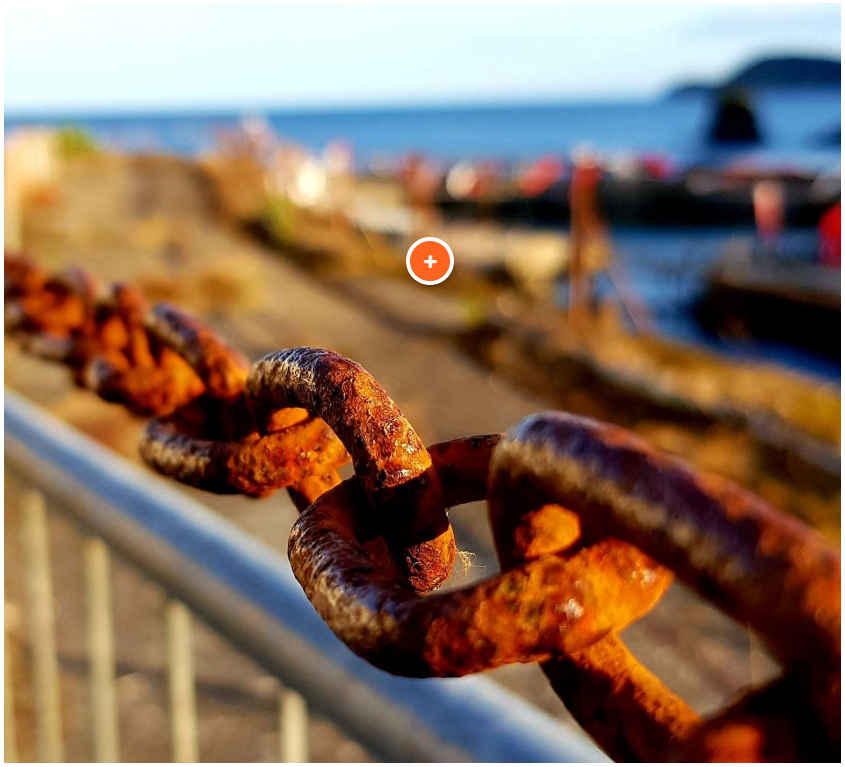
What is Supply Chain Management?

