Course Case Map for
OPERATIONS MANAGEMENT

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Case Mapping for
OPERATIONS MANAGEMENT
by Jay Heizer | Barry Render | Jagadeesh Rajashekhar
9th Edition, Pearson Education
Course Case Map for
OPERATIONS MANAGEMENT

OPERATIONS MANAGEMENT

Introduction to Operations Management
Designing Operations
Managing Operations
Quantitative Modules

FOR OPERATIONS MANAGEMENT CASES

The Broad Areas of Operations Management
Concept & Practical Applications
Forward & Backward Linkages
Appropriate Statistical Tool(s)/Software

OPERATIONS – ORIENTATION

Define a Problem
Concept Mapping
Concept Modeling
Optimum Solution
Must-Read Article / Background Notes’ Inventory

1. Overcoming The Challenges In China Operations (Knowledge@Wharton And BCG, 2014)
2. Foreign Companies Hone New Strategies For Indian Manufacturing Operations (Knowledge@Wharton, 2014)
3. Rethinking Operations For A Two-Speed World (Knowledge@Wharton And BCG, 2014)
10. The Next Revolution In Productivity – Ric Merrifield; Jack Calhoun; Dennis Stevens (HBR, 2008)
12. ABCs Of The Critical Path Method – Ferdinand K. Levy; Gerald L. Thompson; Jerome D. Wiest (HBR, 1963)
13. Link Manufacturing Process And Product Life Cycles – Robert H. Hayes; Steven C. Wheelwright (HBR, 1979)
14. Managing As If Tomorrow Mattered – Robert H. Hayes; David A. Garvin (HBR, 1982)
17. The New Meaning Of Quality In The Information Age – C.K. Prahalad; M.S. Krishnan (HBR, 1999)
18. From Lean Production To The Lean Enterprise – James P. Womack; Daniel T. Jones (HBR, 1994)

23. Fast, Global And Entrepreneurial: Supply Chain Management, Hong Kong Style: An Interview With Victor Fung – Victor Fung; Joan Magretta (HBR, 1998)
31. Decoding The DNA Of TOYOTA Production System – Steven J. Spear; H. Kent Bowen (HBR, 2006)
32. The Contradictions That Drive TOYOTA’s Success – Hirotaka Takeuchi; Emi Osono; Norihiko Shimizu (HBR, 2008)
34. Competing On The 8 Dimensions Of Quality – David A. Garvin (HBR, 1987)
35. Conflicting Roles In Budgeting For Operations – M. Edgar Barrett; Leroy B. Fraser (HBR, 1997)
37. Creating A Culture Of Quality – Ashwin Srinivasan; Bryan Kurey (HBR, 2014)
38. Conflicting Roles In Budgeting For Operations – M. Edgar Barrett; Leroy B. Fraser (HBR, 1997)
41. Europe’s Solution Factories – Stephen E. Chick; Arnd Huchzermeier; Serguei Netessine (HBR, 2014)
42. The Focused Factory – C. Wickham Skinner (HBR, 1974)
44. Competing Through Manufacturing – Steven C. Wheelwright; Robert H. Hayes (HBR, 1985)
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**Hollywood Classics**
- Flight of the Phoenix
- Pirates of Silicon Valley
- The Goal
- Top Gun
- Gung Ho

**Widely-used Books for Statistics**
- The Goal: A Process of Ongoing Improvement, by Eliyahu M. Goldratt and Jeff Cox
- The Machine That Changed the World, by James P. Womack, Daniel T. Jones and Daniel Roos
- The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer by Jeffrey Liker
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Thomas Williams’s New Business Startup

Abstract:
This caselet is designed to have an overview and understand the strategic importance of Operations Management in any organization’s success or failure. To be used as the introductory case in Operations Management course, this caselet provides adequate breadth and width of operations as one of the key functions of a company. Structured around Thomas Williams’s (Thomas) new and small entrepreneurial venture, an Operations Manager’s roles and responsibilities can be analyzed and discussed. After losing his job due to the downsizing decision by NewsRoom, Thomas initiated a business venture Mawi Business Solutions (MBS) to offer web design services. The caselet also provides scope to discuss and debate on the challenges that the startup may face.

