ONLINE COURSE PRESENTAION

Operations Management: Analysis and Improvement Methods

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INTRODUCTION

Operations are the repetitive processes used to create and deliver products and services. This course introduces to tools, techniques and technologies used in operation management. It introduces us to a process view of operations and study the different metrics used to measure their performance. Calculation of process capacity under different process configuration and the effect of variability on process capacity will be discussed. It helps in learning the role of inventories play in operations and some common methods for calculating economic order quantities and re-order times.

We have learn about supply chains and the important factors to consider in sourcing decisions. The bullwhip effect in supply chain will be introduced and ways to mitigate it through information sharing will be discussed. Finally we look at continuous improvement techniques such as lean management and the six sigma methodology. This course intended as a two-part series on operation management.

GOALS AND OBJECTIVES

- Analyze operations and processes, select appropriate process type and calculate performance metrics for processes.
- Recognize the role of inventories in operation and their connection to other process metrics and calculate performance metrics for inventory system.
- Design an inventory management policy by calculating optimal quantities, safety stock and re-order point.

- **Demonstrate an understanding of the issues associated with managing supply chain and explain the bullwhip effect in supply chain and how it can be mitigated**

- **Apply transaction cost economics, strategic risk and economic criteria to make outsourcing decisions.**

- **Demonstrate an understanding of how Lean management and six sigma methodologies used to continually improve operations.**

- **Reorganize operation through continuous improvement method to reduce waste.**

COURSE METHODOLOGY

- Lecture videos
- Readings
- Quizzes
- Peer assignment

COURSE CONTENT

MODULE 1	**Process Analysis** • Process View of Operations • Process Flow Analysis • Capacity and Utilization • Little's Law
MODULE 2	**Inventory Management** • Inventory Basics • Economic Order Quantity • Re-Order Points
MODULE 3	**Supply Chain** • What is a Supply Chain? • Sourcing Decisions • Bullwhip Effect
MODULE 4	**Continuous Improvement** History of Continuous Improvement? Lean Management Six-Sigma Methodology

KEY LEARNINGS

- **We have learn about Lean Management and Six Sigma methodologies, how they are used to improve operation.**
- **We have learn to reorganize so as to improve waste.**
- **We come to know about cycle times, flow rates, throughout times, and how to calculate them for activities and processes.**
- **We have learn about bottle neck activities and understood the idea of capacity utilization.**
- **We have learn about Little's law, in we were introduced to the notion of inventories and how other process metrics are related to amount of inventory in a process.**