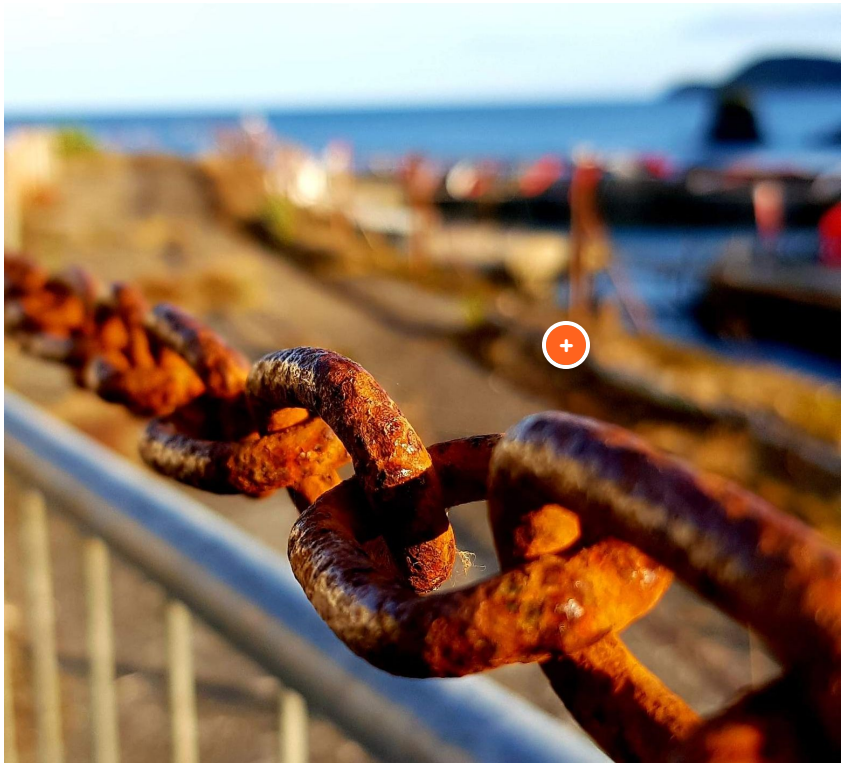
Supply Chain Design Decisions





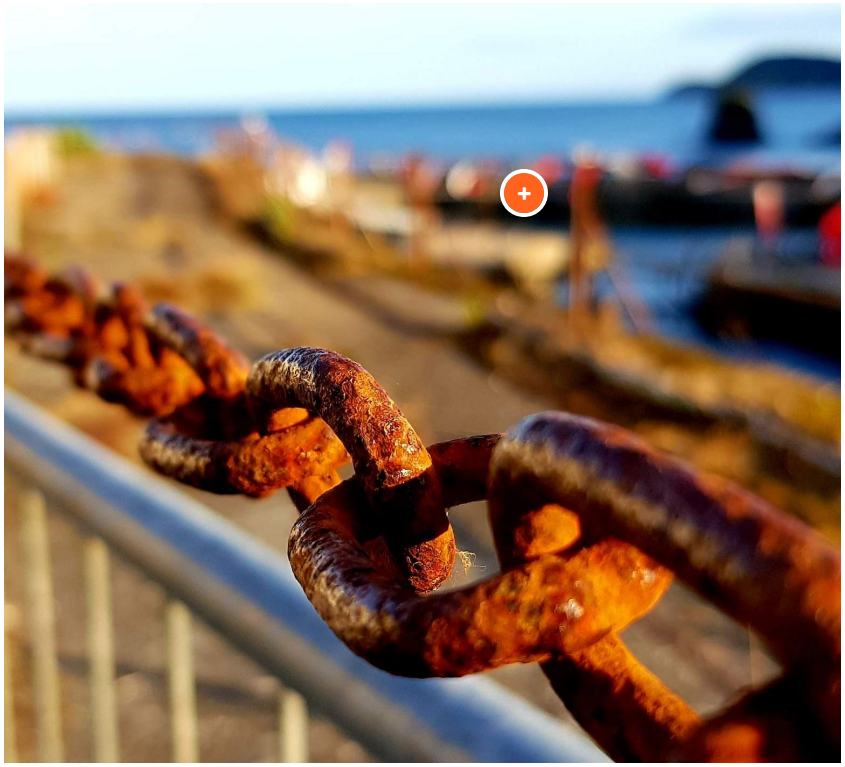
Item 1

Strategy



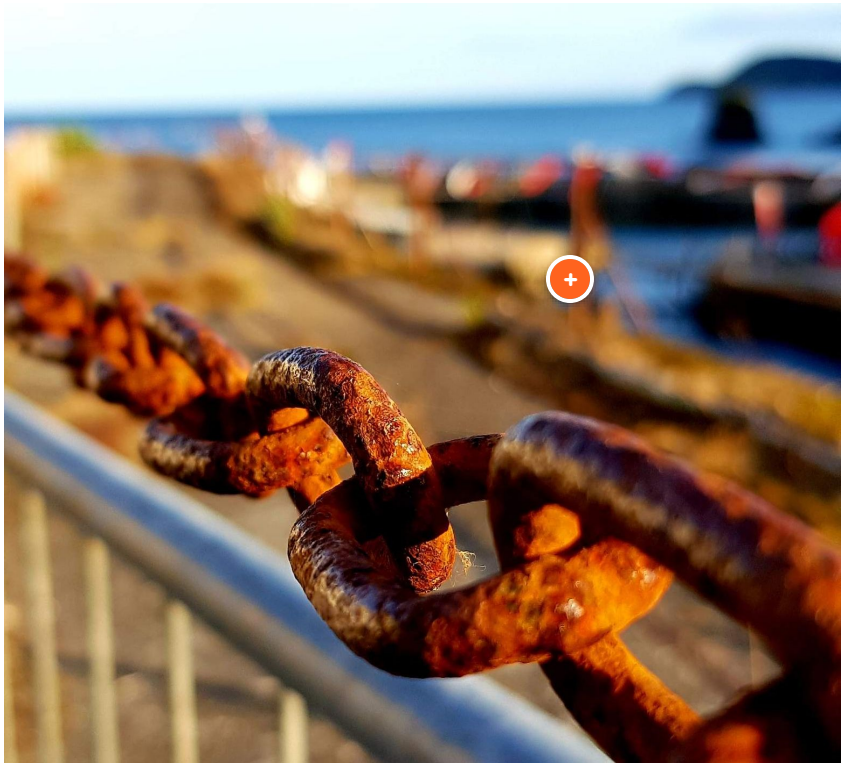
Item 11

Measuring performance



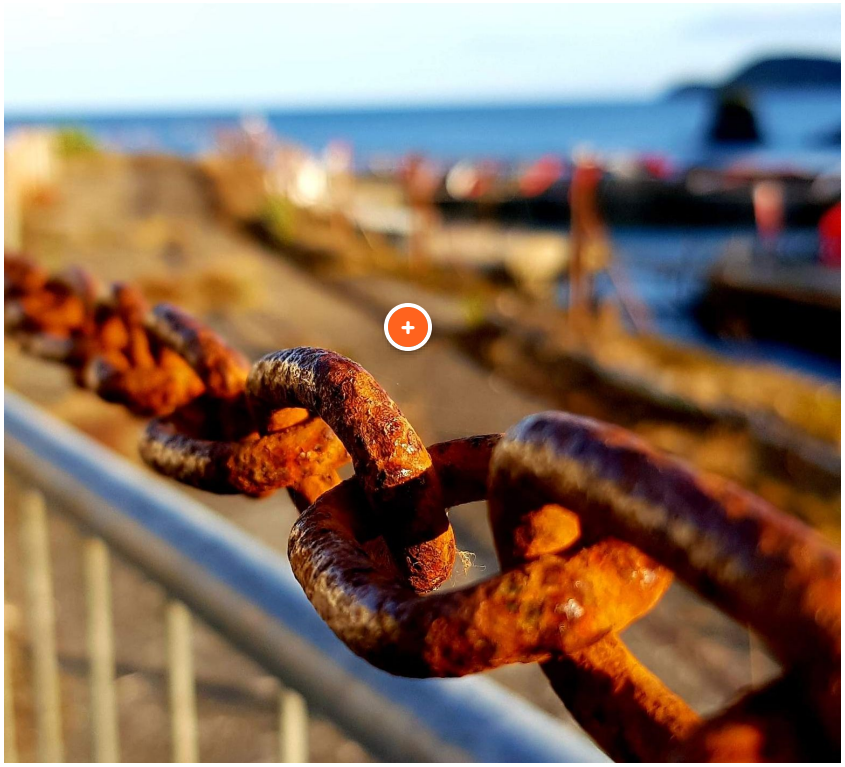
Item 10

Managing risk



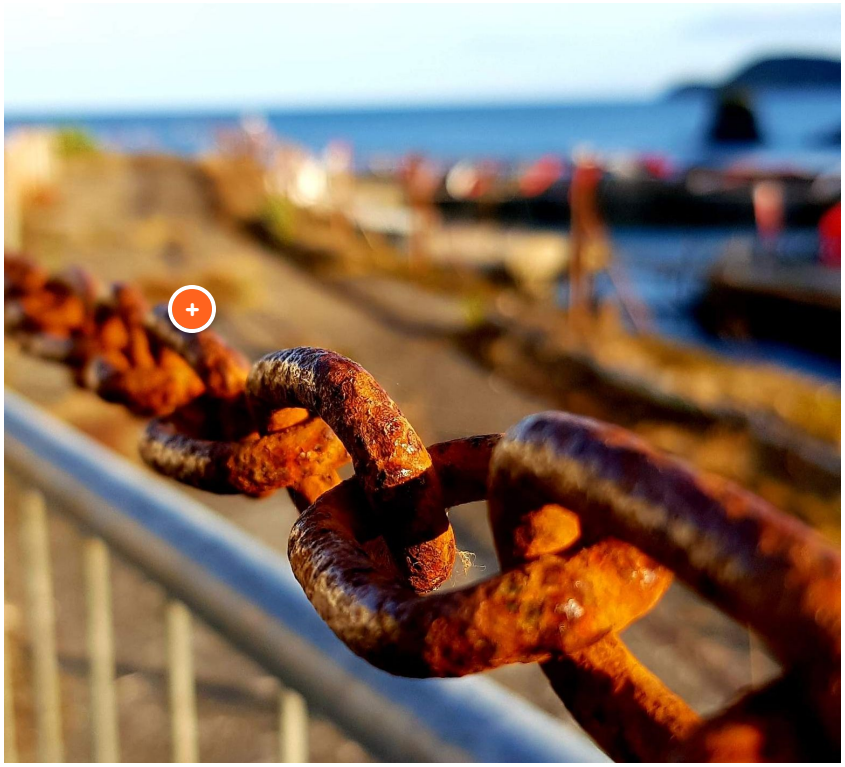
Item 9

Outsourcing



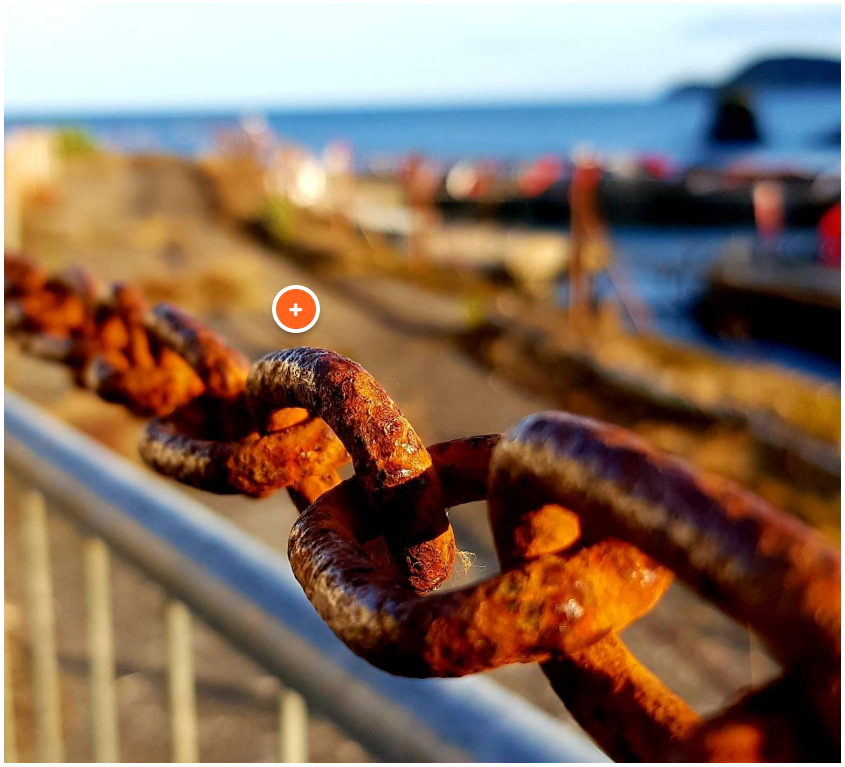
Item 8

Logistics and transportation



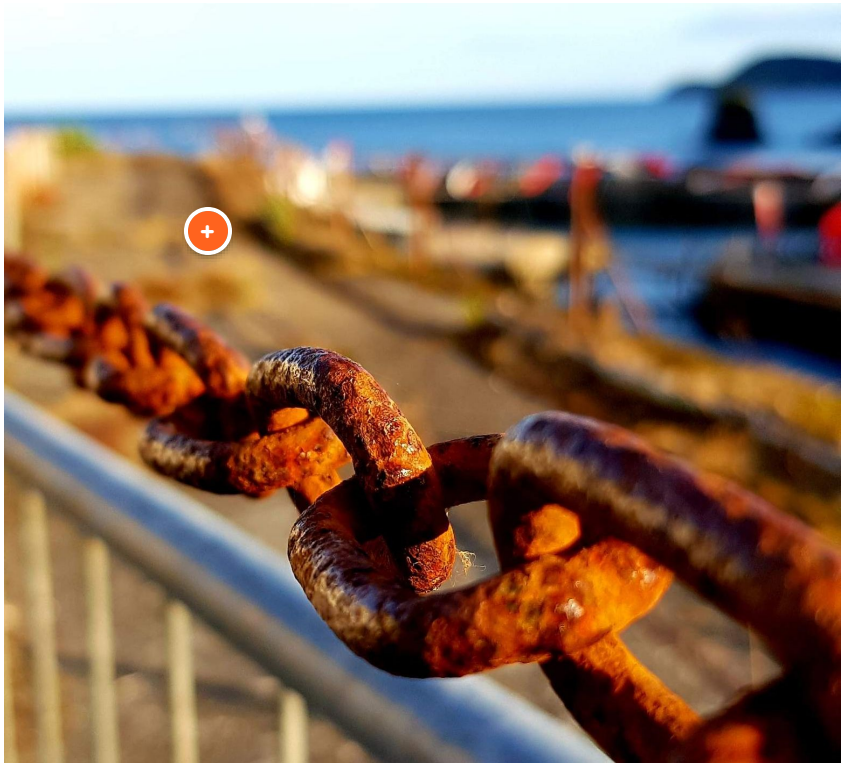
Item 7

Sourcing



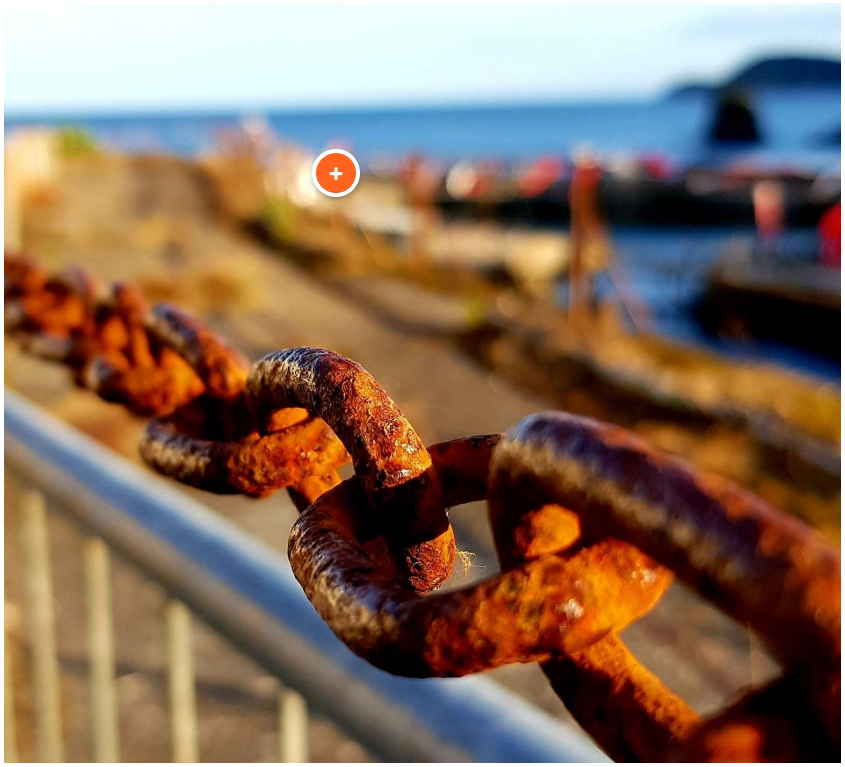
Item 6

Digital Content



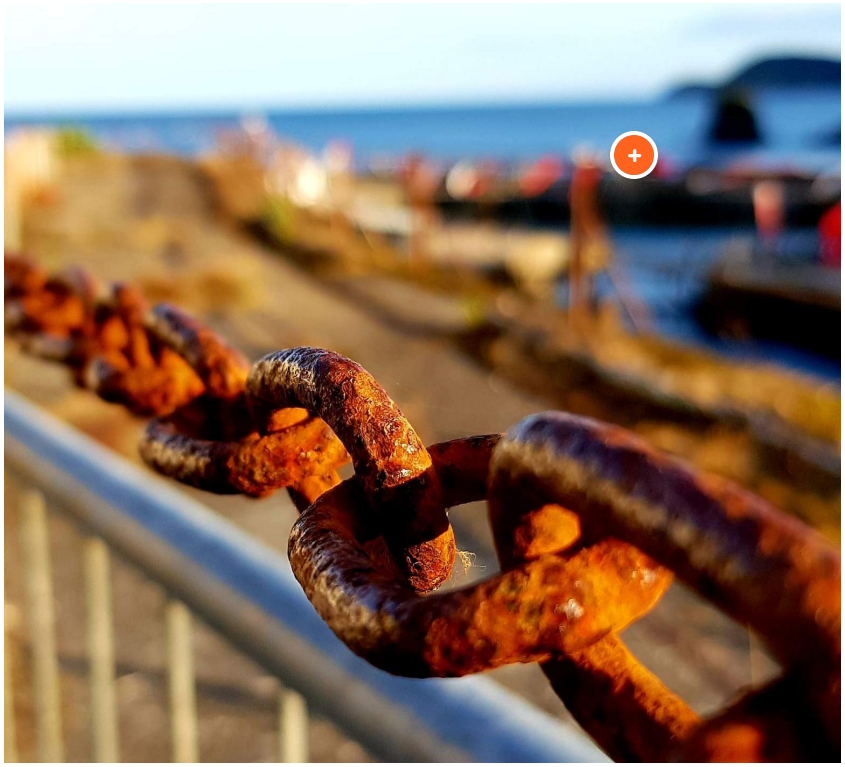
Item 5

Technology



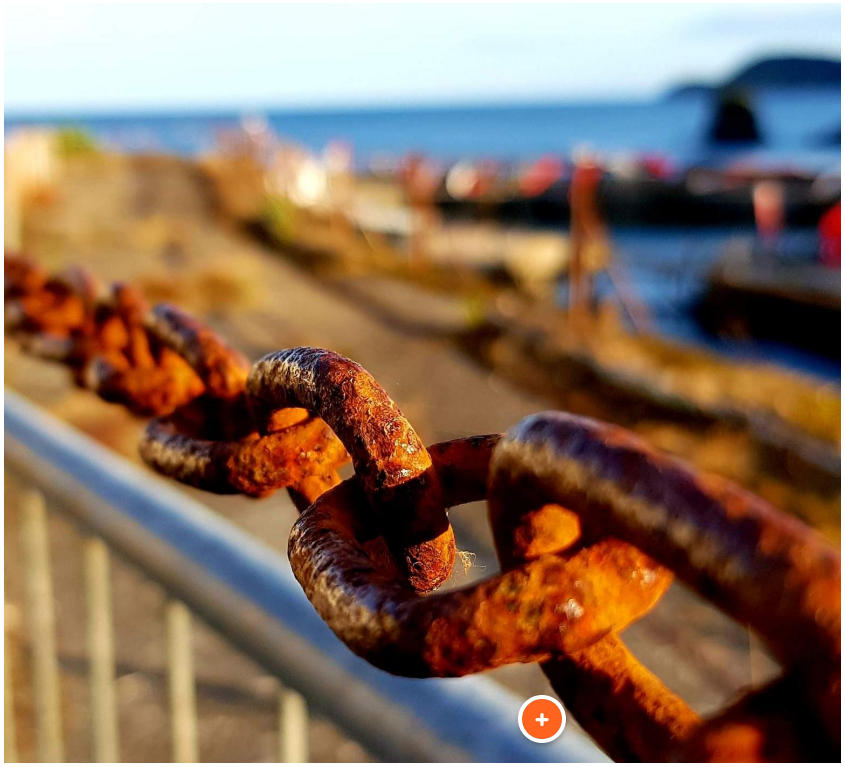
Item 4

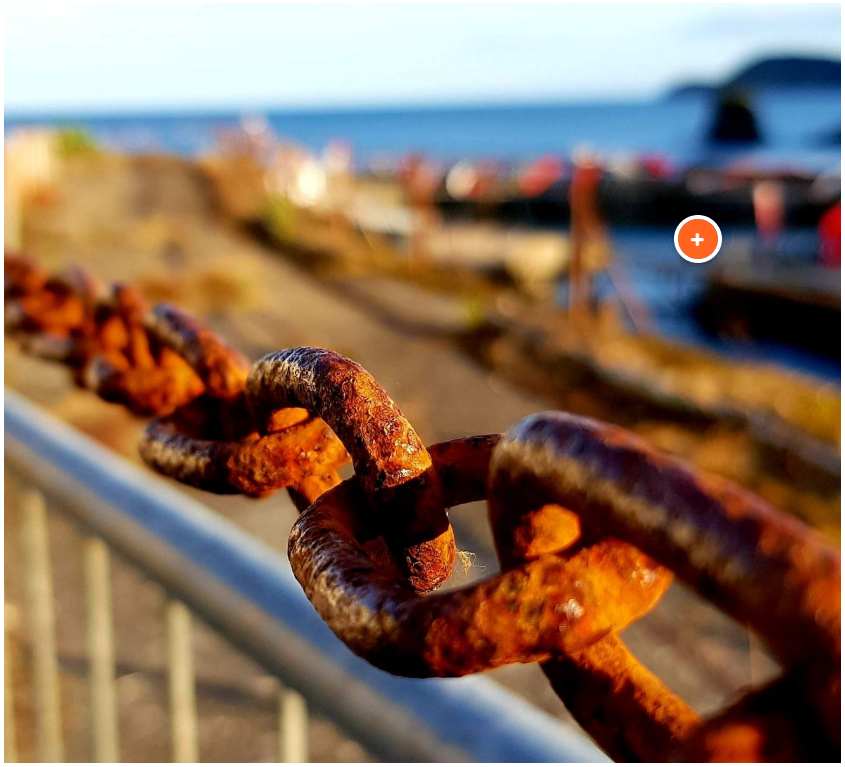
Sustainability



Item 3

Location





Item 2

Control

CONTINUE

Process Selection and Design, Facility and Work Design

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Types of Production Systems

