

# NATIONAL INSTITUTE OF INDUSTRIAL ENGINEERING (NITIE)



## ANNOUNCES

### ONLINE MANAGEMENT DEVELOPMENT PROGRAMMES (MDP)

**MARCH – 2021**

FOR INQUIRIES – PLEASE CONTACT

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*Nurturing Industry Towards Excellence*

## ONLINE MDP CALENDAR – MAR 2021

PROGRAMME CODE	COURSE	AREA	COURSE LEADER/S	DURATION	DATES
1 21 4 15	Applications of AI/ML in Operations & Supply Chain Management	A&DS	Sushmita A. / Priyanka Verma / Debabrata Das	15 Hrs	6 Mar - 14 Mar
1 21 4 24	Managerial Decision Making	F&E	Vijaya Gupta / Utpal Chattopadhyay	15 Hrs	8 Mar - 10 Mar
1 21 4 31	Thinking Strategically; Business strategies to navigate VUCA world and attain competitive advantage	OBHR	S S Bhattacharya	15 Hrs	12 Mar - 14 Mar
1 21 4 16	Decision Making in Supply Chain	OSCM	P. Acharya / Priyanka Verma	15 Hrs	15 Mar - 19 Mar
1 21 4 10	Business Competitiveness through Operational Excellence	OSCM	B. E. Narkhede / Jinil D. Persis	15 Hrs	15 Mar - 19 Mar
1 21 4 32	Management of Sustainable Development Goals (SDGs) to Improve Business Resilience, Recovery and Growth	SM	Shirish Sangle / V. V. Gedam	15 Hrs	15 Mar - 19 Mar
1 21 4 22	Business Strategies for Emerging Markets	F&E	Utpal Chattopadhyay / Binilkumar A. S.	15 Hrs	19 Mar - 21 Mar
1 21 4 33	Addressing Environmental, Social, & Governance (ESG) for Corporate Sustainability: Aligning SDG	SM	Hema Diwan	15 Hrs	22 Mar - 25 Mar
1 21 4 11	Project Procurement and Contract Management	OSCM	V. B. Khanapuri / Kanchan D. Joshi	15 Hrs	22 Mar - 26 Mar
1 21 4 35	Application of Time Series Modelling on Business Forecasting	A&DS	Poonam Singh / Mainak Mazumdar / Ajaya Kumar Panda	15 Hrs	22 Mar - 26 Mar

### MDP AREAS

SR. NO.	AREAS	ABBREVIATION	MDPs
1	OPERATIONS AND SUPPLY CHAIN MANAGEMENT	OSCM	3
2	ANALYTICS AND DATA SCIENCE	A&DS	2
3	FINANCE AND ECONOMICS	F&E	2
4	ORGANISATION BEHAVIOUR & HUMAN RESOURCE	OBHR	1
5	SUSTAINABILITY MANAGEMENT	SM	2

**PROFESSIONAL FEES**

Professional fees per participant: INR 9,027 i.e., 7,650\* + 1,377 (GST 18%)

**“\*” These are valid only for programs till March 2021**

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# **BUSINESS COMPETITIVENESS THROUGH OPERATIONAL EXCELLENCE**

## **ABOUT THE PROGRAM**

Business systems utilizes various types of resources such as man, machine, materials, land, capital, energy, knowledge, etc. An efficient business system ensures the smooth coordination of resources for achieving the desired objectives. Operational excellence is essential for creating and sustaining the business competitiveness.

Production Planning & Control determines the effectiveness of a business. The highest efficiency in production is obtained by manufacturing the required quantity of product, of the required quality, at the required time, by the appropriate and cheapest method. To attain this target, management employs various operational excellence practices including Lean thinking, Agile manufacturing, etc. the techniques that enables an organization to respond quickly to customer needs.

However, the role of operational excellence in organization competitiveness is still not well understood by practitioners.

## **OBJECTIVES OF THE PROGRAMME**

This programme aims to understand the various techniques of operational excellence including Lean Thinking, Agile Manufacturing, etc. to business professionals so as to help them in making more effective operational as well as strategic decisions for their supply chains.