Pedagogical Objectives:
- To have an overview of the broad contours of Operations Management
- To analyze and discuss the role of operations in organizations
- To debate on difference between goods production and service operation
- To discuss how operations managers bring together different contributions to satisfy customers

Chapter Reading/Background Material:

Key Concepts/Keywords:
Operations Management; Decision Science; Analysis; Operations Manager; Inventory management; System; Manufacturing; Service; MBA Course Case Mapping; Production Management

Viva Automation’s Survival: Madan Mohan’s Revival Plan

Abstract:
This case study enables to critically analyze how Viva Automation which had invested in the Hi-Tech field of Robotics and Automation survived the competition and successfully strategized to grow exponentially in spite of facing the dark clouds of recession. The analysis involved the use of proven frameworks and chalking out a Business Plan which would take Viva to the next league of growth. The execution of this business plan warranted the involvement of management and the entire staff of Viva. The company had to revitalize itself to draw an altogether different business model wherein the company and its partners were motivated and explained the new path that the company would be striding on in the next 3 to 5 years. The goal defined was to grow the company Viva Automation from a ₹2.5 crore company to being a ₹30 crore company within a span of 3 years. Initially, this seemed to be an impossible task. But by using out of the box Business Strategies, good execution planning and excellent teamwork this company succeeded in achieving the goals set and is still continuing to do well even today.

Pedagogical Objectives:
- To draw the strategies which will grow the Viva Automation exponentially from a ₹2.5 crore company to ₹30 crore company in 3 years
- To perform the Competitor Analysis and strategize to beat the competition, gain market share and high business growth
- To analyze qualitatively and quantitatively whether a given investment in an identified Business Growth Area will give the requisite ROI in the short and long term
- To perform a GAP Analysis and find out those areas of concern where there needs be reinforcement of resources in order to achieve the laid down goals

Chapter Reading/Background Material:

Key Concepts/Keywords:
**Forecasting Dilemma at Dstore**

**Abstract:**
This caselet can be used to facilitate understanding of the concept of Forecasting in Operations Management. Bangalore-based Dstore (P) Ltd. (Dstore) is a growing pen drive manufacturer. The company's founder John Paul (John) faces a typical inventory problem i.e., overstock or shortage of few items because of inaccurate forecasting of demand. Since the inception, John had used the previous month's sales as the base to forecast for the next month and planned production accordingly. Nevertheless, Dstore was continuously facing the problem of overstock or shortage. To avoid this problem, John wanted accurate forecasting and he gave this assignment to the new joinee, Ram Charan (Ram). Ram wanted to do the forecasting as accurately as John expected it to be. Can Ram find a solution to the problem at Dstore? Will he be able to identify an apt method of forecasting suitable for Dstore?

**Pedagogical Objectives:**
- To understand the methods of forecasting and time horizons
- To discuss and analyze a suitable forecasting method for Dstore
- To understand the forecast accuracy

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Forecasting; Forecasting Methods; Time Horizons; Forecast Error; Moving Average; Production and Operations Management; Dilemma; Time Series; Trend Analysis; Regression; Exponential Smoothing

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**Crème Home a House of Quality**

**Abstract:**
This caselet helps to discuss the concept of ‘Quality Function Deployment’ and its benefit in product development. The caselet revolves around the dilemmas of Maria Fernandez, a young entrepreneur, who had established a retail ice cream parlor Crème Home. After a long stint of more than 5 years with a popular ice cream parlor chain, on seeing the potential market growth, Maria Fernandez decided to establish her own ice cream parlor. Her cousins extended financial help for her venture. A good product decision is a must for any organization’s existence. The product decision is to develop and implement a product strategy that meets the demand in the market. Maria Fernandez was in a dilemma on how to use the ‘wants’ of the super-premium market and the ‘hows’ (attributes) to be met by her firm to compete in the volatile market.

**Pedagogical Objectives:**
- To discuss and understand Quality Function Deployment and how does it benefit in Product Development
- To discuss and debate on House of Quality
- To understand and construct a House of Quality for Crème Home

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Management; Design of Goods and Services; Quality Function Deployment; House of Quality; Product Development; Competitor Analysis; Production Management

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Honda Cars India Ltd.'s Quality Journey

Abstract:
This case study is meant for learners pursuing a course in Operations Management. The case study helps to understand and describe quality and TQM in the context of Honda Cars India Ltd. (HCIL), a subsidiary of Japan-based Honda Motor Company. HCIL began its operations in December 1995 for the production, marketing and export of passenger cars in India. The company's product range includes Honda Brio, Honda Amaze, Honda City and Honda CR-V. After a lackluster performance in the initial days, HCIL started meticulous quality initiatives and focused on improved quality in its products through TQM approach. The case study gives scope to debate how focus on quality and TQM approach benefitted HCIL. It has to be seen whether the quality initiatives will be enough to the growth momentum for long drive.