Types of Goods and Services

Custom or make-to-order	- Produced and delivered as one of a kind or in small quantities - Designed to meet specific customer's specifications

Option or assemble-to-order	- Configuration of standard parts, subassemblies, or services that can be selected by customers from a limited set
Standard or make-to-stock	Made according to a fixed design that leaves the customers with no options to choose from

Facility and Work Design Learning Outcomes

1. Describe four layout patterns and when they should be used

2. Explain how to design product layouts using assembly- line balancing

3. Explain the concepts of process layout

4. Describe issues related to workplace design

5. Describe the human issue related to workplace design

CONTINUE

Forecasting and Demand Planning, Cpacity Management

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Forecasting Methods Overview

- Process of projecting the values of one or more variables into the future is known as forecasting
- Statistical forecasting and regression analysis are methods used for forecasting
- Judgmental forecasting relies upon opinions and expertise of people in developing forecasts

Capacity Management

Capacity Planning- Overview and Key Concepts

Key Terms:

Step 1

Capacity

Step 2

Economies of scale

Step 3

Diseconomies of scale

Step 4

Focused factory

Step 5

Safety capacity (or capacity cushion)

Step 6

Work order

Step 7

Complementary goods and services

Step 8

Reservation

Step 9

Revenue management system (RMS)

Step 10

Theory of Constraints

Step 11

Throughput

Step 12

Constraint

Step 13

Physical constraint

Step 14

Bottleneck (BN) work activity

Step 15

Nonbottleneck (NBN) work activity

Step 16

Nonphysical constraint

CONTINUE