## **COVERAGE**

- Fundamentals of Industrial Engineering
- Fundamentals of Business Competitiveness
- Concept of Lean & Agile Manufacturing
- Importance of Lean & Agile Manufacturing
- 5S Concept
- Poka-Yoke
- Value Stream Mapping
- SMED
- Total Productive Maintenance
- Impact of Operational Excellence practices on Business Competitiveness through case studies

## **FOR WHOM MEANT**

Junior level, Mid-level business executives from manufacturing / service industry /academics.

# APPLICATION OF AI/ML IN OPERATIONS & SUPPLY CHAIN MANAGEMENT

## ABOUT THE PROGRAM

- This programme aims to acclimatize the participants with the fundamental concepts of Artificial Intelligences/Machine Learning (AI/ML) for decision making in operations and supply chain management. The problems in operation and supply chain management that require AI/ML approaches include forecasting, inventory management, facility location, product classifications, vehicle routing, etc.
- The course is designed keeping in mind the various techno-managerial aspects that need to be addressed by the participants. NITIE faculty have been working on different domains of applications of statistics, operations research, artificial intelligence and machine learning and are actively involved in consulting and applied research projects in the area of operations and supply chain management. The program is designed as the effective blend for application orientation with plenty of hand-on case exercises.

## OBJECTIVES OF THE PROGRAMME

Upon successful completion of this program, participants

- will be familiarized with the concepts of AI and ML.
- will be able to formulate, solve and analyze complex operations and supply chain management problems systematically.
- will be able to apply various AI and ML tools in real life decision making, specifically in the context of operations and supply chain management.
- will learn coding and solving the operation and supply chain management problems in Python/R.

## COVERAGE

This training program is designed for web-based learning with hands-on exercises. The topics covered include the following:

- Opportunities for AI/ML applications in operations and supply chain management
- Supervised Learning Algorithm
  - Linear Regression Analysis
  - Logistic Regression Analysis
  - Decision Tree
  - Random Forest
- Unsupervised Learning Algorithm
  - k-Means Clustering
  - Hierarchical Clustering
- Reinforcement Learning Algorithm
  - Markov Decision Problems
- Application of AI and ML tools in operations and supply chain management.

## FOR WHOM MEANT

Professionals involved in Operations & Supply Chain Management



# DECISION MAKING IN SUPPLY CHAIN

## ABOUT THE PROGRAM

In the current world of the growing economy, globalisation, complex transportation network, demand fluctuations, and rapid technological changes, the sustainability of any business has got increased challenges. With an effective supply chain, these challenges can be handled efficiently with collaborations and information sharing amongst the supply chain players.

This programme aims to acclimatize the participants with the fundamental concepts of the supply chain, their issues, and methods to resolve it by applying appropriate tools and techniques. Different challenges faced by supply chain managers at the inbound stage, production and outbound logistics will be covered in detail.

The focus of this programme is to enable participants to understand the supply chain concepts, issues, and techniques that help taking decisions at the various levels for improving the overall performance of firms.

## OBJECTIVES OF THE PROGRAMME

- To understand issues in managing a supply chain
- To realize challenges during procurement and supplier selection.
- To develop the understanding of production planning
- To understand and implement analytical tools in the transportation and supply network.

## COVERAGE

Day 1:

- Introduction on Supply chain issues with the help of Beer Game
- Inbound supply chain issues covering supplier selection and procurement decisions

Day 2:

- Production decisions including aggregate and disaggregate production planning
- Economic batch quantity and economic order quantity decisions during production

Day 3:

- Outbound supply chain issues considering warehouse location/ selection decisions
- Appropriate transportation decisions
- Channels of distribution network

## FOR WHOM MEANT

Person with relevant experience and holding a responsible position in Industry.

# **BUSINESS STRATEGIES FOR EMERGING MARKETS**

## **ABOUT THE PROGRAM**

The market places in an integrated global economy are witnessing an intense competition among the firms to win over the customers, who are more knowledgeable and demanding than ever. The modern-day business is thus becoming very competitive and complex and it is important for the managers to have a firm grounding and good understanding of the markets they belong to. It is also very essential to understand the consumers as a whole that include both present as well as potential customers and formulate strategies for building brand loyalty. The economic environment of business along with government policies regulating production, trade and market competition can have profound impact on the company level performance. Therefore, to survive and to grow in such a competitive scenario, the company managers must acquire special skills to come out with strategies for sustained profitability in a ceaselessly changing market.