Pedagogical Objectives:
- To discuss and describe Quality and TQM
- To debate on the benefits of improved quality and TQM
- To elucidate how benchmarking is used in TQM
- To discuss how HCIL implements quality and continuous improvement in its plants

Chapter Reading/Background Material:

Key Concepts/Keywords:
Total Quality Management (TQM); Quality; Kaizen; Continuous Improvement; Benchmarking; Just-in-Time (JIT); Quality Improvement; Profitability; Productivity; Capacity utilization; Sales Gain; Employee empowerment; Six Sigma

Defective Gasket Pressure at Hydrolock Manufacturing

Abstract:
This caselet enables a discussion on the concept of Control Charts, using the dilemma at Hydrolock Manufacturing Pvt. Ltd. (HM) an upcoming manufacturing company in Chennai, India, as the backdrop. Within a few years of its inception in 2008, as the demand for its products increased, the company was under tremendous pressure to increase the output. But, this resulted in quality problems in the products. Significant numbers of defectives were reported in the customer feedback. Newly appointed Quality Analyst, Antony Joseph implemented Statistical Process Control (SPC) methods to analyze the issue. Will the application of Statistical Process Control (SPC) help control the process?

Pedagogical Objectives:
- To discuss the concept of Control Charts
- To understand how to infer from control charts to improve the process

Chapter Reading/Background Material:

Key Concepts/Keywords:
Control Charts; Statistical Process Control; Run Charts; Control Limits; Sample Size; Margin of Error; P-Charts; Xbar Charts; Statistics for Management; Decision Sciences; Operations Management
### Keshav Motors: Process Analysis

**Abstract:**
Keshav Motors is a Bangalore-based manufacturer of electric bikes established by S. Keshav (Keshav) in 2013. In order to identify the bottleneck in the assembly process activity, Keshav decided to analyze the process design aspects with the help of assembly chart and flow diagram. This caselet can be used in Operations Management course and enables to analyze a process.

**Pedagogical Objectives:**
- To understand Process Analysis using Process Chart
- To discuss Measuring Process Performance
- To debate on Bottleneck Activity
- To understand Cycle time, Throughput Time and Value-added Time

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Process Analysis; Bottleneck; Process Performance; Assembly, process Chart; Flow Diagram; Production and Operations Management; Dilemma; Value-stream Mapping

### Capacity Management at James Bakery

**Abstract:**
This caselet helps to discuss the concept of Capacity management in Operations Management. The caselet is set in the backdrop of the dilemma faced by a married couple Zan Albert (Zan) and Angela Joveri (Angela) with their bakery business venture. As, both of them wanted to work together and Zan had an experience of baking cakes the couple had set up a small specialty business, which was receiving huge orders. However, the couple was wondering how to cope up with the demand in their small facility.

**Pedagogical Objectives:**
- To understand and discuss the basics of Capacity
- To debate on Capacity Management
- To understand and analyze Capacity Planning

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Capacity; Capacity Management; Capacity Planning; Design Capacity; Efficiency; Operations Management; Service management; Specialty Business
India Auto Components: Facility Location Dilemma

Abstract:
This caselet enables an understanding of the methods of location decision and also the application of Porter’s Diamond Model. T N Shetty (Shetty) started ‘India Auto Components Private Limited’ (IAC) in 2000, in South India. Shetty, a technical person, with adequate experience in the manufacturing sector, had decided to set up an auto component manufacturing unit. After zeroing in on four cities to set up a plant, Shetty was in a dilemma to select the most favorable location. Based on his proficiency in the field, he estimated the critical factors and rated the four chosen options. He estimated the number of trailer loads from six different suppliers and tabulated the longitude and latitude coordinates from the map. Can the application of these methods help in to zero in an apt location for his facility?