Managing Inventories, Supply Chain Management/ Logistics/ Resource Management

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Inventory Management

Types of Inventory

Role of Inventory in the Value Chain

Managing Inventories in Global Supply Chains

Categories of Inventory Costs

Inventory Characteristics

ABC Inventory Analysis

Supply Chain Management and Logistics

Management of all activities that facilitate the fullfillment of a customer order for a manufactured good

Resource Management

1. Resource management deals with planning, execution, and control of resources used to produce goods or provide services.
2. Resource planning framework includes aggregate planning, disaggregation, and execution.
3. Manufacturing firms disaggregate aggregate plans into executable operations plans.
4. CRP helps accomplish the tasks of production.

CONTINUE

Operations Scheduling and Sequencing, Quality Management

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Scheduling

Assignment of start and completion times to particular jobs, people, or equipment.

Sequencing

Determination of the order in which jobs or tasks are processed.

Quality Management

- GAP model helps identify and close the largest gaps and improve quality.
- ISO 9000: 2000 provides a set of good basic practices for initiating a basic quality management system.
- Six Sigma seeks to find and eliminate causes of defects and errors in manufacturing and serving processes.
- Kaizen and Poka- yoke approach help in quality improvement.

CONTINUE

Quality Control, Lean Operations Systems

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Summary

- Statistical process control (SPC) is used for monitoring quality of manufacturing and service- delivery processes.
- Control charts help analyse the desirable quality characteristics of a process.
- Process capability study yields information about the performance of a process under specified operating conditions.
- Lean operating system is defined as manufacturing and service operations that apply the principles of lean enterprise.
- Lean tools focus on streamlining processes, while Six Sigma tools focus on root causes of problems.
- Just-in-time systems are based on the concept of pull rather than push.

CONTINUE

Quiz

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Question

01/30

….. involves the activities relating to procuring materials and supplies consumed during production

- Purchasing
- Selling
- Pricing
- Distributing

Question

02/30

....is the sum all the observations and divided by the total number of observations?

- [ ] Mean
- [ ] Median
- [ ] Mode

Question

03/30

The concept of Job enrichment is a contribution by....