This 5-day programme will assist the managers to understand the intricacies of market competition and help formulating strategies for growth in a fiercely competitive business environment. The course builds on both microeconomics and macroeconomics concepts and primarily focusses on the interactions between firms and consumers, firms and regulators; and among firms operating across variety of markets.

## **OBJECTIVES OF THE PROGRAMME**

- To understand the Industrial Organization from the Structure, Conduct and Performance Framework.
- To analyse strategic behavior of firms under dynamic market conditions.
- To enhance the managers' understanding on market regulations including competition laws.
- To guide managers formulate appropriate strategies to improve their economic competitiveness.

## **COVERAGE**

- Industrial Organization and strategic behavior of firms
- Structure, conduct performance (SCP) framework
- Competition and market power
- Economic environment of business
- Industrial and competition policies in India
- Pricing strategies and market segmentation
- Diversification and differentiation
- R & D, innovation and intellectual property

## **FOR WHOM MEANT**

For Managers and decision makers



# MANAGERIAL DECISION MAKING

## ABOUT THE PROGRAM

Decision making can be an exciting and challenging experience in the competitive world of business and particularly during this pandemic situation of Covid-19. This contextual notion of Business Decision Making lends conceptual order in the endless variety of functional areas of business. The decision makers normally take decisions in their functional area and having little or no understanding of decisions taken in other functional areas of the business. Therefore, this course has been designed with a cross-disciplinary approach to give a holistic view of how decisions should be taken in different functional areas at the organisation level in a challenging business environment like Covid-19. In recent times decision-making is aided by various tools, techniques and data analytics. Since most major decisions have overtones of economy, it becomes imperative that decisions are taken with an understanding of the difficult environment of business and the economy during Covid-19.

## OBJECTIVES OF THE PROGRAMME

1. To appraise the participants of the varied nature and challenges of business decisions during Covid-19.
2. To familiarize the participants with the conceptual order of different kinds of business decision making.
3. To acquaint the participants with the latest tools and techniques of decision making.
4. To facilitate the learning of business decision making by assessing the disruptive impact of local and the global business environment during Covid-19.

## COVERAGE

The decisions by Functional Area

1. Production decisions
2. Marketing decisions
3. Financial decisions
4. Strategic decisions

Tools for Decision Making

1. Statistical Techniques
2. Data Analytics
3. Artificial Intelligence and Machine Learning

External Factors affecting Decision Making

1. Competitive Business Environment
2. Government Policies

## FOR WHOM MEANT

Managers and decision makers from all sectors in private and public undertakings.



# THINKING STRATEGICALLY; BUSINESS STRATEGIES TO NAVIGATE VUCA WORLD AND ATTAIN COMPETITIVE ADVANTAGE

## ABOUT THE PROGRAM

Modern business world is confronting a Volatile, Uncertain, Complex and Ambiguous (VUCA) reality. Technology led disruptions are changing the business landscape for businesses of all sizes. Transformation has become necessary for business survival. The COVID-19 pandemic and its associated economic and physical lockdown further altered the business landscape for small, medium, and large business firms. Given this challenging context it becomes important that managers quickly decipher the change in reality and strategize to steer ahead into the future through well thought out strategies. Managers have to pause, introspect, reflect, review and design organizational strategic initiatives. At an individual level, the executives have to also eke out personal level action-oriented plans to secure an edge in their respective organization.

This program focuses on understanding and developing strategic thinking process. Participants will be exposed to fundamental paradigms of Strategic Management via case methodology.

## OBJECTIVES OF THE PROGRAMME

- A balanced understanding of the various classical as well as contemporary concepts of strategic management planning. This would empower you as a manager to undertake robust strategic decisions.
- Understand direct competitive rivalry as well as strategic group based competitive rivalry, so that you as a manager could initiate actions to respond to competitors moves.
- Learn from real life stories of successful strategy implementation, control and monitoring. This would help in emulating the prevalent best practices. This would also instigate you to visualize the next practices of the organization.
- Learn how to map your organizational resources, capabilities, competencies, and core competencies for evaluating strategic alternatives. This would enable you as a manager to leverage organizational resources and capabilities towards business process improvement and business scope redefinition.
- Level up your understanding of the macro–level environmental and industry level analysis for comprehending your specific business landscape. This would evoke appropriate strategic initiatives for securing macro –level environmental and industry level gains and reducing risks.