Pedagogical Objectives:
- To understand methods of location decision – Factor Rating Method, Simple Median Model, Centre of Gravity Technique and Load Distance Method
- To understand how to select a place/location with the help of ‘Factor Ratings’ method
- To understand how to identify the coordinates of a new facility location
- To analyze competitive advantage of a location using Porter’s Diamond Model

Chapter Reading/Background Material:

Key Concepts/Keywords:
Quantitative Methods; Control Charts; Statistical Process Control; Run Charts; Control Limits; Sample Size; Margin of Error; X-bar and R-Charts; Statistics for Management; Decision Sciences

Assembly Line Balancing at Overland Tourister

Abstract:
This caselet facilitates understanding the concept and importance of Assembly Line Balancing with the backdrop of a Chennai-based shoe manufacturer, Overland Tourister (Overland). With its promotional activities, Overland bagged a plum deal for 60,000 running shoes. Rajesh Pillai (Rajesh), founder, was apprehensive if the company would be able to manage bulk orders without any hiccups. Can Assembly Line Balancing ensure smooth operations at Overland?

Pedagogical Objectives:
- To understand the concept of assembly line balancing
- To deliberate on estimating efficiency of the organization using assembly line balancing

Chapter Reading/Background Material:

Key Concepts/Keywords:
Assembly Line; Assembly Line Balancing; Cycle Time; Efficiency; Decision Dilemmas; Operations Management
Managing Employee Turnover

Abstract:
This caselet describes employee attrition concerns faced by the Founders of Develop Computing, N. Gopi and M. Anjaneyalu. The caselet highlights the various issues like absenteeism, employee turnover, etc. The founders try to analyze the issues by interviewing the employees who were in the process of quitting as well as those who had already quit and take corrective actions, if any. After making certain changes in the norms, there was a reduced turnover and absenteeism. However, the challenge now staring at Develop Computing was whether such flexible work environment would be beneficial or would it prove to be a debacle?

Pedagogical Objectives:
- To discuss and understand five characteristics of a good job design
- To discuss and identify the major issues in job design
- To discuss and identify major ergonomic and work environment issues

Chapter Reading/Background Material:

Key Concepts/Keywords:
Job Design; Quality Service; Absenteeism; Employee Turnover; Attrition; Work Environment; Ergonomics; Profitability; Employee empowerment; Flexible Working Environment

Work Measurement Dilemma at Tharun Motors

Abstract:
This caselet can be used in Operations Management to understand work measurement. Tharun Motors located in Bangalore was a successful manufacturer of mufflers. Ravikanth Rao (Rao), the founder of Tharun Motors was involved in the process of estimating cost and other related information for a Request for Quote (RFQ) he had received recently in October 2014. The RFQ was for installing mufflers in automobiles. Though he found that the tasks involved were similar to past, one of the given five tasks was new, related to documentation/paperwork to be completed. After providing training and guidance, Ran Jackson, an employee was asked to do the documentation for 17 times and the time taken to complete the task each time was recorded and tabulated. Rao was pondering on how to estimate the cost as accurately as possible from the observed data/information.

Pedagogical Objectives:
- To discuss the basics of work measurement
- To discuss how to compute normal and standard times in a time study
- To debate on the proper sample size for a time study

Chapter Reading/Background Material:

Key Concepts/Keywords:
Work Measurement; Work Sampling; Predetermined Motion Time Standards (PMTS); Normal Time; Standard Time; Production and Operations Management; Dilemma; Fatigue Allowance; Costs; Sample Size; Time Study
Public Distribution System (PDS) of India and Its Supply Chain Management

Abstract:
This caselet is meant for learners pursuing a course in Operations Management. The caselet helps to understand and describe supply chain and supply chain management in the context of India’s Public Distribution System. In India Public Distribution System (PDS) and its improved version Targeted Public Distribution System (TPDS) distributes scheduled commodities to the targeted citizens through a network of institutions comprising Food Corporation of India (FCI) warehouses and Fair Price Shops (FPS). However, this system is fraught with many difficulties such as inefficiency, deterioration of food grains, unsatisfactory quality of commodities, malpractices in weights and measures, mismatch of demand and supply, long waiting times, exorbitant corruption, rude behavior of shopkeepers and poor service delivery. How can these be avoided? What would be best way to manage supply chain of PDS? This caselet gives scope to debate and answer the above questions.