- Frederick Herzberg
- FW Taylor
- CK Prahlad
- Peter F Ducker

Question

04/30

....is a graphical and algebraic representation of the relationships among volume of output, cost and revenues.

- Break- Even Analysis
- Break mechanism
- Fixed analysis
- None of these

Question

05/30

….is the process of comparing actual performance with the standard and taking corrective Action.

- Controlling
- Management
- Planning
- Co-ordination

Question

06/30

....is the process of randomly inspecting a sample of goods and deciding whether to accept the entire lot based on the results

- ◯ Acceptance sampling
- ◯ Statistical process control
- ◯ None of these

Question

07/30

....refers to preserving goods in a protected environment.

- Storage
- Alteration
- Inspection
- Bargaining

Question

08/30

Moving of materials from the store room to the machine and from one machine to the next machine during the process of manufacture is called

- Material handling
- VED analysis
- ABC Analysis
- None of these

Question

09/30

Operation process chart is also called as

- Outline process chart
- Online chart
- None of these

Question

10/30

….aims at visualizing and identifying deviation before they actually occur.

- Predictive control
- Concurrent control
- Operational control
- All of these

Question

11/30

....refers to the verification of and confirmation towards the requirements of an entity.

- Pricing
- Inspection
- Alteration
- None of these

Question

12/30

....is a system that is used to maintain a desired level of quality in a product or service.

- Quality control
- Economic ordering quantity
- Knowledge management
- Manpower planning

Question

13/30

It is a chart where activities of more than subject (worker or equipment) are each recorded on a common time scale to show their inter-relationship.

- ◯ Single activity chart
- ◯ Multiple activity charts
- ◯ Charting
- ◯ None of these

Question

14/30

Statistical inference applied to product quality: quality control charts are contributed by

- WA Shewart
- HF Dodge & HG Roming
- PMBlacker & others
- John Mauchlly and JPEckert

Question

15/30

Which of the following is not a key way in which business organizations compete with one another?

- Production cost
- Product duplication
- Flexibility
- Quality

Question

16/30

....is an assigning job to work centres without considering the work centres capacity

- ◯ Infinite loading
- ◯ Finite loading
- ◯ None of these

Question

17/30

....is concerned with deciding in advance what is to be produced, when to be produced, where to be produced and how to be produced

- Operational control
- Operational planning
- None of these

Question

18/30

....is the management of all activities directly related to the production of goods and services

- Finance control
- Production management
- Employee development
- all of these

Question

19/30

In.....type of organization, workers receive instructions from various specialists.

- Line
- Functional
- Informal
- None

Question

20/30

Operation management is applicable

- Mostly to the service sector
- Mostly to the manufacturing sector
- To manufacturing and service sectors
- To service exclusively

Question

21/30

Which one of the following is an objective of maintenance management?

- To reduce breakdown of machineries
- To keep the machines and other facilities in a good condition
- To keep the plant in good working condition
- All of these

Question

22/30

....is an organized creative approach which has its objective, the efficient identification of unnecessary cost which provides neither quality nor use nor life nor appearance nor customer features.

- Money chain
- Value analysis
- Supply chain
- None of these

Question

23/30

…. is the analysis and comparisons of items to group them into families with similar characteristics

- Mass technology
- Group Technology
- Independent Technology
- None of these

Question

24/30

Production facilities are arranged as per the sequence of production operations from the first operations to the finished product. This method is called

- ◯ Process production
- ◯ Job production
- ◯ Both of these
- ◯ None of these

Question

25/30

Which of the following statement is not true in the case of goods?

- Tangibility
- Can be stored
- Physical shape
- Intangibility

Question

26/30

...refers to the development of the concept or idea of a product in terms of specifications which are required for transforming the idea in to product

- Product design
- Product development
- None of these

Question

27/30

... are those materials and equipments which have no immediate use but have accumulated due to faulty planning, forecasting and purchasing.

- Surplus items
- Deficit items
- None of these
- a and b

Question

28/30

....is one that is capable of producing a variety of products (or parts) with virtually no time lost for changeovers form one product to the next.

- A fixed automated system
- A flexible automated system
- a and b
- None of these

Question

29/30

Which of the following is an objective of quality assurance?

- To improve quality
- To reduce cost
- To increase productivity
- all of these

Question

30/30

Which of the following is not an objective of operations management?

- Customer satisfaction
- Profitability
- Timeliness
- Employee punishment