## COVERAGE

- Make executives revisit both the classical concepts in strategic management like Resource Based View (RBV) and Dynamic Capabilities View (DCV) as well as contemporary strategic management concepts like Blue Ocean Strategy (BOS) and Balanced Score Card (BSC) to understand business context.
- Enable managers undertake business PESTLEE environment scanning and scoping analysis in the new paradigm of doing business in the VUCA plus COVID-19 world

- Enable executive comprehend the tectonic shifts occurring in business world because of the advent of emerging technologies like- Robotics, Augmented – Virtual – Mixed (AR-VR-MR) Reality , Additive manufacturing technology, Block chain technology, Cloud based technologies, Machine Learning plus Artificial Intelligence (ML+AI), Big Data Analytics (BDA) and such other. Insights regarding strategic management of emerging technologies would be provided.
- Educate executives on how to evaluate industry landscape with a holistic perspective given the new realities.
- Help managers learn the mechanisms of analyzing organizational resources and capabilities to carry out business activities in the VUCA plus COVID-19 world.
- Help executives comprehend how to analyze the business competition in a comprehensive manner given the VUCA plus COVID-19 realities
- Aid managers firstly in designing dynamic strategic plans and then managing its implementation in real-time basis for achieving competitive success and business growth.
- Help managers towards better strategic decision making for balancing both short term and long-term organizational goals.
- Help management professionals comprehend the kind of leadership skills required based upon real world examples how managers were executing strategies in their organizations in this challenging era.

#### FOR WHOM MEANT

This program is meant for management professionals working in large, medium or small enterprises of both public and private sector involved in strategic decision-making management planning, strategy implementation and related business functional areas. Executives from both services as well as manufacturing sector would find this program insightful.



# **MANAGEMENT OF SUSTAINABLE DEVELOPMENT GOALS (SDGS) TO IMPROVE BUSINESS RESILIENCE, RECOVERY AND GROWTH**

## **ABOUT THE PROGRAM**

Business resilience predicts operational vulnerability and business performance. The focus of the programme is to shield from potential business interruptions through non-market (social and environment) issues. According to Global Risk report 2020 published by World Economic Forum, 8 out of 10 biggest threats to global economy is from non-market issues. Similarly, UN has also identified 17 sustainable development goals and attainment of these goals is likely to provide economic sustainability to the global economy. In view of the above, it is important to understand that addressing sustainability issues by business is not just a 'nice to have' but a must strategy. However, most of the businesses consider sustainability through the lens of risk and a few of them looks at sustainability from the lens of opportunity. However, in this time of uncertainty, it is important for businesses to look at sustainability from a more strategic perspective which helps attain business become more resilient and grow in tumultuous environment. This course is designed for Chief Sustainability Officers (CSO) and sustainability professionals, academicians and researchers to build their competency in using the build back better approach to make their business resilient.

## **OBJECTIVES OF THE PROGRAMME**

- Understanding business vulnerability / disruptions due to non-market issues
- Sustainability risk and business resilience management through SDGs.
- Best practices in integrating SDGs in business strategies.

## **COVERAGE**

- Sustainability practices for business resilience in post-covid era
- Setting sustainability agenda for business resilience and growth
- Best company practices in implementing SDGs
- Sustainability guidelines, standards and reporting
- Sustainability tools for business resilience
- Sustainability risk management approaches
- Sustainability portfolio management for resilience
- Stakeholder engagement for building resilience and competitive advantage.
- Building circularity using SDGs.

## **FOR WHOM MEANT**

The program is targeted to executives/ managers endeavoring to navigate and catalyze significant and sustainable change in their business. The program is especially recommended for executives, professionals and leaders who are working in the areas not limited to sustainability management.



# ADDRESSING ENVIRONMENTAL, SOCIAL, & GOVERNANCE (ESG) FOR CORPORATE SUSTAINABILITY: ALIGNING SDG

## ABOUT THE PROGRAM

The implications of sustainability on corporate performance is a known truth in the business parlance. Sustainability is being used to manage risks and disruptions in the unprecedented times of today. Sustainability performance of the firm is a function of ESG and alignment of the corporates strategies towards this is instrumental in meeting the triple bottom line. The programme will build perspective on operationalizing sustainability by using ESG as a metrics. The programme will enable the participants in contributing to the sustainable performance of their firms and create stakeholder value.