Pedagogical Objectives:
- To understand the stakeholders in the supply chain
- To discuss and debate on the issues and opportunities in the supply chain

Chapter Reading/Background Material:

Key Concepts/Keywords:
Supply Chain Management; Operation Management; suppliers; Distributors; Warehouses; Transportation and Logistics; Storage; Public Distribution System (PDS); Targeted Public Distributed System (TPDS); Demand; Supply; Efficiency

A Chicken Story Gone Wrong?

Abstract:
This caselet tries to analyze the problems faced by Reddy Poultry Farms Limited (RPFL) where they had overestimated the poultry market and to add to their further woes, competition was fast catching up. The prices of chicken and eggs had plummeted. They had excess supply and hence had to sell the live birds at various levels of their life cycle at lower than cost price to minimize losses. RPFL tried to venture into packaged meat business as margins were more in this business, but because of the Indian mindset of having fresh chicken, this endeavor also was not picking momentum. Narsimha Reddy the managing director of RPFL was in a dilemma whether vertical integration with so many stakeholders was an appropriate decision in this industry. Was there any scope for further integration and/or diversification to increase the turnover?

Pedagogical Objectives:
- To understand the stakeholders in the supply chain for the poultry business
- To appreciate the challenges faced in vertical integration
- To understand how much inventory to store at each node in the supply chain
- To cognize demand forecasting in poultry industry

Chapter Reading/Background Material:

Key Concepts/Keywords:
Supply Chain Management (SCM); Operations Management; Supply Chain; Inventory management; Demand Forecasting; Vertical Integration; Poultry Industry; Food Processing
### Strategic Network Optimization at Tetra India

#### Abstract:
This caselet examines the problem of spiraling supply chain costs at Tetra India, an FMCG company engaged in the business of edible oil and popcorn. Multiple layers of costs are involved in an assorted process, ranging from procurement costs, transportation costs, manufacturing costs, distribution costs, ordering costs to opportunity costs. Any kind of supply chain network entails to be global optima rather than local optima. The caselet takes into account multiple suppliers, factory, warehouse, transport and SKU combinations to arrive at an optimum supply chain network.

#### Pedagogical Objectives:
- To understand the stakeholders in the supply chain for an FMCG company
- To appreciate the various costs involved in an end-to-end supply chain
- To understand the significance of a global optima vs a local optima
- To model the supply chain in an excel spreadsheet

#### Chapter Reading/Background Material:

#### Key Concepts/Keywords:
Network Optimization; Supply Chain; Supply Chain Management; Network; Transportation; Operations Management; Strategic Sourcing; Global Optima

### Outsourcing Dilemma at National Electronics

#### Abstract:
This caselet enables an understanding of the application of factor rating to evaluate outsourcing providers. The caselet provides a brief about the dilemma of choosing a supplier at National Electronics, a Chennai-based electronic parts manufacturing company. With an aim to focus on core products, the company decided to outsource some of its production. Upon request for bids, four suppliers responded. Now, the company founder Chris Xandu has to finalize the outsourcing supplier based on certain criteria. He enlisted the assistance of an expert, Gopal Verma for this assignment. Gopal Verma had to find a precise method to select the supplier for outsourcing.

#### Pedagogical Objectives:
- To understand the basics of outsourcing
- To understand and use factor rating to evaluate outsource providers

#### Chapter Reading/Background Material:

#### Key Concepts/Keywords:
Operations management; Decision Making; Outsourcing; contract Manufacturing; Production management; Supplier Selection; Weightage and Importance
Inventory Management using ABC Analysis@Darling Digital

Abstract:
This caselet is meant for individuals/participants/scholars pursuing course in Operations Management. It enables a discussion on the concept of inventory management and its applications. The concept is discussed using the backdrop of Darling Digital, a specialty retail chain which is present across the country and the store adopting ABC Analysis in order to manage its inventory effectively.

Pedagogical Objectives:
• To understand the basics of inventory management
• To discuss how ABC analysis is used in managing inventory

Chapter Reading/Background Material:

Key Concepts/Keywords:
Operations Research; Decision Science; Analysis; Operations Management; Inventory Management; ABC Analysis; Production Planning; Inventory Control; MBA Course Case Mapping; Inventory costs

Inventory Plan at Varun Water Technologies

Abstract:
This caselet enables a discussion on the concept of Economic Order Quantity (EOQ) in Operations Management. Varun Water Technologies (P) Ltd. (VWT), located in Bangalore, a successful wholesale distributor of water purifiers and accessories had been purchasing the purifiers from a single manufacturer in China. Within two days of receipt of orders, the products were delivered to the retailers based on the stock availability. In case of stock unavailability, the retailers approached other distributors for the products resulting as a loss of business for VWT. To put a full stop to this problem the founder of the company Aditya Varun (Varun), wanted to implement and follow an effective inventory plan. However, Varun was still in a dilemma as to how much to order and when to order.

