



MANUFACTURING STRATEGY

PROF. RAJAT AGARWAL

Department of Management Studies
IIT Roorkee

INTENDED AUDIENCE : (1) Industry people who wants to use “operations” for competitive advantage.
(2) Students doing research in operations management.
(3) Students doing Masters and Bachelors degrees in area of operations management, industrial engineering etc.

INDUSTRIES APPLICABLE TO : (1) Companies involved in manufacturing activities will be the primary beneficiary of this course.
(2) Services organizations such as Hotels, Airlines, Healthcare sector will also find this course useful to leverage on their operational capabilities.

COURSE OUTLINE :

The aim of this course is to provide a treatment to manufacturing functions to gain competitive advantage. Normally, operation activities are considered reactive in nature. Therefore, organizations are not able to use operation function for competitiveness. W.Skinner wrote the seminal article in HBR in 1969 to highlight the role of manufacturing in corporate strategy. This course will discuss the process of formulation of manufacturing strategy and will also discuss various tools and techniques for making a world class organization. This course will have a right blend of theory and case discussions.

ABOUT INSTRUCTOR :

Prof. Rajat Agrawal is a Professor at Department of Management Studies, Indian Institute of Technology Roorkee, Roorkee. He is Associate Dean for Innovation and Incubation, IPR Chair Professor of DPIIT, Govt of India at IIT Roorkee. He is a joint Faculty member at Department of Design, IIT Roorkee.

He is a recipient of Ram Kumar Award for Teaching and Research at IIT Roorkee. He conceptualized and initiated a two year full time Masters in Innovation Management at IIT Roorkee. He has some very popular MOOCs at NPTEL which are regularly rerunning and also having courses on different Edtech platforms.

He is Associate faculty member at Center of Excellence for Disaster Mitigation and Management and at Center of Excellence for Transportation Management, IIT Roorkee. He initiated the process of establishing the Design Innovation Centre at IIT Roorkee and presently Co-PI and Co-coordinator of the Centre. Dr. Rajat was a visiting fellow to Copenhagen Business School, Copenhagen, Denmark. He was awarded ICCR Chair at Indonesia in year 2016-17. His area of interest is Production and Operations Management including Supply Chain Management, Manufacturing Strategy and World Class Manufacturing.

He has guided 19 Ph D thesis in these areas and currently 12 students are working under his guidance. He has completed 12 research/consultancy projects of National and International importance. Three projects worth over Rs2.5 Cr are in progress. He has more than 120 research papers in refereed journals and more than 25 research papers in refereed conference proceedings. He has authored one book published by Bloomsbury and book chapters in 8 books. He organized First PANIIT International Management Conference in year 2018.

COURSE PLAN:

Week 1 :

- (1) Manufacturing output
- (2) Operations Systems
- (3) Operations Strategy
- (4) Functional strategy within context of a firm
- (5) Functional dominance within corporate strategy

Week 2 :

- (1) Concept of world class manufacturing organization
- (2) 6 Ps of Manufacturing
- (3) Skinners' view and Hayes and Wheelwright framework of Manufacturing Strategy
- (4) Alternative paradigm of manufacturing strategy
- (5) Some generic manufacturing strategies I

Week 3 :

- (1) Developing a manufacturing strategy
- (2) Understanding markets
- (3) The concept of order winners and qualifiers
- (4) Basic Characteristics and Specific Dimensions of Order Winners and Qualifiers
- (5) Some specific order winners and qualifiers I

Week 4 :

- (1) Some specific order winners and qualifiers II
- (2) Some specific order winners and qualifiers III
- (3) Some specific order winners and qualifiers (Non operation related criteria)
- (4) Developing an Operations Strategy: Methodology
- (5) Developing an Operations Strategy

Week 5 :

- (1) Developing an Operations Strategy: Roth and Miller Classification
- (2) Enlightened View of Manufacturing
- (3) Manufacturing Strategy Taxonomy: Some evidences from China
- (4) Quality Management and Manufacturing Excellence
- (5) Total Quality Management and Manufacturing Excellence

Week 6 :

- (1) Deming's approach to Quality
- (2) Business Excellence Awards
- (3) Process Choice
- (4) Process Choice: 3 Dimensional View
- (5) Product Profiling

Week 7 :

- (1) Critical success factors for World Class Manufacturing
- (2) Value Added Engineering
- (3) Total Employee Involvement
- (4) HR theories for Operations Strategy
- (5) Flexible Manufacturing system

Week 8 :

- (1) Concept of Focus wrt Manufacturing Strategy
- (2) Toyota production System I
- (3) Toyota production System II
- (4) World Class Manufacturing and India
- (5) Achieving World Class Status