## OBJECTIVES OF THE PROGRAMME

- To advance the sustainability from ESG umbrella
- To address the sustainability management for corporates and meet the business goals

## COVERAGE

- Sustainability & ESG
  - Environmental Standards & Guidelines
  - Integrated Reporting
  - Sustainability Performance Metrics
- Responsible Supply Chain
  - Green Supply Chain Practices
  - Assessment Tools for Green Supply Chain
- Corporate Environmental Management
  - Sustainable Production & Consumption
  - Environmental Tools: LCA, MFA
  - Compliances for Environmental Management

## FOR WHOM MEANT

The programme will help managers & practitioners to understand sustainability

# APPLICATION OF TIME SERIES MODELLING ON BUSINESS FORECASTING

## ABOUT THE PROGRAM

The field of econometrics using advanced tools and techniques has emerged over the last decade. The intention of this course is to help practitioners cut through the vast literature on time series models, focusing on the most important and useful empirical concepts. This course is expected to develop a sound background in quantitative analysis of time series. It offers a guide to analyse and model time series properties of economic and financial data using STATA. The course is designed for researchers and practitioners in the private and public sector. Our aim is to provide a road map from academic prospective to the research issues that are important for researchers and practitioners.

## OBJECTIVES OF THE PROGRAMME

This short course aims to discuss a broader aspect of time series modelling on economic and financial data with advanced tools and techniques. The objectives of the course are as follows:

- 1) Familiarize the participants with the applied econometric tools relating to univariate and multivariate economic and financial time series using STATA.
- 2) Develop insights of financial models with univariate and multivariate time series analysis using stock market indices.

## COVERAGE

### 1. Fundamentals of Business Time series

- a) Visualization of Business Time series data and Analysis of Trends and Seasonality
- b) Testing time series properties of Business Data Structure

### 2. Analyzing and forecasting Index of Industrial Production (IIP) with its trends. Analyzing the importance of Exogenous Business Indicators on IIP. Importance of forecasting IIP, Commodity Price Index and Capital Structure in Business Decision making.

- a) Workout: Econometric Modeling of Industrial Index of Production and Commodity Prices using STATA

### 3. Analyzing the patterns of volatility and the structure on macroeconomic indicators, a case study of Industrial Index of Production and Capital Market.

- a) Workout: Econometric Modelling of volatility on Index of Industrial Production and Exchange Rate.

### 4. Macroeconomic Modeling using Multivariate Econometric Models:

- a) Workout: Simultaneous Equation Models and its application to Analyse Macroeconomic Variables like money, inflation, exchange rate and its impact on company performance with STATA.

## FOR WHOM MEANT

Faculty, Research scholars, Professionals from finance, economics and related functional areas.



# PROJECT PROCUREMENT AND CONTRACT MANAGEMENT

## ABOUT THE PROGRAM

India has huge investment plans in infrastructure projects and other sectors and large number of these projects experience time and cost overruns. These projects are complex, challenging and defining adequately the scope is crucial for project success. Nevertheless, most organizations do not do the complete scope of work themselves with their own resources, instead companies source major portions of their project scope from other companies for better performance. The procurement of project scope through contracting or subcontracting, will be progressively taking a larger share of business and thus this management process has to be done well, if organizations are to be successful in completing projects.

In many projects, the items which are bought from other companies are typically high-risk portions of the project. More often it is seen that when the management assesses what went wrong with their poor project performance, they often will find that it was the work which was contracted or subcontracted. Thus, for success of project, it is important that project procurement management, the processes work well and managers buy/procure things/scope for the projects within their well-established purchasing policies, appoint technical specialists to manage a critical component and function in an integrated project team environment.

## OBJECTIVES OF THE PROGRAMME

Develop an understanding of the principles of Project Procurement & Contract Management. Understand the procurement processes, planning, contract strategy, allocating risks and procurement/contract arrangements along with techniques for successfully delivering projects.

## COVERAGE

- Procurement and Contract Management in Project Environment
- Procurement Categories, Planning for the Procurement of Project Scope
- Procurement and Risk Management
- Contract Types, Management of Contracts
- Closing out Project Procurement

## FOR WHOM MEANT

Project procurement and contract management is for Project executives and managers, planners and procurement professionals involved in the projects.