Pedagogical Objectives:
• To discuss and understand economic order quantity and its use for independent inventory demand
• To discuss and compute reorder point and safety stock
• To elucidate how EOQ will be useful for VWT
• To understand the various costs involved in managing inventory

Chapter Reading/Background Material:

Key Concepts/Keywords:
Inventory Management; Inventory Methods; Economic Order Quantity (EOQ); Re order point; Safety Stock; Production and Operations Management; Dilemma; Independent Demand; Dependent Demand; Inventory Carrying costs; Ordering costs
Abstract:
This caselet enables a discussion on the concept of Aggregate Planning in Operations Management. Crown Mirrors (Crown) located in Michigan was a successful manufacturer of decorative lamps. Due to increased fluctuations in demand, Felix Steve (Felix), the founder of Crown started following sophisticated forecasting system. He suggested his production in charge to take into account all the seasonal and trend patterns while doing production planning. Felix estimated the costs of hiring or firing workers; using overtime; subcontracting; and holding inventory or running out of the product. Felix was not able to determine whether demands not met in the current month could be met later or whether the incomplete orders would be lost.

Pedagogical Objectives:
- To discuss the basics of aggregate planning
- To identify production schedule for Crown

Chapter Reading/Background Material:

Key Concepts/Keywords:
Aggregate Planning, Production Planning, Graphical Method, Transportation Method, Inventory, Production and Operations Management, Dilemma, Demand, Inventory Carrying costs, Ordering costs

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Abstract:
Sports Kits Pvt. Ltd. (Sports Kits), founded in 2010, involved in manufacturing of all types of sports kits. Despite its popularity and having tie-ups with many corporates, the demand for the company's sports kits was irregular. For some weeks there was no demand at all, while for some weeks there would be an enormous demand. Hence, the company decided to plan the production for every quarter from October 2014. Now, the production manager at the company wanted to develop a material requirements plan for manufacturing sports kits for a specified period.

Pedagogical Objectives:
- To understand the concept and benefits of Material Requirements Planning (MRP)
- To discuss and analyse the MRP procedure and its Components

Chapter Reading/Background Material:

Key Concepts/Keywords:
Material Requirement Planning, Master Production Schedule, Inventory Control, Bill of Materials, Planned Orders, Order release, Order reschedule
### Queuing Dilemma@Kool Foods

**Abstract:**
This caselet is meant for students pursuing a course in Operations Management. The caselet helps to understand the concepts – waiting lines and queuing theory through the dilemmas faced by Harish Bhargava (Bhargava), founder of Kool Foods, a dairy parlor. Due to increased customers, Bhargava had to decide whether he has to recruit one more employee or set up an extra cash counter. The caselet ends with the dilemma to identify the most feasible and optimal solution.

**Pedagogical Objectives:**
- To understand the basics of Waiting Lines and Queuing Theory
- To discuss how queuing theory helps in better decision-making

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Management; Decision Science; Analysis; Operations Manager; Waiting Line management; Queuing Theory; Manufacturing; Service; MBA Course Case Mapping; Production Management

### Sequencing at Prakash Automobile Repair Shop

**Abstract:**
This caselet is meant for learners pursuing course in Operations Management. The caselet helps to understand the concept – Sequencing, through the dilemma faced by Prakash Jain (Prakash), the owner of Prakash Automobile Repair Shop. As more orders came in, to reduce the delay in delivery and effective utilization of resources, Prakash, wanted to evaluate the sequencing rules like FCFS, EDD, STP and LPT and apply the best sequence rule for his orders. Would application of these rules bail him out of the delays caused to his customers?

**Pedagogical Objectives:**
- To understand the basics and significance of sequencing
- To understand the decision rules of sequence – FCFS, STP, EDD; Critical Ratio and LPT
- To discuss and evaluate an apposite rule for Prakash Automobile Repair shop

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Management; Decision Dilemma; Sequencing; Job Sequence; FCFS; SPT; EDD; LPT; Critical Ratio; Job Lateness; Utilization; Ordering; production Management
Southern International University’s Assignment Dilemma

Abstract:
This caselet facilitates understanding the concept and importance of assignment method with the backdrop of an assignment dilemma faced by Naveen Patnaik (Naveen), a doctoral research scholar, at Southern International University. The University, which was a reputed college in Texas, planned to conduct an international conference. As part of preparations for the conference, Naveen was made responsible for the publication activity. He had to arrange for the advertisements, brochures, logos, conference proceedings, etc. After required enquiries, he had to select the vendor from the four persons who would be cost-effective. After enquiries he found that each one of the four was an expert in one field. Naveen decided to assign one job to each one based on their expertise. He was wondering how to assign the jobs so that it would be cost-effective as well as on time.

Pedagogical Objectives:
- To understand the concept of Assignment Method
- To understand the applications of the assignment method for loading jobs or assigning people to projects
- To discuss how to minimize cost using the assignment method

Chapter Reading/Background Material:

Key Concepts/Keywords:
Assignment Method; Minimizing cost; Maximizing profit; minimize time; Decision Dilemmas; Operations Management

Hyderabad Biryani House: Combining Lean Manufacturing and Lean Service

Abstract:
This caselet is meant for learners pursuing a course in Operations Management. The caselet helps to understand the Lean principles through the issues faced by Hyderabad-based Hyderabad Biryani House (HBH) a restaurant chain that serves varieties of Biryani and side dishes. The company was started, with just one takeaway counter, in 1999. It became popular for its tasty, hygienic and top quality bouquet of biryanis and other accompanying dishes. Over the years, the chain established 10 outlets in Hyderabad with a centralized kitchen in Nampally, Hyderabad. The outlets serve around 10,000 biryani packets (each packet roughly weighs ½ kg) each day across all its outlets. The chain’s founder Muzzafer Ali had been receiving complaints regarding quality of taste from most of the outlets from recent past one to two years (from 2013). He was also informed of few other issues like stock outs/shortage of some items and excess of few items which was wasted. Aslam Khan (Aslam), the chain’s head and grandson of HBH founder Muzzafer Ali, approached a business development consultant and discussed the issue. He suggested to approach a lean methods expert Viswanath for suggestions. Aslam met Viswanath and discussed the same. Viswanath made Abdul Karim, one of his juniors, responsible to implement lean principles at HBH. Abdul went along with Aslam to observe the processes at HBH. He was in a dilemma which principles should be applied ideally at HBH?

Pedagogical Objectives:
- To understand the basics and significance of lean principles
- To examine and understand the types of wastes to improve quality and productivity
- To have a working knowledge of lean principles
- To discuss and describe how does it benefit in improvement of service and manufacturing

Chapter Reading/Background Material:

Key Concepts/Keywords:
Operations Management; Decision Dilemma; Sequencing; Job Sequence; FCFS; SPT; EDD; LPT; Critical Ratio; Job Lateness; Utilization; Ordering; production Management
Rythvik Organics (P) Ltd. (ROPL): Shortest Route Dilemma

Abstract:
This caselet is meant for students pursuing a course in Operations Management. The caselet discusses about the Network Model and Shortest Spanning Network, a popular quantitative analysis technique used by managers to identify the shortest route between two points, i.e., warehouse to distributor or supplier to customer plant, etc. The caselet mainly centres on Rythvik Organics (P) Ltd. (ROPL) located in Salem, Tamil Nadu, India.

Pedagogical Objectives:
• To understand the basics of network models
• To explain shortest span network
• To explain how to identify shortest route between any two points with given measures and constraints

Chapter Reading/Background Material:

Key Concepts/Keywords:
Network; Shortest Route Problem; Shortest Spanning Network; Retail; Production and Operations Management; Dilemma; Demand; Transporting Costs

Project Evaluation and Scheduling at Magnum Metal Works

Abstract:
This caselet is meant for students pursuing a course in Operations Management. The caselet provides scope to discuss project scheduling techniques – the Program Evaluation and Review Technique (PERT)/Critical Path Method (CPM), popular quantitative analysis techniques used by managers to plan, schedule, monitor and control large and complex projects. The caselet centres on Magnum Metal Works (MMW), a metal works plant located in India and enables a discussion on the expansion of the plant, the time (number of weeks) and the time-cost tradeoffs.

Pedagogical Objectives:
• To understand the basics of Project Management
• To explain project scheduling techniques – Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM)
• To explain time-cost trade-offs

Chapter Reading/Background Material:

Key Concepts/Keywords:
Project, Project Management, PERT, Program Evaluation and Review Technique, time-cost trade-offs, slack time, earliest start, earliest finish, latest start, latest finish, network, project crashing
### Decision Dilemma at Arvind Textiles

**Abstract:**
This caselet is meant for learners pursuing a course in Operations Management. This caselet enables an understanding of the application of Decision Tree Analysis. The caselet provides a brief about the dilemma of purchase for Anup Joshi (Anup), the founder of Arvind Textiles. Arvind Textiles was established by Anup, a textile engineer in mid-2014. The company manufactured T-shirts, which involved various stages like dyeing, cutting, design printing, stitching, checking of quality, ironing and finally packing. The process takes a stipulated amount of time at each stage. However, being a startup, the process of the company was not automated and considerable amount of workforce was involved. Anup was considering to buy a textile store to improve the company's processes to be effective and efficient, nevertheless as the company was in a nascent stage he was in a dilemma to take the plunge or wait for better developments. The caselet enables a discussion on the dilemma of opting for the purchase or to continue with the present stance.

**Pedagogical Objectives:**
- To understand the basics and application of Decision Tree Analysis
- To understand the concept of Expected Monetary Values (EMVs)

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations management; Decision Trees; Decision Tree Analysis; Decision Making; Production management; Statistics for Management; Expected Monetary values (EMV)

### Kidsclub Kidswear Limited

**Abstract:**
This case allows exposition to Linear Programming (LP). It details an entrepreneur – Mansi Arora’s (Mansi) operations issue of optimal utilization of resources in her company, Kidsclub Kidswear Limited. Mansi has to pay penalty for the undelivered items for her new contract. How could she optimally utilize the resources? Could Varun Arora, her cousin, help her in this regard?

**Pedagogical Objectives:**
- To understand the LP model and its business applications
- To discuss how to use LP model for decision dilemmas

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Research; Decision Science; Analysis; Operations Management; Linear Programming (LP) Model; Constraints; Production Planning; Optimum Resource Utilization; MBA Course Case Mapping; Objective Function
### Williams & Williams: Plant Location Dilemma

**Abstract:**
This caselet is meant for discussing the concept of Transportation method in Operations Management. The caselet discusses about a furniture manufacturer, Williams & Williams located in the US. Williams & Williams has its plants at two locations and distribution centres at two locations. As the company found that with only two plants it was not meeting the demand (capacity problem), it started scouting location for establishing a new plant. The caselet revolves around the company selecting the new plant location with an aim to minimize the total transportation cost by using Transportation model.

**Pedagogical Objectives:**
- To understand the basics of Transportation Models
- To explain different ways of developing initial solution to a Transportation problem – Northwest-corner and Least Cost Method
- To calculate improvement index using Stepping Stone Method and solve a Transportation problem

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Management; Transportation Model; Linear programming; Minimization of cost; Plant Location; Stepping Stone Method

### Applying Learning Curve at AME

**Abstract:**
This caselet is meant for learners pursuing a course in Operations Management. The caselet helps to understand the Learning Curve concept through the dilemma faced by Arup Mukherjee (Mukherjee), the owner of Arup Mukherjee Enterprises (P) Ltd., (AME). The company offered repair and maintenance services to varied types of cars. As a growing company AME received service contracts from individual customers and big service centres of various automobile companies. On January 20th 2015, AME had received an order enquiry from a reputed service centre for the service of diesel locomotive cylinder heads. Mukherjee had to prepare a service contract quote for the same. After recollecting the learning curve concept that he had learned during his graduation he estimated the time required to service the cylinder heads to prepare the quote. However, while preparing the quote, he found a document mentioning the time required to service five cylinder heads. Mukherjee was wondering whether this will change the learning curve and affect the prepared quote.

**Pedagogical Objectives:**
- To understand the basics and significance of learning curve
- To examine and understand the application and effects of learning curve using different approaches
- To discuss and describe the strategic implication of learning curve

**Chapter Reading/Background Material:**

**Key Concepts/Keywords:**
Operations Management; Decision Dilemma; Learning Curve; Future Cost Standards; Arithmetic Analysis; Logarithmic; Learning Curve Coefficient; production Management